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Beef cattle production from tropical pastures: A descriptive bibliography

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INTRODUCTION

Pasture and rangeland in the tropics and subtropics account for some 14% of the earth's total land area and support about 60% of the world's population of bovines. Cattle are an important source of milk, meat and draught and also represent an important source of capital investment, cash income and security to their owners.

Research on meat production has been carried out for more than 50 years in many tropical countries. The purpose of this bibliography is to assemble references to this research work relating to beef production under different management systems with particular reference to methods by which productivity may be increased. The bibliography has been divided into broad sections, each dealing with different aspects of management; e.g. supplementation, pasture management, legume associations etc. Emphasis has been given to work dealing with the improvement of the nutritional status of animals rather than to genetic aspects of beef production or considerations on veterinary services. The majority of works cited include data on weight gain in the grazing bovine.

References have not only been drawn from the African continent but also from other countries throughout the tropics and subtropics where experimentation on cattle has been carried out. This has been done in the belief that useful parallels may be drawn from results obtained in different ecological regions, and also in the hope that they may be useful to research workers in maintaining contact with work being carried out elsewhere. Most of the work was carried out between 30°N and 30°S of the Equator, although occasional references from outside this range have been included for purposes of comparison.

References were drawn in the first place from a recent publication by one of the compilers (M.H. Butterworth) entitled *Beef cattle nutrition and tropical pastures* (Longmans, 1985) and from the ILCA documentation database which is periodically updated by files from the Commonwealth Agricultural Bureaux. Microfiches of all the documents cited in this bibliography are available at the ILCA library and may be obtained by writing to:

The Librarian,
ILCA Documentation Centre,
P.O. Box 5689,
Addis Ababa,
Ethiopia

ACKNOWLEDGEMENTS

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DESCRIPTIVE BIBLIOGRAPHY

GENERAL

- 0001** **A comparison of Elephant, Para, Pangola & Guinea grass pastures for native and native x Brahman yearling bulls.** Dyer, I.A.; Oliver, F.R.; Nunez, E. *Journal of Animal Science (USA)*, 1954, (En), v. 13, p. 1007.
□ Briefly summarizes results of a trial carried out in the dry season to determine the comparative value of Elephant, Para, Pangola and Guinea grasses using 32 yearling bulls allotted to a randomized block experiment of 16 treatments consisting of either nitrogen fertilization, trace mineral supplementation or nitrogen fertilization with trace mineral supplementation; includes data on weight gains of animals.
Lib. code: P-F00-51615
- 0002** **A review and economic evaluation of beef production from legume-based and nitrogen-fertilized tropical pastures.** Nuthall, P.L.; Whiteman, P.C. *Journal of the Australian Institute of Agricultural Science*, 1972, (En), pp. 100-108.
□ Examines beef liveweight gains per acre at various levels of nitrogen application for a nitrogen-fertilizer based system, reviewing and summarizing results of grazing trials from various tropical areas; compares profits that could be achieved with a legume-based system. Includes a comparative economic analysis of beef production using inputs at values applying in Southern Queensland, Australia.
Lib. code: P-F25-50163
- 0003** **A summary of research carried out in range management and beef cattle production, 1975-1976.** Swaziland. Ministry of Agriculture. 1976, (En), 27p.
□ Summarizes research carried out from 1975-1976 by the FAO livestock production and extension project in Swaziland, with particular reference to beef cattle performance, use of resorcylic acid lactone (RAL), and pasture improvement.
Lib. code: L30-03390
- 0004** **Advances in veld and pasture research in Rhodesia.** Barnes, D.L. In: *Conference on research and the farmer*; s.l., s.n.; 1969, (En), pp. 19-27; Research and the Farmer, Salisbury (Zimbabwe), Sep 1969.
□ Reviews results of research carried out in Rhodesia to study veld in relation to animal production, with particular reference to conclusions regarding the effects of defoliation, plant succession, animal performance, systems of veld management, use of improved pasture, the search for superior grasses and legumes, effects of fertilizing and the use of ley pastures.
Lib. code: MIC-F00-23021
- 0005** **An economic comparison of steer and heifer calves grazed on winter pasture in 1971-72.** Oliver, W.M. North Louisiana Hill Farm Experiment Station, Homer (USA). *Hill Farm Facts - Beef Cattle (USA)*, Aug 1972, (En), no. 13, 9p.
□ Reports a study carried out to compare weight gains, increases in animal value and net returns obtained from steer and heifer calves grazed on winter pasture at a stocking rate of 1-6 calves per ha.
Lib. code: P-L30-51437
- 0006** **An integrated programme of beef cattle and range research in Botswana, 1970-1976.** Botswana. Ministry of Agriculture. Animal Production Research Unit. 1976, (En), 160p., Summary (En).
□ Presents research results relating to beef cattle performance, especially calving rate, weight gain and calf mortality, under different management systems; cow reproductivity as affected by age, parous state and body weight; dry matter yield, nutritive value and botanical composition of natural pasture; range and livestock monitoring; animal nutrition, particularly feedlot finishing, supplementary feeding and implantation with zeranol; and crossbreed and pure breed performance testing of Africander, Tswana, Tuli, Simmental and Brahman cattle.
Lib. code: L00-03448
- 0007** **An integrated programme of beef cattle and range research in Botswana, 1970-1977.** Botswana. Ministry of Agriculture. Animal Production Research Unit. 1978, (En), 141p.
□ Reports results obtained from integrated beef cattle and range research in Botswana from 1970-77, with reference to pasture productivity, pasture improvement, range and livestock monitoring and improved production through animal nutrition and breeding.
Lib. code: L30-10856
- 0008** **Analysis of some factors which affect the productivity of beef cows and of their calves in a marginal rainfall area of Rhodesia. 3. Factors affecting calf birth weight, growth to 240 days and use of concentrates by cows and their calves.** Richardson, F.D.; Oliver, J.; Clarke, G.P.Y. *Animal Production (UK)*, Apr 1979, (En), v. 28(2), pp. 199-211, ISSN 0003-3561, Summary (En).
□ Describes birth weight and growth to 240 days of both early-weaned and late-weaned calves while grazing on veld with their dams in a marginal rainfall area in Rhodesia, with observations on the efficiency with which concentrates were used to produce weaned calves over four calving seasons.
Lib. code: L30-19581
- 0009** **Animal production from pasture leys.** Stobbs, T.H. *African Soils (OAU)*, 1965, (En), v. 10, pp. 293-299.
□ Describes findings from pasture research conducted at Serere Research Station in Uganda in order to find ways of increasing animal production, in terms of beef, from leys using Small East African Zebu stock, by selecting improved pasture species and by improving management practices.
Lib. code: P-F00-50176
- 0010** **Animal production results from veld pasture and naalze.** Grasslands Research Station, Marandellas (Zimbabwe). Henderson Research Station, Harare (Zimbabwe). s.d., (En), 71p.; Field Day on Livestock Production, Marandellas (Zimbabwe), 14 Mar 1974.
□ Collection of papers on efficient utilization and improvement of veld pasture, fattening and feed supplementation of beef cattle and production of sheep in Zimbabwe.
Lib. code: MIC-L00-23038

- 0011 Animal production studies in Jamaica. I. Introduction.** Nestel, B.L.; Creek, M.J. *Journal of Agricultural Science (UK)*, 1964, (En), v. 62, pp. 151-155, Summary (En).
 □ Describes a group of beef farms in Jamaica on which a series of grass and animal production studies were carried out using technical and economic data derived from the farms over a 5-year period.
 Lib. code: P-E15-51483
- 0012 Animal production studies in Jamaica. III. The effect of dam age upon the 210-day weights of calves, and the response of male and female calves to different environments.** Creek, M.J.; Nestel, B.L. *Journal of Agricultural Science (UK)*, 1964, (En), v. 62, pp. 165-177.
 □ Presents results of a study undertaken in Jamaica to investigate some maternal and external environmental factors affecting the 210-day weights of beef calves, stressing effects of the age of the dam and the plane of nutrition of the herd; discusses sex differences in response to differing environments.
 Lib. code: P-L40-51618
- 0013 Animal production studies in Jamaica. II. The development and evaluation of a field programme of calf weighing.** Creek, M.J. *Journal of Agricultural Science (UK)*, 1964, (En), v. 62, pp. 157-164.
 □ Describes methods used to examine data on serial weighings of groups of calves in Jamaica under different environments in different years and on comparisons of results of actual and estimated weights at a standard age under a variety of environments, with the aim of establishing a field programme for the collection of calf weights.
 Lib. code: P-L40-51360
- 0014 Animal production studies in Jamaica. IV. The costs of developing and maintaining Pangola grass pastures.** Nestel, B.L. *Journal of Agricultural Science (UK)*, 1964, (En), v. 62, pp. 179-186.
 □ Examines the cost of developing and maintaining Pangola grass pastures under a range of conditions in Jamaica, differentiating between land improvement costs - viz. costs of soil cultivation, planting Pangola grass, fencing and provision of piped water for stock - and costs of stocking the land.
 Lib. code: P-E15-50186
- 0015 Animal production studies in Jamaica. V. Liveweight production from Pangola grass pastures used for rearing and fattening beef cattle and the economic implications of the yield.** Nestel, B.L.; Creek, M.J. *Journal of Agricultural Science (UK)*, 1964, (En), v. 62, pp. 187-197.
 □ Describes methods and results of an investigation carried out in Jamaica to examine liveweight outputs from Pangola grass used for carrying both breeding and fattening herds of beef cattle; discusses economic implications of the results.
 Lib. code: P-L30-51617
- 0016 Aprovechamiento y utilización de algunos zacates tropicales.** (Exploitation and utilization of some tropical grasses). Carrera, C. *Agronomía (Mexico)*, Mar 1965, (Es), no. 99, pp. 2-7.
 □ Presents livestock production data from experiments using steers to graze six tropical grasses following the put-and-take method in tropical Gulf Coast, Mexico.
 Lib. code: P-L30-51472
- 0017 Beef cattle production as affected by breed composition and forage systems.** Peacock, F.M.; Koger, M.; Hodges, E.M.; Kirk, W.G. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1973, (En), v. 33(27, 28), pp. 50-53, Summary (En).
 □ Reports results of a 5-year study to explore relationships between breed composition, forage systems and beef production, using five breed groups including Brahman and various crosses of Brahman and Shorthorn cattle grazed continuously on forage designed to provide low, medium and high nutritional regimes; includes data on weaning rate, weaning weight, market grade and calf production.
 Lib. code: P-L00-51291
- 0018 Beef cattle productivity under traditional and improved management in Botswana.** Rennie, T.; Light, D.; Rutherford, A.; Miller, M.; Fisher, I.L.; Pratchett, D.; Capper, B.; Buck, N.; Trail, J.C.M. *Tropical Animal Health and Production (UK)*, 1977, (En), v. 9(1), pp. 1-6, ISSN 0049-4747.
 □ Compares the productivity of indigenous beef cattle kept under the traditional method of open communal grazing with that of cattle kept in fenced paddocks; mentions calving rate, weight gains and calf mortality.
 Lib. code: L00-06397
- 0019 Beef production by steers of five breeds. Part 1. Growth, feed conversion and carcass grade.** Chevallerie, M.K.S.L. von la. *Agroanimalia (South Africa)*, 1969, (En), v. 1, pp. 183-188, Summary (Af En Fr).
 □ Describes details of a trial conducted in South Africa to examine the performance of a group of Africander, Hereford, Drakensberger, Brown Swiss and Friesland steers under three treatments consisting of individual feeding of a growth ration from weaning to slaughter at 22 months of age; and liveweight maintenance feeding during winter, summer veld grazing and a short finishing-off period before slaughter at 22 or 23 months. Includes data on rates of gain, breed differences in relative weights of offal and several organs, as well as carcass weights and grades.
 Lib. code: P-L30-51419
- 0020 Beef production from pasture: Some factors involved in the liveweight progress of calves from birth to slaughter.** Kidner, E.M. *East African Agricultural and Forestry Journal (Kenya)*, Apr 1966, (En), v. 31(4), pp. 389-391, ISSN 0012-8325.
 □ Presents research results on the growth pattern of Boran calves at pasture from birth to slaughter, with particular reference to the effect of season of birth on liveweight gain.
 Lib. code: L00-07829
- 0021 Beef production from sown and planted pastures in the tropics.** Stobbs, T.H. In: *Beef cattle production in developing countries*; University of Edinburgh (UK). Centre for Tropical Veterinary Medicine. 1976, (En), pp. 164-183, ISBN 0 85224 294 8; Conference on Beef Cattle Production in Developing Countries, Edinburgh (UK), 1-6 Sep 1974.
 □ Reviews the potential for increasing beef production using natural grasslands, legume pastures and nitrogen-fertilized grass pastures in the tropics, with emphasis on efficiency, technical constraints and prospects.
 Lib. code: L00-02949
- 0022 Beef production of Brahman, Shorthorn, and their crosses on different pasture programs.** Peacock, F.M.; Koger, M.; Kirk, W.G.; Hodges, E.M.; Crockett, J.R. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Feb 1976, (En), no. 780, 19p.
 □ Presents results of a study designed to evaluate the comparative production of Brahman, Shorthorn and their crosses maintained on native or a combination of native and all-improved pasture in the semi-tropical environment of south-central Florida, USA; analyses data on pregnancy rate, calf survival, weaning rate, age of calf at weaning, condition score, weaning weight and 205-day weight, as well as annual production per cow.
 Lib. code: P-F00-51233
- 0023 Beef production of six tropical grasses.** Quinn, L.R.; Mott, G.O.; Bisschoff, W.V.A.; Rocha, G.L. da. *Boletim de Industria Animal (Brazil)*, 1962, (En), v. 20, 36p., Summary (En).

- Reports results of trials comparing beef production from Coloniao, Jaragua, Molasses, Tanganyika, Pangola and Coastal Bermuda grasses in central Brazil using Zebu steers, with particular reference to liveweight gains, stocking rates and protein contents of fertilized and unfertilized pastures.
Lib. code: P-L30-51587
- 0024 Beef production of six tropical grasses in central Brazil.** Quinn, L.R.; Mott, G.O.; Bisschoff, W.V.A.; Jones, M.B.; Rocha, G.L. da. *Proceedings of the IX International Grassland Congress*, 1965, (En), pp. 1015-1020.
□ Presents 3 years' data on Zebu steers grazing Pangola, Colonial Guinea, Molasses, Jaragua, Coastal Bermuda and Tanganyika grasses in central Brazil, with particular reference to daily gains of animals, pasture carrying capacities, beef production and weed resistance of grasses.
Lib. code: P-F00-50166
- 0025 Beef production on artificial pastures in the southern Guinea savanna and the derived savanna of West Africa.** Ruthenberg, H. *Animal Research and Development (Germany, F.R.)*, 1976, (En), v. 3, pp. 43-63.
□ Analyses economic implications of available experimental work and field experience on beef production from artificial pastures in the southern Guinea savanna and the derived savanna of West Africa, taking into consideration various cattle breeds.
Lib. code: L30-11348
- 0026 Beef production on native (*Imperata cylindrica* (L.) Beauv.) and Para grass (*Bracharia mutica* (Forak.) Stapf) pastures in the Philippines.** Magadan, P.B.; Javier, E.Q.; Madamba, J.C. *Proceedings of the XII International Grassland Congress*, 1974, (En), v. 3(1), pp. 293-298, Summary (En).
□ Presents results of a grazing trial conducted to compare cattle liveweight gains on native *Imperata* and improved Para grass pastures in a major grassland area in the Philippines.
Lib. code: P-L30-14749
- 0027 Beef production potential with special reference to the Matabeleland and Midland provinces.** Bembridge, T.J.; Steenkamp, J.D.G. *Rhodesia Agricultural Journal*, 1975, (En), v. 72(6), pp. 143-147.
□ Discusses the production potential of beef cattle in Matabeleland and Midland provinces and gives data on animal performance, pasture productivity and research and extension inputs.
Lib. code: L00-11745
- 0028 Beef production, soil and forage analyses, and economic returns from eight pasture programs in north-central Florida. Beef Research Unit experimental phase no. 1.** Koger, M.; Blue, W.G.; Killinger, G.B.; Greene, R.E.L.; Harris, H.C.; Myers, J.M.; Warnick, A.C.; Gammon, N. Jr. *Florida University Agricultural Experiment Stations Bulletin (USA)*, May 1961, (En), no. 631, 76p., Summary (En).
□ Presents 5 years' results from the first phase of a coordinated study of pasture programmes for beef production in north-central Florida, USA, from the standpoint of beef production in a cow-calf operation, soil analyses, forage production, forage composition and an economic analysis of each programme.
Lib. code: P-F00-51589
- 0029 Boran steer growth rates on medium-quality ranch pasture (Laikipia) and feedlot (Lanet) (Kenya).** Mukhebi, A.M.W. s.l., s.n.; 1971, (En), 2p.
□ Examines liveweight changes of Boran steers initially grazed on ranch pasture and subsequently fed on high-quality feed rations.
Lib. code: L30-04428
- 0030 Coastcross-1 Bermuda grass, Coastal Bermuda grass and Pensacola Bahia grass as summer pasture for steers.** Utley, P.R.; Chapman, H.D.; Monson, W.G.; Marchant, W.H.; McCormick, W.C. *Journal of Animal Science (USA)*, 1974, (En), v. 38(3), pp. 490-495, Summary (En).
□ Summarizes results of a 4-year grazing trial comparing the effect of Pensacola Bahia grass, Coastal Bermuda grass and Coastcross-1 Bermuda grass on body weight gains in yearling beef steers.
Lib. code: P-L30-51471
- 0031 Comparación de toros Charbray, Brangus, Brahman (Cebu) y comun en pruebas de ceba con yerba Pangola - segundo grupo.** (Comparison of commercial Charbray, Brahman (Zebu) and common breeds on Pangola grass pasture - second group). Brenes, L.R.; Cabrera, J.I. Universidad de Puerto Rico, Ris Piedras. Estacion Experimental Agricola. *Estacion Experimental Agricola Boletin (Puerto Rico)*, Aug 1965, (Es), no. 195, 12p.
□ Presents results of a fattening trial carried out on Pangola grass with three commercial groups of Brangus, Brahman and Charbray breeds, and a common group of Brahman and dairy breed crosses of unknown genetic composition; includes data on weight gain, differences between bulls, monthly variation in weight gain, and on dressing percentage.
Lib. code: P-L30-51476
- 0032 Comparison of giant Pangola, Signal grass, and common Pangola as pasture crops in the mountain region of Puerto Rico.** Rivera-Brenes, L.; Rodriguez-Carbera, A.; Cestero, H. *Journal of Agriculture of the University of Puerto Rico*, 1967, (En), v. 60(3), pp. 193-200.
□ Presents results of a grazing trial on the value of giant Pangola and Signal grasses to cattle in the mountain region of Puerto Rico, with particular reference to total digestible nutrient yield and carrying capacity of the pasture and weight gain of animals; compares results with those for common Pangola (*Digitaria decumbens*).
Lib. code: P-L30-51431
- 0033 Comparison of growth and slaughter performance of Boran and Friesian x Boran cattle under Kenya range conditions.** Tonn, R. s.l., s.n.; 1973, (En), 10p.
□ Presents results of field trials carried out to compare growth and slaughter performance of Boran and Friesian x Boran cattle under Kenyan grazing conditions; includes data on carcass quality and liveweight changes.
Lib. code: L00-04492
- 0034 Comparison of heavily fertilized Pangola grass and Star grass pastures under humid tropical conditions.** Caro-Costas, R.; Abruna, F.; Vicente-Chandler, J. *Agronomy Journal (USA)*, 1973, (En), v. 65, pp. 132-133, Summary (En).
□ Reports results of a study conducted in the humid tropics of Puerto Rico to compare the productivity of heavily fertilized pastures of Pangola grass and Star grass grazed by young cattle over a 2-year period, with particular reference to beef production per hectare, daily gain of animals, carrying capacity, as well as dry matter and protein contents.
Lib. code: P-F25-50131
- 0035 Comparison of heavily fertilized Pangola and Star grass pastures in terms of beef production and carrying capacity in the humid mountain region of Puerto Rico.** Caro-Costas, R.; Abruna, F.; Vicente-Chandler, J. *Journal of Agriculture of the University of Puerto Rico*, 1972, (En), v. 56(2), pp. 104-109.
□ Compares intensively managed Star and Pangola grass pastures fertilized with 2000 pounds of 14-4-10 fertilizer per acre per year in terms of beef production and carrying capacity over a 2-year period in the humid mountain region of Puerto Rico; includes data on average monthly weight gains of cattle, and protein and dry matter content of grasses as affected by season.
Lib. code: P-F00-50133

- 0036** **Development of a pasture program in the tropical savannah of Colombia.** Paladines, O.; Alarcon, E.; Hilton, J.; Spain, J.M.; Grof, B.; Perez, R. *Proceedings of the XII International Grassland Congress, 1974*, (En), pp. 388-401.
 □ Reports work carried out in Colombia on pasture production, utilization and management, with particular reference to grazing trials on native pastures dominated by *Trachypogon*, *Andropogon* and *Paspalum* spp., and introduced pastures of Molasses grass and Jaragua grass; includes data on animal production and performance of the introduced grasses.
 Lib. code: P-F00-14749
- 0037** **Dio groei-prestasie van osse op natuurlike weiding in die soetbosveld.** (The growth performance of oxen on natural pasture in the sweet bushveld). Eloff, H.P.; Harwin, G.O.; Skinner, J.D. *Agroanimalia (South Africa)*, 1976, (Af), v. 8, pp. 49-58, Summary (Af En Fr).
 □ Presents results of a trial carried out at Mara in South Africa to examine the performance of purebred Africander cattle and their crosses with exotic breeds, by running steers on sweet veld without supplementary feeding and observing body weight, body measurements, carcass grades and values, growth pattern and weaning weight.
 Lib. code: P-L30-51614
- 0038** **Efeito de sexo e de raça sobre o ganho em peso de bezerras Zebus.** (Effect of sex and breed on the weight gain of Zebu calves). Carneiro, G.G.; Memoria, J.M.P. In: *Memória Primeira Reunión Latinoamericana de Producción Animal*; 1966, (Pt), pp. 67-76, Summary (En Pt).
 □ Examines the weight gain of Gir, Guzerat and Nelore bull calves at Curvelo, Brazil, relating findings to seasons and breeds.
 Lib. code: P-L00-51474
- 0039** **Effect of level and composition of concentrates on milk yield and weight changes in Kenana cows in green pasture.** Muffrin, M.E. *Sudan Journal of Veterinary Science and Animal Husbandry*, 1967, (En), v. 8(1), pp. 47-54.
 □ Examines the effect of level and chemical composition of feeding concentrates on milk yield and body weight changes, particularly of Kenana cattle grazed on green pasture of the Blue Nile Province, citing lactation performance and nutritive value.
 Lib. code: L30-07287
- 0040** **Estudo comparativo sobre o desenvolvimento de animais Nelore e Lavínia, manejados em pasto e posteriormente no confinamento.** (Zebu versus crossbred cattle managed under a continuous grazing system followed by a confinement period). Velloso, L. *Boletim de Industria Animal (Brazil)*, (Pt), v. 29(1), pp. 35-44, Summary (En Pt).
 □ Describes results of an experiment on six Zebu and six crossbred cattle to compare their weight gains when grazing Pangola grass and mixed Pangola grass x perennial soybean pastures; also studies weight response of animals to confinement feeding using a ration composed of 26% perennial soybean hay, 64% ground corn ears and 10% cottonseed oil meal.
 Lib. code: P-L30-51248
- 0041** **Evaluation of five tropical grasses for growing Holstein heifers.** Yazman, J.A.; Velez-Santiago, J.; Arroyo-Aguilu, J.A. *Journal of Agriculture of the University of Puerto Rico*, s.d., (En), pp. 79-94.
 □ Describes results of a study carried out in Puerto Rico to evaluate Tanner, Guinea, Pangola and Signal grasses as well as *Digitaria milanjiana* in terms of suitability for animal utilization; examines the relation of environment to nutritive value and forage yield, and the rate of utilization of pasture grass dry matter by grazing Holstein cattle.
 Lib. code: P-L30-51606
- 0042** **Factors influencing winter gains of beef calves.** Peacock, F.M.; McCaleb, J.E.; Hodges, E.M.; Kirk, W.G. *Florida University Agricultural Experiment Stations Bulletin (USA)*, *un 1969, (En), no. 635, 11p.
 □ Summarizes results of a study conducted to determine the effects of Pangola grass roughage as pasture and silage, and of the proportion of Brahman crossing and sex of weaning calves on their winter weight gains.
 Lib. code: P-L30-51521
- 0043** **Forage crops research at Ibadan.** Chheda, H.R. In: *Animal production in the tropics*; Heinemann Educational Books Ltd, Ibadan (Nigeria), 1974, (En), pp. 79-94; International Symposium on Animal Production in the Tropics, Ibadan (Nigeria), 26-29 Mar 1973.
 □ Summarizes experiments on the improvement of *Cynodon* species, particularly aimed at identifying species adapted to humid tropics and isolation of superior genotypes for pastures in southern Nigeria; and at elucidating agronomic and management requirements of *Cynodon* cultivars for increased animal productivity; with data on level of fertilizers, grazing management, and animal performance on pure *Cynodon* 1B.8 pasture.
 Lib. code: F30-20144
- 0044** **Forage systems as related to the economics of beef production in south-central Florida.** Peacock, F.M.; Greene, R.E.L.; Hodges, E.M.; Kirk, W.G.; Koger, M. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1974, (En), v. 34, pp. 148-151, Summary (En).
 □ Discusses findings of a 5-year study conducted from 1961 to 1966 to determine the relative economics of beef production from cow-calf programmes on three forage systems, viz. native range, a combination of native range and improved pastures, and only improved pastures in south-central Florida, USA; includes data on animal performance and net returns from the three forage systems.
 Lib. code: P-L30-51432
- 0045** **Grass pastures in central Florida.** Hodges, E.M.; Jones, D.W.; Kirk, W.G. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Sep. 1958, (En), no. 484A, 30p.
 □ Presents recommended practices for improving grass pastures in central Florida, USA, particularly mentioning land choice, clearing and preparation; planting techniques; lime and fertilizer application; management and utilization methods; and various suitable grass varieties.
 Lib. code: F-FOO-51586
- 0046** **Grasslands Research Station, Pasture Section. Annual report for year ended 1951.** *Rhodesia Agricultural Journal*, 1952, (En), v. 49(5), pp. 293-302, ISSN 0035-4686.
 □ Reports results of experiments conducted at the Grasslands Research Station during 1951, with respect to veld grazing, pasture growth, use of different stocking rates, fertilizer application and beef/milk production; includes a profit and loss account of the trials.
 Lib. code: MIC-L30-22921
- 0047** **Grazing systems for profitable ranching.** Hoffman, G.D.; Huss, D.L.; Ragsdale, B.J. Texas A & M Univ. (USA). Texas Agricultural Extension Service. s.d., (En), 7p.
 □ Discusses considerations for a grazing system that would allow the manipulation of animals to obtain maximum sustained livestock and forage production at a low cost, with particular reference to factors such as the degree of use, flexibility of grazing, combination stocking, and planned use.
 Lib. code: P-E15-51600
- 0048** **Grazing trials on the Wallum of south-eastern Queensland.** Bryan, W.W. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1968, (En), v. 8(34), pp. 512-520.

- Studies of four sown pastures, each based on a different grass, under grazing by beef cattle at Beerwah, Australia, in order to examine pasture production and botanical composition, and liveweight change in grazing cattle with no cultural treatments, weeding, licks or supplements.
Lib. code: P-FOO-50204
- 0049 Growth and development of beef cattle.** Prescott, J.H.D. In: *Beef cattle production in developing countries*; University of Edinburgh (UK). Centre for Tropical Veterinary Medicine. 1976, (En), pp. 58-78, ISBN 0 85224 294 8; Conference on Beef Cattle Production in Developing Countries, Edinburgh (UK), 1-6 Sept 1974.
□ Discusses various aspects related to growth of beef cattle, particularly feed intake, feed conversion efficiency, weight gain, potential body size and body composition; gives examples from different animal breeds.
Lib. code: LOD-02949
- 0050 Growth and nutrition of beef cattle in Southern Rhodesia.** Elliott, R.C. In: *Beef production in the Federation of Rhodesia and Nyasaland*; Rhodesia & Nyasaland. Federal Ministry of Agriculture. 1957, (En), pp. 46-55; 3. Annual Conference of the Professional Officers of the Department of Research and Specialist Studies, Salisbury (Zimbabwe), 1-2 Apr 1957, Summary (En).
□ Briefly reviews the biological aspects of growth and nutrition of beef cattle in southern Rhodesia; with analysis and discussion of local research in this field in relation to production methods; and with outlines on veld production, herbage consumption and nutrient intake of cattle, and veld supplementation.
Lib. code: L30-20031
- 0051 Growth of cattle in Papua New Guinea. 1. Brahman-British crossbreeds.** Anderson, J.L. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1968, (En), v. 8, pp. 121-124.
□ Presents results of trials carried out at Moitaka, Papua New Guinea, in which the postweaning growth rates of Brahman-Angus crossbreeds on natural pasture savanna were measured every 28 days until shortly before their last calving.
Lib. code: P-L30-51443
- 0052 Growth performance of heifers under different systems of grazing on *Dichanthium-Aristida* pasture in semi-arid regions of Rajasthan.** Verma, C.M.; Ahuja, L.D. *Annals of Arid Zone (India)*, 1979, (En), v. 18(1,2), pp. 13-20, ISSN 0570-1791.
□ Presents trial results showing the effects of different systems of grazing and season on liveweight gain of heifers grazing *Dichanthium-Aristida* pasture in semi-arid regions of Rajasthan in India.
Lib. code: L30-15564
- 0053 Growth rate of heifers in central Burnett.** Sullivan, J.J.; Lord, F.S. *Queensland Agricultural Journal (Australia)*, 1958, (En), pp. 1-2.
□ Reports on a trial carried out in Australia to examine the effects of breed type and feed availability on the optimum mating age for heifers, using Hereford x Santa Gertrudis and purebred Hereford cattle grazing mixed Rhodes grass and native pasture at a stocking rate of one animal to six acres; includes observations on liveweight changes, handling, body conformation and age at mating.
Lib. code: P-L30-51478
- 0054 Improved pastures on sandveld vleis.** *Rhodesia Agricultural Journal*, Oct 1944, (En), v. 41(5), pp. 407-411, ISSN 0035-4686.
□ Compares liveweight gains of steers and milk yield and weight gain of dairy cows grazing on unimproved and improved sandveld vleis at Marandellas, Zimbabwe.
Lib. code: MIC-L30-23062
- 0055 Influence of management practices on productivity.** Stonaker, H.H.; Salazar, J.; Bushman, D.H.; Gomez, J.; Villar, J.; Osorio, G. CIAT, Cali (Colombia). Aug 1975, (En), pp. 63-81; Seminar on the Potential to Increase Beef Production in Tropical America, Cali (Colombia), 18-21 Feb 1974.
□ Discusses the influence of management techniques on the productivity of cattle production, with particular reference to the Fondo Ganadero farms in Colombia. Presents preliminary results of salt supplementation, improved pastures and bull management.
Lib. code: F00-01767
- 0056 Intensive animal production on subistence scale.** Oyenuga, V.A. In: *Proceedings of the 3. World Conference on Animal Production*; Reid, R.L. (ed.). 1975, (En); 3. World Conference on Animal Production, Melbourne (Australia), 22-30 May 1973.
□ Presents trial results showing weight gains, lean meat production and milk yield of cattle grazed on intensively managed pasture.
Lib. code: L30-00990
- 0057 Kikuyu grass poisoning of cattle in Natal.** Bryson, R.W.; Newsholme, S.J. *Journal of the South African Veterinary Association*, 1978, (En), v. 49(1), pp. 19-21, Summary (En).
□ Describes clinical findings in six natural and two experimental cases of Kikuyu grass poisoning in Natal, South Africa, mentioning geographical, seasonal and environmental factors conducive to toxicity and clinical signs of the condition.
Lib. code: P-L74-51548
- 0058 Liveweight changes of Brahman-cross, Shorthorn, Banteng, and buffalo steers grazing improved pastures at Darwin, N.T.** Moran, J.B. *Journal of the Australian Institute of Agricultural Science*, 1973, (En), pp. 68-70.
□ Presents a preliminary report on liveweight changes and growth rates of Brahman-cross, Banteng, Shorthorn and Buffalo steers grazing improved pastures for 15 months prior to pen trials in Darwin, Australia.
Lib. code: P-F00-51266
- 0059 Liveweight performance of crossbred and Zebu cattle grazing on native and Rhodes grass pastures.** O'Donovan, P.B.; Woldegebriel, A.; Taylor, M.S.; Gebrewolde, A. *Tropical Animal Health and Production (UK)*, Nov 1978, (En), v. 10(4), pp. 243-249, ISSN 0049-4747, Summary (En Es Fr).
□ Evaluates the relative feed values and carrying capacities of native pasture and Rhodes grass with reference to weight gains of Zebu cattle and crossbreeds.
Lib. code: L30-19558
- 0060 Makueni - a new Guinea grass for north Queensland.** Middleton, C.H.; McCosker, T.H. *Queensland Agricultural Journal (Australia)*, 1975, (En), pp. 351-355.
□ Describes a Guinea grass variety suitable to the environmental conditions of north Queensland, Australia, mentioning its appearance, results of grazing trials, establishment and management as well as seed production.
Lib. code: P-F00-51421
- 0061 Pangola grass.** Nestel, B.L.; Creek, M.J. *Herbage Abstracts (UK)*, 1962, (En), v. 32(4), pp. 1-7.
□ Reviews reported findings on various aspects of Pangola grass, with particular reference to its performance in different areas of cultivation, botanical and agronomic characteristics, establishment and cultivation techniques, fertilizer requirements, yields, digestibility, diseases and pests attacking it, animal production from Pangola grass and its performance in association with legumes.
Lib. code: P-F00-50185

- 0062 Pangola grass (*Digitaria decumbens* Stent) in the Caribbean.** Oakes, A.J. *Proceedings of the VIII International Grassland Congress*, s.d., (En), pp. 386-389, Summary (De En Fr).
 □ Examines the adaptive capacity of Pangola grass introduced in the Caribbean, with particular reference to its agronomic characteristics, diseases and parasites which attack it; its establishment, competition with pasture weeds, fertilizer response, carrying capacity and beef producing capabilities.
 Lib. code: P-F00-50164
- 0063 Pangola grass pastures for beef production in central Florida - a method of determining the economics of establishing and fertilizing them.** Reuss, L.A.; Roberts, N.K.; Greene, R.E.L. *Florida University Agricultural Experiment Stations Bulletin (USA)*, May 1957, (En), no. 585, 36p., Summary (En).
 □ Reports a study conducted to illustrate, by use of ranch budgets, the types of information and analysis that will help ranchers in deciding on the best use of available resources, particularly regarding the decision whether it would be more profitable to use available capital to apply more fertilizers on existing improved pastures, develop additional acres of improved pastures, buy better quality livestock, or make other improvements.
 Lib. code: P-E15-51592
- 0064 Pasture and cattle management in the wet tropics.** Teitzel, J.K.; McTaggart, A.R.; Hibberd, M.J. *Queensland Agricultural Journal (Australia)*, 1971, (En), 6p.
 □ Discusses issues related to beef cattle production from pastures in the wet tropics, mentioning the seasonal productivity of pastures, and ways of maintaining soil fertility and animal health.
 Lib. code: P-L00-51468
- 0065 Pasture and livestock investigations in the humid tropics Orinoco Delta - Venezuela. IV. Beef cattle and water buffalo grazing trials with native and introduced grasses.** Cunha, E.; Alvarez, F.; Larez, O.; Bryan, W.B. *IRI Research Institute Bulletin (USA)*, 1975, (En), no. 45, 39p., Summary (En).
 □ Describes grazing observations and trials carried out in Venezuela to examine liveweight changes of Criollo-Zebu crossbred steers on introduced pastures consisting of Pangola, Swazi and Tanner grasses, and on a native grass, Chiguirera; includes results of a trial on the performance of water buffaloes grazing Chiguirera.
 Lib. code: P-L30-51441
- 0066 Pasture improvement in East Africa, with special reference to the intensive farming areas of Uganda.** Stobbs, T.H. 1968, (En), 23p.; Seminar on Animal Husbandry and Marketing, Nairobi (Kenya).
 □ Reviews research on pasture improvement, particularly forage species introduction, herbage cutting, effects of grazing, soil fertility, and pasture utilization in beef cattle production.
 Lib. code: F00-00769
- 0067 Pasture improvement in the higher rainfall regions of Southern Rhodesia.** West, O. *Rhodesia Agricultural Journal*, 1956, (En), v. 53, pp. 439-451.
 □ Discusses various issues related to pasture improvement in the higher rainfall regions of Southern Rhodesia, mentioning investigations on the ecology of veld species and management of veld grazing; advantages of integrating veld grazing and cultivated pastures for beef production; and research on cultivated pastures.
 Lib. code: P-F00-22899
- 0068 Pasture production and land management on brigalow land in the southern Brigalow Region.** Coaldrake, J.E.; Smith, C.A. *Proceedings of the Tropical Grassland Society of Australia*, 1967, (En), v. 1(2), pp. 206-208.
 □ Discusses experiments carried out in Queensland, Australia, to test the nutritive value of *Sorghum alatum*, Buffel grass with Nunbank, commercial Rhodes grass with Pioneer, Green panic with Petrie, natural pastures, and native pasture plus oats; includes data on weight gains of animals under the different pastures.
 Lib. code: P-L30-51417
- 0069 Pasture production and utilization by cattle in the tropics with special reference to Uganda.** Musangi, R.S. *Makerere University, Faculty of Agriculture Technical Bulletin (Uganda)*, 1969, (En), no. 4, s.p.; Seminar on Pasture Production and Utilization by Cattle in the Tropics with Special Reference to Uganda, Kampala (Uganda), 10 Mar 1966, Summary (En).
 □ Discusses pasture production and utilization with reference to seedbed preparation, ley establishment and management, dry-season mulch and forage supply, as well as effects of stocking rate on beef production. Includes data on animal diseases and economic aspects of dairying.
 Lib. code: F00-04516
- 0070 Performance of beef cattle on native and sown pasture at Katherine, N.T. Norman, M.J.T.; Arndt, W. CSIRO Division of Land Research and Regional Survey Technical Paper, 1959, (En), no. 4, 11p.
 □ Describes studies of cattle gains on sown pastures of *Cenchrus ciliaris* and Townsville lucerne at Katherine in Australia, with particular reference to seasonal changes in liveweight, comparative performance on native and sown pasture in the dry season, and influence of dry-season weight changes on gain over the whole season.
 Lib. code: P-L30-51579**
- 0071 Performance of beef steers in the wet tropical coast of Queensland.** Mellor, W.; Round, P.J. *Queensland Journal of Agricultural and Animal Sciences (Australia)*, 1974, (En), v. 51(3), pp. 213-220.
 □ Presents results of monthly weighings of 1272 beef steers grazed at Utchee Creek on the wet tropical coast of Queensland, Australia, during 3 years, with particular reference to annual liveweight gain and rates of gain in relation to time of year, breed and age or size of the cattle at purchase.
 Lib. code: P-L30-51422
- 0072 Performance of Charbray, Jamaica Red and Zebu heifers on Pangola grass pastures of the Government Farm, Trinidad (Preliminary results).** Davidson, J.G. s.l., s.n.; s.d., (En), v.p.
 □ Presents results of trials carried out to determine the comparative performance of Charbray, Jamaica Red and Zebu cattle grazed rotationally on Pangola grass pasture, particularly referring to weight gains and seasonal rates of gain.
 Lib. code: P-L30-51467
- 0073 Performances of cattle breeds (Kenya).** s.l., s.n.; s.d., (En), 3p.
 □ Presents trial results showing average liveweight and daily weight gains of different cattle breeds, particularly indigenous East African Zebu, Sahiwal, Boran x Sahiwal and Nep - Boran in various districts of Kenya.
 Lib. code: L00-04432
- 0074 Peso ao nascer e desenvolvimento ponderal em bovinos da raça Guzerá e mestiços Sulço-Guzerá.** (Birth weight and liveweight gain in Guzerat and crossbred Brown Swiss-Guzerat cattle). Pires, F.L.; Freitas, M.A.R. de. *Boletim de Industria Animal (Brazil)*, 1974, (Pt), v. 31(2), pp. 213-220, Summary (En Pt).
 □ Reports preliminary results obtained after 6 years of observations on the birth weight and growth rates of Guzerat and crossbred Brown Swiss-Guzerat cattle in Aracatuba, Sao Paulo, Brazil.
 Lib. code: P-L00-51450

- 0075 Predicting beef cattle gains on native pasture at Katherine, N.T.** Norman, M.J.T. *Journal of the Australian Institute of Agricultural Science*, 1961, (En), v. 27(1), 2p.
 □ Examines quantitative relationships between weight gain of beef cattle on native pasture at Katherine, Australia, and size of frame, age, condition at beginning of the gain period and previous feeding level.
 Lib. code: P-L30-51580
- 0076 Problems of intensive beef production in the derived and southern Guinea vegetation zones of Nigeria.** Olaloku, E.A. 1977, (En), 9p.; Colloque de Bouake des Recherches sur l'Élevage Bovin en Zone Tropicale Humide, Bouake (Cote d'Ivoire), 18-22 Apr 1977, Summary (En).
 □ Investigates the problems of beef fattening in the derived and southern Guinea vegetation zones of Nigeria on government ranches, with particular reference to liveweight gain, breed type, feed utilization and slaughter weight.
 Lib. code: L30-10440
- 0077 Proceedings of the XIV International Grassland Congress.** Smith, J.A. (ed.); Hays, V.W. (ed.) Boulder, Colorado, Westview Press; 1983, (En), 878p., ISBN 0-86531-280-X; 14. International Grassland Congress, Lexington, Kentucky (USA), 15-24 Jun 1981.
 □ A compilation of papers presented at a conference on grasslands, dealing particularly with plant introduction, evaluation and breeding; seed production; soil fertility; the nitrogen cycle; multiple uses of grasslands; physiological processes; grassland ecology; forage evaluation techniques; management of grazed and conserved forages; mechanization and treatment of forages; utilization of forages in animal production; tropical grasslands; socio-economic aspects; and transfer of grassland research findings.
 Lib. code: FOO-31369
- 0078 Producción de carne con los zacates Pangola y Jaragua fertilizados en el trópico Aw.** (Meat production from fertilized Jaragua and Pangola grasses). Garza, R.T.; Arcoy, D.; Perez, A.S. *Técnica Pecuaria en Mexico*, 1970, (Es), no. 14, pp. 20-24, Summary (En Es).
 □ Describes findings of a trial carried out to compare the performance of steers on Pangola and Jaragua grasses fertilized with 100 kg nitrogen per hectare; with particular reference to weight gain, meat production, animal days and carrying capacity.
 Lib. code: P-L30-50148
- 0079 Productivities of cattle breeds in Zambia. Results of research at the Central Research Station, Mazabuka, 1965 to 1977, and at Mochipapa Regional Research Station, Choma, 1972 to 1978.** Cruickshank, D.K.R. Central Research Station, Mazabuka (Zambia). Mochipapa Regional Research Station, Choma (Zambia). Sep 1979, (En), 165p.
 □ Evaluates beef production from indigenous and crossbred cattle kept under ranching conditions in Zambia, on the basis of data collected at the Mazabuka Central Research Station and at Mochipapa Regional Research Station. Describes the management, reproductive performance, progeny liveweights, cattle productivities and carcass quality of pure and crossbred Angoni, Barotse, Boran, Afriander, Friesian and Hereford sires and dams.
 Lib. code: MIC-L10-22543
- 0080 Productivity of four intensively managed grasses under grazing management in the humid hill region of Puerto Rico.** Vicente-Chandler, J.; Rodriguez, J.; Rivera, E. *Journal of Agriculture of the University of Puerto Rico*, s.d., (En), pp. 236-240.
 □ Presents findings of a trial carried out in Puerto Rico to assess the dry forage yields of intensively managed and grazed plots of Pangola, Signal, Tanner and Transvaal grasses.
 Lib. code: P-F00-51430
- 0081 Productivity of intensively managed pastures of five grasses on steep slopes in the humid mountains of Puerto Rico.** Caro-Costas, R.; Chandler, J.V.; Figarella, J. *Journal of Agriculture of the University of Puerto Rico*, 1965, (En), v. 49(1), pp. 99-111.
 □ Presents results of a study undertaken to determine the productivity, in terms of carrying capacity and beef yields, of intensively managed, well fertilized pastures of Pangola, Guinea, Napier, Para and Molasses grasses on steep slopes under typical conditions in the humid mountain region of Puerto Rico over a 4-year period.
 Lib. code: P-F00-51257
- 0082 Productivity of tropical pastures in Hawaii.** Plucknett, D.L. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. A38-A49.
 □ Describes factors limiting pasture productivity in Hawaii, particularly climate, soil fertility, physiography, weeds, insect pests, and forage quality; discusses results of trials undertaken to measure pasture productivity through animal production and to examine response to phosphorus fertilization; gives results of weaner grazing trials.
 Lib. code: P-F00-50165
- 0083 Productivity of tropical pastures in the Caribbean.** Richards, J.A. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. A49-A56.
 □ Discusses forage and animal production in the Caribbean area in general, and more specifically in Jamaica, mentioning grass and legume species and their yields, optimum stocking rates, fertilizer response, supplementary feeding and economic aspects.
 Lib. code: P-L30-51442
- 0084 Productivity of tropical pastures. 1. Pangola grass.** Blydenstein, J.; Toledo, S.L.J.; Camargo, A. *Journal of the British Grassland Society*, 1969, (En), v. 24(1), pp. 71-75.
 □ Reports results of a trial carried out in the humid tropical environment of Turrialba, Costa Rica, to determine the value of fertilized Pangola grass pastures for grazing dairy cows, with particular reference to milk yield as well as nitrogen and dry matter balance.
 Lib. code: P-L30-51418
- 0085 Productivity of tropical pastures. 2. Guinea grass.** Blydenstein, J.; Louis, J.; Toledo, J.; Camargo, A. *Journal of the British Grassland Society*, 1969, (En), v. 24(2), pp. 173-176.
 □ Presents results of a study conducted in Turrialba, Costa Rica, in which a dairy herd was grazed on unfertilized Guinea grass pastures to collect information on grazing pressure, forage digestibility and consumption, as well as milk yield.
 Lib. code: P-L30-51532
- 0086 Produktiebepalings en die beheer van gemengde rooigrasveld met Afrikanerbeeste.** (Beef production studies and management of *Themeda* veld with Afrikaner cattle). Mostert, J.W.C.; Vorster, L.F.; Donaldson, C.H. Department van Landbou, Pretoria (South Africa). *Departement van Landbou Tegnieke Mededeling (South Africa)*, 1964, (Af), no. 22, 11p., Summary (Af En).
 □ Presents results of trials carried out in South Africa to examine the carrying capacity of *Themeda* veld, by allowing Afrikaner cattle herds to graze rotationally a mixed *Themeda* veld at a stocking rate of five animals per hectare and observing liveweight gain of animals and total digestible nutrient yield of the pasture.
 Lib. code: P-L30-51481
- 0087 Rhodes grass pastures. Some aspects of management and utilization.** Addy, B.L.; Thomas, D. *Ministry of Agriculture and Natural Resources Research Bulletin (Malawi)*, Mar 1976, (En), no. 3/76, 16p.

- Summarizes results of a 3-year programme of grazing experiments conducted at Lilongwe in Malawi to examine various alternative methods of seasonal utilization of Giant Rhodes grass pastures, mentioning the stocking rates and their effect on animal performance and productivity; effect of legumes on animal performance; use of forage and aftermath grazing for dry-season feeding; value of protein supplements and legumes in the dry season; use of maize stover for dry-season grazing; and comparative performance of different cattle types. Includes recommendations for grazing management.
Lib. code: F00-51242
- 0038 Seasonal body weight changes in suckled Boran cows at pasture and their probable association with interval between calvings.** Kidner, E.M. *East African Agricultural and Forestry Journal (Kenya)*, Apr 1966, (En), v. 31(4), pp. 399-404, ISSN 0012-8325.
□ Discusses the effect of season of calving on pattern of body weight changes of Boran cows during suckling period, and association of body weight changes with calving interval.
Lib. code: L50-02119
- 0089 Seasonal performance of beef cattle on native pasture at Katherine, N.T.** Norman, M.J.T. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1965, (En), v. 5, pp. 226-231, Summary (En).
□ Summarizes 9 years' data on the liveweight of 1 to 4-year-old beef steers kept on native pasture at Katherine, Australia, with particular reference to seasonal variations in weight.
Lib. code: P-L30-51480
- 0090 Some environmental and physiological factors affecting birth and weaning weights of beef calves.** Niemann, P.J.; Heydenrych, H.J. *Department of Agricultural Technical Services Communication (South Africa)*, 1965, (En), no. 41, 11p., Summary (Af En).
□ Summarizes findings of an investigation carried out in the sandveld areas of South Africa to examine the effects of birth weight, weaning weight and preweaning growth on the performance of Africander type cattle on natural pasture; also studies relationship between various cow and calf characteristics such as weight, weaning weight and pre-weaning growth of calves.
Lib. code: P-L30-51427
- 0091 Studies of the improvement of natural veld pastures. No. 2.** Husband, A.D.; Taylor, A.D. *Rhodesia Agricultural Journal*, Feb 1931, (En), v. 28(2), pp. 154-169, ISSN 0035-4686, Summary (En).
□ Investigates problems of pasture improvement in southern Rhodesia in connection with the introduction of grade or pedigree stock, analysing samples of natural veld grasses for crude protein, phosphoric oxide, lime, potash, chlorine, crude fibre, ether extract and acid soluble ash contents in different months and seasons, and examining methods of increasing the carrying capacity of pastures.
Lib. code: MIC-F00-23083
- 0092 The comparative performance of tropical crossbred and Shorthorn beef cattle on native pasture at Katherine, N.T.** Norman, M.J.T. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1967, (En), v. 7, pp. 217-224.
□ Presents results of trials carried out at Katherine, Australia, on the relative liveweight performance and carcass characteristics of Brahman x Hereford and Africander x Shorthorn F₁ crossbred heifers, and local Shorthorn heifers on native pasture with or without supplementary peanut meal.
Lib. code: P-L30-51426
- 0093 The performance of Santa Gertrudis, Sahiwal, Brahman and crossbred animals in the intermediate savannas of Guyana. I. General.** Mahadevan, P.; Harricharan, H.; Springer, B.G.F. *Journal of Agricultural Science (UK)*, Aug 1972, (En), v. 79(pt. 1), pp. 67-70, ISSN 0021-8596.
□ Examines mortality rate, calving interval, age at first calving, generation intervals and animal productivity of Santa Gertrudis, Sahiwal, Brahman and crossbred cattle using 11 years' data collected at the Ebini Livestock Station in the intermediate savannas of Guyana; with discussion on factors influencing animal production in the area.
Lib. code: L30-19123
- 0094 The production of beef in the native reserves of Southern Rhodesia as compared with different systems of stock rearing on European farms.** Vorster, T.H. *Rhodesia Agricultural Journal*, Dec 1960, (En), v. 57(6), pp. 429-435, ISSN 00: 5-4686.
□ Compares native and European systems of livestock management in terms of quantitative and qualitative production of beef, especially variations in liveweight gain, body measurements, hot carcass weight and composition, conformation, measurements and grade of carcass in native steers in southern Zimbabwe.
Lib. code: MIC-L00-22880
- 0095 The productivity of Mashona cattle in Rhodesia.** Oliver, J. *Experimental Agriculture (UK)*, 1966, (En), v. 2(2), pp. 119-127, ISSN 0014-4797.
□ Discusses the productivity of a herd of Mashona cattle in Rhodesia, particularly calf birth weight and weaning weight, weight changes and calving rate of mature cows, growth of suckling calves and effect of early weaning on calves and their dams.
Lib. code: L00-05445
- 0096 The use of pasture for beef production. II. Effect of stocking rate and supplemental molasses/urea feeding on performance of grazing bulls during the wet season.** Veitia, J.L.; Preston, T.R.; Delgado, S. *Cuban Journal of Agricultural Science*, 1974, (En), v. 8, pp. 123-127.
□ Compares three stocking rates (4.2, 5.7 and 7.1 bulls/ha) and two levels of supplemental feeding on the daily gain of crossbred bulls grazing nitrogen-fertilized Pangola grass during the rainy season in Cuba.
Lib. code: P-F00-51230
- 0097 The utilization of natural grasslands in the tropics.** Osbourn, D.F. In: *Beef cattle production in developing countries*; University of Edinburgh (UK). Centre for Tropical Veterinary Medicine. 1976, (En), pp. 184-203, ISBN 0 85224 294 8; Conference on Beef Cattle Production in Developing Countries, Edinburgh (UK), 1-6 Sep 1974.
□ Discusses the quantity and quality of green forage on natural grasslands and voluntary feed intake and weight gain of grazing beef cattle, with particular emphasis on sound utilization of grasslands.
Lib. code: L00-02949
- 0098 The yield, intake and animal production of four tropical grass species grown at Ibadan.** Olubajo F.O.; Oyenuga, V.A. *Nigerian Journal of Animal Production*, 1974, (En), v. 1, pp. 217-224, Summary (En).
□ Summarizes results obtained when four local grasses in Nigeria, viz. *Cynodon nlemfuensis* var. *robustus*, *Pennisetum purpureum* Schum, *Cynodon nlemfuensis* var. *nlemfuensis* and *Panicum maximum* Jacq., were grazed at three growth stages by sheep and cattle over a period of 1226 days under intensive grazing management practices; includes data on dry matter yields, intake and chemical composition of grasses and liveweight gains of animals.
Lib. code: P-L30-51486
- 0099 Tropical pasture improvement and livestock production.** Brumby, P.J. *World Animal Review (FAO)*, 1974, (En), no. 9, pp. 13-17, ISSN 0049-8025.
□ Discusses the improvement of cattle production under rangeland pasture conditions by growing grain and forage crops, the use of mineral supplements and pasture improvement; mentions particularly problems related to farm management and financial aspects.
Lib. code: L00-08160

0100 Variations du poids vif et du rendement en viande de boeufs Zébus de l'Adamaoua au cours de la saison sèche. (Variation in liveweight and meat yield of Admawa Zebu during the dry season). Dumas, R.; Lhoste, P. *Revue d'Élevage et de Médecine Vétérinaire des Pays Tropicaux (France)*, 1966, (Fr), v. 19(4), pp. 573-579, Summary (En Es Fr).

□ Studies the effect of dry season on meat production in Adamawa, Cameroun, with emphasis on daily weight loss, meat yield, and correlation between thoracic perimeter and liveweight.

Lib. code: L00-11463

0101 Weight gains of cows fed on five grass pastures intensively managed in the humid hill region of Puerto Rico. Caro-Costas, R. *Journal of Agriculture of the University of Puerto Rico*, s.d., (En), 4p.

□ Describes trials carried out under conditions typical of the humid hills of Puerto Rico to examine differences in productivity, toxicity to cattle and establishment of intensively managed pastures of Guinea, Tanner, Pangola, *Digitaria milan-jiana* and Signal grasses.

Lib. code: P-L32-51594

0102 Year-round grazing on a combination of native and improved pasture. Jones, D.W.; Hodges, E.M.; Kirk, W.G. Florida Univ., Gainesville (USA). Agricultural Experiment Stations. *Florida University Agricultural Experiment Stations Bulletin (USA)*, May 1960, (En), no. 554A, 14p.

□ Describes investigations undertaken at the Range Cattle Experiment Station, Florida, USA, to study a practical method of managing a combination of native and improved pasture to provide near-optimum utilization of forage and maintain a breeding herd in good condition throughout the year.

Lib. code: P-F00-51232

0103 Yearlong beef production on tropical perennial grasses. Hodges, E.M.; Peacock, F.M.; Chapman, H.L. Jr.; Martin, F.G. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1978, (En), v. 58, pp. 12-14, Summary (En).

□ Describes findings of a trial carried out to compare the performance of beef cattle grazing six subtropical grasses, viz. Pensacola Bahia grass, Pangola digitgrass, Transvala digitgrass, Ona star grass, Coast-Cross 1 Bermuda grass and common Bermuda grass; includes data on cool season, warm season and yearlong daily gains, slaughter grade, total cattle days per hectare, total animal gain per hectare, and on sward response to grazing.

Lib. code: P-L30-51439

NUTRITIVE VALUES OF TROPICAL FORAGES AND NUTRIENT REQUIREMENTS OF BEEF CATTLE

0104 A study of the influence of seasonal fluctuations in the nutritive value of natural grazing in the medium-rainfall areas of Southern Rhodesia on the growth and development of the beef steer and carcass. Ainslie, K.S. *Rhodesia Agricultural Journal*, Jun 1958, (En), v. 55(3), pp. 286-301, ISSN 0035-4686, Summary (En).

□ Reviews literature on the influence of undernutrition on animal growth and discusses effects of different planes of nutrition on liveweight gain, body measurements, carcass characteristics and recovery rates of beef steers from a period of weight loss.

Lib. code: MIC-L30-22888

0105 Animal performance by steers grazing Pensacola Bahia grass pasture in relation to forage production, forage composition and estimated intake. Prates, E.R.; Chapman, H.L. Jr.; Hodges, E.M.; Moore, J.E. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1974, (En), v. 34, pp. 153-156.

□ Describes an experiment carried out to measure changes in the performance of yearling steers grazing Pensacola Bahia grass throughout one grazing season, relating the observed performance to forage production, forage composition and indirect estimates of pasture intake; includes data on weight gain, forage yield, residual forage, stocking rate, intake, digestibility and chemical composition.

Lib. code: P-L30-51429

0106 Associated pasture production problems.

Harrington, G.N. 1968, (En), pp. 69-78; Conference on Beef Cattle Breeding and Ranching Development, Mbarara (Uganda), 6-11 May 1968.

□ Discusses problems associated with pasture production, especially crude protein content fluctuation, grazing intensity, cattle grazing behaviour, and land carrying capacity.

Lib. code: F00-01061

0107 Beef production. Part 1. The nutrient requirements for normal growth and for rapid growth with fattening in relation to pasture composition. Kidner, E.M. *East African Agricultural and Forestry Journal (Kenya)*, 1966, (En), v. 32(1), pp. 34-37.

□ Discusses a study on digestible crude protein (DCP) and total digestible nutrient (TDN) requirements of cattle for normal growth and fattening, with data on the relationships among TDN, DCP, liveweight gain and crude protein content.

Lib. code: L30-03490

0108 Calf grazing trials in Trinidad. II. Intake and utilization of nutrients from pasture and meal supplement. Cowlishaw, S.J.; Archibald, K.A.E. *Tropical Agriculture (Trinidad & Tobago)*, 1972, (En), v. 49(4), pp. 305-310, Summary (En).

□ Reports results of a trial carried out in Trinidad with cross-bred Holstein calves rotationally grazed on Pangola grass pastures and given daily supplements; refers to the botanical and chemical composition of the pasture, and organic matter and nutrient intake of calves.

Lib. code: P-L30-51607

0109 Chemical and floristic components of the diet of Zebu cattle (*Bos indicus*) in browse and grass range pastures in a semi-arid upland area of Kenya. 1. Crude protein. McKay, A.D.; Frandsen, P.E. *Tropical Agriculture (Trinidad & Tobago)*, Oct 1969, (En), v. 46(4), pp. 279-292, ISSN 0041-3216.

□ Presents trial results showing crude protein values of browse plants, grasses and herbaceous plants in adjacent overgrazed and lightly grazed areas in Kenya, giving data on weight gains of Zebu cattle and vegetation densities.

Lib. code: L30-04251

0110 Composition du pâturage naturel consommé par les bovins en milieu tropical: rote sur une technique d'étude nouvelle. (Composition of natural pasture consumed by cattle in tropical environment; Note on a new study technique). Blancou, J.; Calvet, H.; Friot, D.; Valenza, J.S.J., s.n.; 1977, (Fr), 10p., Summary (Fr).

□ Describes a new technique for determining the exact composition of natural pasture consumed by tropical cattle; discusses results obtained in Senegal, particularly ratio of different elements of ingesta after feed analysis, with a fistulated ox whose rumen had been emptied beforehand to allow the collection of fresh samples of natural feed.

Lib. code: L30-16369

0111 Efecto de la composición química y la disponibilidad de nutrientes del pasto Parí (*Panicum purpurascens* Raddi), sobre la producción de carne por animal. (Effects of chemical composition and availability of nutrients in pastures (*Panicum purpurascens* Raddi) on beef production). Velez, C.A.C.; Escobar, G.L.; Ayala, C.H. *Acta Agronomica (Colombia)*, 1972, (Es), v. 22, pp. 11-25, Summary (En Es).

- Examines the effects of chemical and botanical composition of pasture and nutrient availability on beef production from *Panicum purpurascens*, with particular reference to correlations between animal production and percentages of crude protein, dry matter and crude fibre as well as available protein. Lib. code: P-F00-5C181
- 0112 Factors limiting liveweight gain of beef cattle on rangeland in Botswana.** Pratchett, D.; Capper, B.; Light, D.; Miller, M.; Rutherford, A.; Rennie, T.; Buck, N.; Trail, J.C.M. *Journal of Range Management (USA)*, Nov 1977, (En), v. 30(6), pp. 442-445, ISSN 0022-409X.
□ Evaluates the usefulness of different range parameters for establishing limiting factors to growth of beef cattle, particularly crude protein content and dry matter digestibility of herbage. Lib. code: L32-09298
- 0113 Forage conservation in the tropics.** Miller, T.B. *Journal of the British Grassland Society*, 1970, (En), v. 24(2), v.p., ISSN 0080-5777.
□ Assesses the nutritive value of conserved grasses, crop residues and forage crops, especially cereal-legume mixtures, with respect to digestible organic matter and crude protein content, voluntary feed intake, and cattle weight gain. Lib. code: L36-03195
- 0114 In vitro digestibility and chemical composition of three tropical pasture legumes, *Desmodium intortum* cv. Greenleaf, *D. tortuosum* and *Macroptilium stiporpurpureum* cv. Siratro.** Ford, C.W. *Australian Journal of Agricultural Research*, 1978, (En), v. 29, pp. 963-974.
□ Describes results of trials carried out to relate the chemical composition of *Desmodium intortum* to its resistance to bacterial degradation and low in vitro digestibility, by establishing, both qualitatively and quantitatively, polyphenols present and other components which could influence in vitro dry matter digestibility; compares results with those for *Desmodium tortuosum* and Siratro. Lib. code: F-L36-50199
- 0115 Influence of sward characteristics on grazing behaviour and growth of Hereford steers grazing tropical grass pastures.** Chacon, E.A.; Stobbs, T.H.; Dale, M.B. *Australian Journal of Agricultural Research*, Jan 1978, (En), v. 29(1), pp. 89-102, ISSN 0004-9409.
□ Examines the relationships between sward characteristics, grazing behaviour and growth of Hereford steers grazed on nitrogen-fertilized *Setaria anceps* cv. Nandi and *Digitaria decumbens* pastures at different stocking rates. Lib. code: L30-19337
- 0116 L'influence des conditions alimentaires sur l'élevage bovin en milieu sahélo-soudanien.** (Effect of nutrition on animal production in the Sahelo-Sudanese zone). Debis, J.P.; Thiongane, A.I. s.l., s.n.; 1972, (Fr), pp. 259-271; 2. World Congress on Animal Feeding, Madrid (Spain), 23-28 Oct 1972.
□ Discusses the influence of feeding conditions on cow and calf rearing, presenting results of trials on the classification and utilization of natural pastures as well as supplementary feeding of cattle; with data on forage value and animal production parameters. Lib. code: L30-00204
- 0117 Mineral content and yield of grasses in the wet tropics as influenced by seasonal productivity, frequency of cutting and species.** Schofield, J.L. *Journal of Agricultural Science (UK)*, 1946, (En), v. 3, pp. 44-79, Summary (En).
□ Examines the yield and chemical composition of pasture grasses, with particular reference to lime and phosphoric acid content of various grasses, as influenced by productivity period, frequency of cutting and species. Lib. code: P-F60-51335
- 0118 Nitrogen supplementation of ruminants grazing native pastures in New England, New South Wales.** Langlands, J.P.; Bowles, J.E. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1976, (En), v. 16, pp. 630-635.
□ Reports results of two experiments carried out in Australia to examine the effects of protein supplementation on the nitrogen content of the diet selected by oesophageally fistulated cattle grazing native pasture; and the response in liveweight to four supplements given to heifers grazing native pastures in late winter, in order to distinguish between responses to energy, to N when given as a source of rumen ammonia, as protein that would be partially degraded in the rumen, or as protein that had been treated chemically to reduce ruminal degradation. Lib. code: P-L30-51359
- 0119 Observations of milk yield, and calf growth and conversion rate, of three types of cattle in Ghana. II. Effects of plane of nutrition.** Montsma, G. *Tropical Agriculture (Trinidad & Tobago)*, Apr 1962, (En), v. 30(2), pp. 123-129, ISSN 0041-3216.
□ Describes trials on milk yield of cows and birth weight, weight gain and conversion efficiency of calves under different levels of nutrition for West African Shorthorn, N'Dama and Sokoto cattle breeds at Nungua Research Station. Lib. code: L30-05258
- 0120 Observations on the utilization by cattle of *Axonopus affinis* following foliar applications of urea, molasses and monosodium phosphate.** O'Bryan, M.S. *Queensland Journal of Agricultural Science (Australia)*, 1960, (En), v. 17, pp. 135-145.
□ Presents results of a trial conducted in Australia to examine the value of applying a supplement containing urea, molasses, monosodium phosphate and cobalt chloride to a mature carpet grass pasture; with particular reference to the maintenance of body weight, palatability and nutritive value of the grazing. Lib. code: P-L30-51395
- 0121 Problems of animal nutrition from tropical pastures.** l'Mannetje, L. In: *Nutritional limits to animal production from pastures*; Hacker, J.B. (ed.). 1982, (En), pp. 67-85, ISBN 0 85198 492 4; International Symposium on Nutritional Limits to Animal Production from Pastures, Queensland (Australia), 24-28 Aug 1981.
□ Describes native and improved pastures and pastures associated with crops in tropical areas, commenting on the main animal species that graze them; presents levels of production for beef cattle in arid, subhumid and humid regions, for meat and fibre production of sheep and goats, and milk production of cattle, sheep, goats and camels. Lib. code: L30-18772
- 0122 Productivity and nutritive value of tropical pastures at Ibadan.** Oyenuga, V.A.; Olubajo, F.O. *Proceedings of the X International Grassland Congress*, 1966, (En), pp. 962-969.
□ Describes trials undertaken at Ibadan, Nigeria, to measure the productivity, persistence and nutritive value of three tropical grass-legume pastures, viz. *Cynodon plectostachyus* and *Centrosema pubescens* (A); A plus *Stylosanthes gracilis* (B); *Digitaria decumbens*, *Centrosema pubescens* and *Stylosanthes gracilis* (C), using N'dama and Zebu steers and the faecal index technique to measure herbage productivity and intake from pasture; includes data on chemical composition and digestibility of pastures and liveweight gain of animals. Lib. code: P-F00-51290
- 0123 Projet de développement de l'élevage dans le Mali-Sud. Agrostologie et alimentation du cheptel.** (Southern Mali livestock development project. Agrostology and animal nutrition). Audru, J.; Demange, R. Institut d'Élevage et de Médecine Vétérinaire des Pays Tropicaux, Maisons-Alfort (France). 1973, (Fr), 336p.

- Presents a study on agrostology and animal nutrition problems in southern Mali, mentioning the nutritive value and productivity of perennial and annual forage species, especially *Andropogon africanus*, *A. ascinioides*, *A. gayanus* and *A. tectorum*, industrial products and their feed value. Includes notes on physical geography, choice and management of a pilot area, and a bibliography.
Lib. code: L30-05334
- 0124 Range management research at E.A.A.F.R.O.**
McKay, A.D. *East African Agricultural and Forestry Journal (Kenya)*, Apr 1970, (En), v. 35(4), pp. 346-349, ISSN 0012-8325, Summary (En).
□ Presents results of feed intake and grazing trials related to weight gains and carcass grades of Boran steers, crude protein content of forage plants, herbage yields and botanical composition of grazing paddocks; compares continuous and rotational grazing.
Lib. code: L30-06802
- 0125 Rate of passage of poor-quality veld hay throughout the digestive tract of beef steers.**
Pieterse, P.J.S.; Lesch, S.F.; Schalkwyk, A.P. van. *South African Journal of Agricultural Science*, 1963, (En), v. 6, pp. 737-740.
□ Presents results of a study conducted in South Africa to show the possibility of reducing the time poor-quality veld hay takes to traverse the digestive tract, by feeding cattle supplements containing dicalcium phosphate, salt, urea, maize starch and white maize meal, and observing retention and excretion times.
Lib. code: P-L20-51372
- 0126 Seasonal variations of nitrogen and digestible energy intake of cattle on tropical pasture.**
Romero, A.; Siebert, B.D. *Australian Journal of Agricultural Research*, Mar 1980, (En), v. 31(2), pp. 393-400, ISSN 0004-9409, Summary (En).
□ Studies nitrogen and digestible energy intakes of Brahman x Shorthorn crossbred steers grazing grass and legume-based pastures during new pasture growth, regrowth and during the dry season, with emphasis on the relationship between liveweight change and organic matter digestibility.
Lib. code: L30-26974
- 0127 Selective grazing and cattle performance.**
Denny, R.P. *Rhodesia Agricultural Journal*, 1974, (En), v. 72(1), pp. 21-22, ISSN 0035-4686.
□ Discusses cattle performance and effect of selective grazing on veld, with particular reference to South African and Matopos Research Station experiences.
Lib. code: L30-10679
- 0128 Studies on the use of *Sabi panicum* for forage.** Barnes, D.L. *Rhodesia Agricultural Journal*, 1966, (En), 11p.
□ Examines the effects of cutting and fertilizing with nitrogen at various times during the preceding growing season on the yield and quality of *Sabi panicum* forage, particularly amounts of green leaf, dry leaf and stem in the forage and the percentage of crude protein in the different constituents; includes grazing studies, wherein steers were grazed on *Sabi* at different stocking rates with supplements of green oats and maize meal, and gives data on weight gains.
Lib. code: P-F00-51604
- 0129 The measurement of yield, voluntary intake and animal production of tropical pasture mixtures.** Olubajo, F.O.; Oyenuga, V.A. *Journal of Agricultural Science (UK)*, 1971, (En), v. 77, pp. 1-4.
□ Compares three tropical pasture mixtures, viz. *Cynodon plus Centrosema* (Mixture A), mixture A plus *Stylosanthes*, and *Digitaria* plus two legumes, using conventional clipping methods and the nitrogen-chromic oxide technique to obtain data on herbage yield and intake, and liveweight gain of beef cattle.
Lib. code: P-F00-51251
- 0130 Tropiëch ruwvoer.** (Tropical roughage for cattle). Dirven, J.G.P. *Landbouwkundig Tijdschrift (Netherlands)*, s.d., (Af), v. 94(6), pp. 203-207, Summary (Af, En).
□ Discusses the value of tropical roughages for increasing liveweight gain and for milk yield of cattle, pointing out the low energy intake as a possible limiting factor for milk yield.
Lib. code: P-L30-51436
- PHOSPHORUS DEFICIENCIES AND THEIR CORRECTION**
- 0131 A note on seasonal changes in serum inorganic phosphate levels of cattle in Botswana.**
Reed, J.B.H.; Smith, S.D.; Forbes, A.B.; Finlay, R.S.; Geering, I.W.; Wright, J.D.; Doxey, D.L. *Tropical Animal Health and Production (UK)*, 1974, (En), v. 6, pp. 37-38, Summary (En Es Fr).
□ Describes examination of serum inorganic phosphate (SIP) levels of cows in the dry season and after the rains in Botswana, noting differences in SIP levels between the two periods.
Lib. code: P-L50-51294
- 0132 Alguns fatores que influenciam os níveis de fósforo inorgânico, cálcio, magnésio e fosfato alcalino no soro sanguíneo de bovinos no cerrado.** (Factors influencing inorganic phosphorus, calcium, magnesium and alkaline phosphatase levels in the blood serum of bovines in the cerrado). Lopes, H.O.S.; Neto, J.M.F.; Sampaio, I.B.M. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1973, (Pt), v. 25(3), pp. 309-327.
□ Describes results of a study carried out to determine the phosphorus, calcium, magnesium and alkaline phosphatase levels in the blood serum of crossbred Brahman cattle of both sexes, from 1 to 2 years old and kept under an extensive system of management in the "cerrado" area of Brazil; examines the effects of season, temperature, rainfall and humidity on the mineral levels.
Lib. code: P-L50-51330
- 0133 Aphosphorosis in North Yemen cattle.** Hunter, A.G.; Heath, P.J. *Tropical Animal Health and Production (UK)*, 1982, (En), v. 14, pp. 191-200.
□ Presents results of an investigation into probable causes of a syndrome of unthriftiness, stiffness, anorexia, recumbency and pica in cattle in the Yemen Arab Republic, with data on blood composition and the mineral content of the basic diet of lucerne and sorghum. Discusses the similarity of the syndrome to osteomalacia caused by phosphorus deficiency in other parts of the world.
Lib. code: P-L74-51351
- 0134 Blood mineral levels of cattle in Kenya.** Gitter, M.; Boarer, C. *Tropical Animal Health and Production (UK)*, May 1975, (En), v. 7(2), pp. 95-104, ISSN 0049-4747, Summary (En Es Fr).
□ Presents survey results related to blood mineral levels of cattle, and calcium, magnesium and phosphate content of the herbage in Kenya.
Lib. code: L50-19606
- 0135 Diagnosis of phosphorus deficiency in grazing beef cattle.** Moir, K.W. *Queensland Journal of Agricultural and Animal Sciences (Australia)*, 1966, (E), v. 23, pp. 97-10, Summary (En).
□ Describes investigations carried out to assess the value of blood, faecal and soil analyses as aids in diagnosing suspected cases of phosphorus deficiency in grazing beef cattle.
Lib. code: P-L70-51339
- 0136 Effect of dietary phosphate on the voluntary consumption of Townsville lucerne (*Stylosanthes humilis*) by cattle.** Little, D.A. *Proceedings of the Australian Society of Animal Production*, 1968, (En), v. 7, pp. 376-380.

- Examines the relationship between phosphorus (P) supplementation and dry matter intake in yearling cattle fed chafed Townsville lucerne hay containing 10% crude protein and 0.07% phosphorus with additions of different amounts of KH_2PO_4 per day; includes data on protein and energy utilization in relation to P intake.
Lib. code: P-F00-51269
- 0137 Effects of feeding varying levels of protein and phosphorus in relation to bone disorders in cattle.** Siebert, B.D.; Newman, D.M.R.; Hart, B.; Michell, G.L. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1975, (En), v. 15, pp. 321-324.
□ Reports on an experiment designed to determine the effects of various levels of intake of protein and phosphorus on bone and blood measurements of steers over a 21-week period, with particular reference to development of bone disorders, as well as weight and mineral content of bones.
Lib. code: P-L30-12260
- 0138 Effects of mineral supplementation on the performance of steers grazing Birdwood grass (*Cenchrus setigerus*) pastures in northwest Australia.** Holm, A.M.; Payne, A.L. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1980, (En), v. 20, pp. 398-405.
□ Describes findings of a trial carried out in Australia to measure effects on steers grazing Birdwood grass pastures, of supplying nitrogen, phosphorus and sulphur in the drinking water, copper by injection and cobalt by intraruminal bullets. Evaluates steer performance and pasture stability under two levels of pasture use over 3 years.
Lib. code: P-L30-51322
- 0139 Effect of supplements of phosphorus or phosphorus and protein on the ovarian activity of cows fed native pasture hay.** Teleni, E.; Siebert, B.D.; Murray, R.M.; Nancarrow, C.D. *Australian Journal of Experimental Agriculture and Animal Husbandry*, Apr 1977, (En), v. 17(85), pp. 207-213, ISSN 0045-066X.
□ Investigates the effects of phosphorus supplementation on oestrous activity, with reference to plasma progesterone concentration of cows fed tropical pasture hay supplemented with protein.
Lib. code: L30-07232
- 0140 Etude complémentaire sur les carences minérales rencontrées dans les troupeaux du Nord Sénégal.** (Complementary study on mineral deficiencies found in northern Senegal cattle). Friot, D.; Calvet, H. *Revue d'Elevage et de Médecine Vétérinaire des Pays Tropicaux (France)*, 1971, (Fr), v. 24(3), pp. 393-407.
□ Presents results of a study conducted in Senegal to specify the nature of mineral elements besides phosphorus which played a role in the botulism observed among indigenous "Ferio" cattle, with particular reference to results of quantitative analysis of serum for nine elements and oligo-elements.
Lib. code: P-L30-51297
- 0141 Factors of importance in the phosphorus nutrition of beef cattle in northern Australia.** Little, D.A. *Australian Veterinary Journal*, 1970, (En), v. 46, pp. 241-248.
□ Discusses various manifestations of phosphorus deficiency in beef cattle in northern Australia, mentioning requirements for growth, effects of deficiency on feed intake and utilization and on reproductive performance; and indicates ways of supplementing cattle to correct the deficiency.
Lib. code: P-L30-51318
- 0142 Grazing and feeding trials with beef cattle at Katherine, N.T.** Norman, M.J.T. *CSIRO Division of Land Research and Regional Survey Technical Paper*, 1960, (En), no. 12, 15p.
- Summarizes results of four trials carried out in the Katherine region of Australia, particularly on the effects of phosphate supplementation and regular spraying with DDT on the liveweight gain (LWG) of cattle grazing native pasture in the wet season, LWG of cattle on native pasture during the wet season under three grazing systems and under three levels of supplementation with Guar; and on two methods of intensive dry-season feeding.
Lib. code: P-L30-51507
- 0143 Lamsiekte (parabotuliam) in cattle in South Africa.** Theiler, A.; Viljoen, P.R.; Green, H.H.; Toit, P.J. du; Mcier, H.; Robinson, E.M. In: *XI and XII Reports of the Director of Veterinary Education and Research; Department of Agriculture (South Africa)*, 1927, (En), pp. 821-837.
□ Describes work done in South Africa on the animal disease known as Lamsiekte (*Parabotulism bovis*) with reference to work on the causes, symptoms, pathology and pathogenesis of the disease; experiments on immunity, isolation and description of the toxicogenic saprophyte and the relation of osteophagia and phosphorus deficiency to Lamsiekte.
Lib. code: P-L74-51337
- 0144 Methods of supplying phosphorus to range cattle in south Texas.** Reynolds, E.B.; Jones, J.M.; Jones, J.H.; Fudge, J.F.; Kleberg, R.J. Jr. *Texas Agricultural Experiment Station Bulletin (USA)*, 1969, (En), no. 773, 16p., Summary (En).
□ Describes findings of trials carried out to examine the effects of applying phosphates to rangelands on yield and chemical composition of forages, and to assess three methods of supplying phosphorus to cattle, viz feeding bone meal in self-feeders, adding desmodium phosphate to a controlled water supply, and fertilizing pasture with triple superphosphate; includes data on animal performance.
Lib. code: L30-51334
- 0145 Observaciones sobre deficiencias de calcio y fósforo en los animales de los Andes y sus intermediaciones.** (Observations on calcium and phosphorus deficiencies in cattle in the Andes and adjacent areas). French, M.H.; Chicco, C.F. *Agronomía Tropical (Venezuela)*, 1961, (Es), v. 9(3), pp. 157-173.
□ Reports an investigation of deficiencies of phosphorus and calcium in livestock from the States of Lara, Trujillo, Merida, Tachira, Barinas and Portuguesa, in Venezuela. Includes data relating phosphorus level in the blood with that in the pasture available.
Lib. code: P-L30-51343
- 0146 Observaciones sobre deficiencias de calcio y fósforo en los animales de las regiones ganaderas del centro y este de Venezuela.** (Observations on calcium and phosphorus deficiencies in animals in the central and eastern regions of Venezuela). Chicco, C.F.; French, M.H. *Agronomía Tropical (Venezuela)*, 1959, (Es), v. 9(2), pp. 41-62.
□ Reports a study of phosphorus and calcium deficiencies in the livestock producing states of Apure, Guarico, Monagas, Anzoategui, Amacuro Delta and Bolívar, in Venezuela.
Lib. code: P-L30-51344
- 0147 On the feeding of a phosphorus supplement to mother-reared calves, prior to weaning, under open range conditions in Bechuanaland.** Bisschop, J.H.R.; Malan, A.I.; Steyn, P.; Laurence, G.B. *Onderstepoort Journal of Veterinary Science and Animal Industry (South Africa)*, 1939, (En), v. 13(2), pp. 321-343.
□ Presents results of an experiment conducted to ascertain whether a regular supplement of bone meal given to calves up to weaning age would be beneficial to their growth and development in comparison to a similar group receiving no bone meal up to weaning; includes data on body weights, body measurements, blood analysis and bone histology of animals receiving supplements.
Lib. code: P-L30-51306

- 0148 Phosphate deficiency in cattle on the Sepik Plains, Papua New Guinea.** Holmes, J.H.G. *Tropical Animal Health and Production (UK)*, 1981, (En), v. 13, pp. 169-176.
 □ Presents results of two large-scale grazing experiments carried out in Papua New Guinea to compare the performance of heifers receiving phosphorus supplements with those supplemented with copper or cobalt only, with particular reference to growth rate, calving, liveweights and mortality.
 Lib. code: P-L30-51301
- 0149 Phosphorus in rangeland ruminant nutrition: A review.** Cohen, R.D.H. *Livestock Production Science (UK)*, Jan 1980, (En), v. 7(1), pp. 25-37, ISSN 0301-6226, Summary (De En Fr).
 □ Reviews the principles of phosphorus nutrition established in intensive pen feeding experiments and the conditions likely to be met by the ruminant grazing extensive range pastures, taking the Australian situation as a model.
 Lib. code: L30-19734
- 0150 Phosphorus in the livestock industry.** Theiler, A.; Green, H.H.; Toit, P.J. du. *Journal of the Department of Agriculture (Swaziland)*, 1924, (En), pp. 460-504, Summary (En).
 □ Discusses the role of phosphorus in animal nutrition, mentioning requirements of different classes of cattle; clinical signs of deficiency, esp. osteophagia; methods and frequency of bone meal supplementation; liveweight, condition and growth after bone meal supplementation; influence of phosphorus on milk yield and feed intake; and ways of recognizing and correcting phosphorus deficiency in the vegetation.
 Lib. code: P-L30-51341
- 0151 Phosphorus nutrition of beef cattle. 1. Effect of supplementation on liveweight of steers and digestibility of diet.** Cohen, R.D.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1972, (En), v. 12, pp. 455-459.
 □ Reports the effect of phosphorus supplements on weight changes of grazing and penned beef steers and on the digestibility of dry matter, nitrogen, phosphorus and energy in a ration of low phosphorus content at Grafton, NSW, Australia.
 Lib. code: P-L30-51313
- 0152 Phosphorus nutrition of beef cattle. 2. Relation of pasture phosphorus to phosphorus content of blood, hair and bone of grazing steers.** Cohen, R.D.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (En), v. 13, pp. 5-8, Summary (En).
 □ Compares the sensitivity of blood, hair and bone as indicators of changing pasture phosphorus levels in order to obtain indications of their possible value in assessing the phosphorus status of beef cattle.
 Lib. code: P-L30-51613
- 0153 Phosphorus nutrition of beef cattle. 3. Effect of supplementation on the phosphorus content of blood and on the phosphorus and calcium contents of hair and bone of grazing steers.** Cohen, R.D.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (En), v. 13, pp. 625-629.
 □ Reports effects of phosphorus supplementation on the phosphorus content of plasma, hair and bone, calcium content of hair and bone and calcium to phosphorus ratio in bone of steers grazing low phosphorus pasture at Grafton, NSW, Australia; examines the relation of pasture calcium to calcium in hair and bone, and the influence that bone phosphorus content has on the latter.
 Lib. code: P-L30-51611
- 0154 Phosphorus nutrition of beef cattle. 4. The use of faecal and blood phosphorus for the estimation of phosphorus intake.** Cohen, R.D.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1974, (En), v. 14, pp. 709-715.
 □ Presents results of two experiments wherein measurements were made of the phosphorus content of faeces and blood of penned Angus steers which received diets containing different amounts of phosphorus, in order to assess the possibility of using the relationship between phosphorus intake and faecal phosphorus excretion to assess phosphorus levels in cattle.
 Lib. code: P-L30-51612
- 0155 Reducción de nutrientes en los pastizales de Chihuahua durante los meses de sequía. II. Fósforo.** (Nutrient reduction on grasses during dry months in Chihuahua. II. Phosphorus). Gonzalez, M.H. *Técnica Pecuaria en Mexico*, 1966, (Es), no. 7, pp. 19-24.
 □ Describes samples of the more important grasses at Chihuahua, Mexico, taken at monthly intervals during the dry season in order to determine the capacity of the grasses to meet phosphorus requirements of beef cattle.
 Lib. code: P-L36-51345
- 0156 Reposta à aplicação de farinha de osso nos teores séricos de fósforo, cálcio, magnésio e atividade da fosfatase alcalina em bovinos criados no cerrado.** (Response to the application of bone meal on serum phosphorus, calcium, magnesium and alkaline phosphatase of cattle raised on "cerrado" range). Lopes, H.O.S.; Neto, J.M.F.; Samparío, I.B.M. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1973, (Pt), v. 25(3), pp. 299-303.
 □ Presents results of trials conducted in the savanna area of Brazil on crossbred Zebu cattle kept under ranch conditions in order to study the effect of bone meal supplementation on the levels of phosphorus, calcium, magnesium and alkaline phosphatase in the blood.
 Lib. code: L50-51331
- 0157 Serum inorganic phosphate, calcium and magnesium levels of cattle in Botswana.** Reed, J.B.H.; Smith, S.D.; Doxey, D.L.; Forbes, A.B.; Finlay, R.S.; Geering, I.W.; Wright, J.D. *Tropical Animal Health and Production (UK)*, 1974, (En), v. 6, pp. 23-29.
 □ Describes results of investigational work carried out on blood samples from cattle in six areas of Botswana, in order to determine possible serum level differences among cattle from the different areas, to examine effects of quality and amount of grazing on serum mineral levels, particularly inorganic phosphate, calcium and magnesium and to assess possible beneficial effects of mineral supplementation on the animal's serum levels.
 Lib. code: P-L50-51296
- 0158 Studies in mineral metabolism. XXXVII. The influence of variations in the dietary phosphorus and in the Ca:P ratio on the production of rickets in cattle.** Theiler, A.; Toit, P.J. du; Malan, A.I. *Onderstepoort Journal of Veterinary Science and Animal Industry (South Africa)*, 1937, (En), v. 8(2), pp. 375-414.
 □ Presents results of experiments carried out to examine the effects of different amounts of phosphorus or calcium in the diets of young heifers and steers, with particular reference to weight increases, food consumption, phosphorus content of blood, calcium and phosphatase, clinical symptoms of disease and chemical and histological bone analysis.
 Lib. code: P-L30-51329
- 0159 Studies on the production of beef from Zebu cattle in East Africa. III. The value of feeding a phosphatic supplement.** Lampkin, G.H. *Journal of Agricultural Science (UK)*, Aug 1961, (En), v. 57(pt. 1), pp. 39-47, ISSN 0021-8596.
 □ Describes trial results showing effects of liveweight changes, levels of inorganic phosphate in the blood, and fertility of beef-type Zebu cows and weaner calves fed a phosphatic supplement.
 Lib. code: L30-26122

0160 Effect of phosphorus supplement on the performance of steers grazing Townsville stylo based pasture in north Queensland. Winks, L.; Lamberth, F.C.; O'Rourke, P.K. *Australian Journal of Experimental Agriculture and Animal Husbandry*, Jun 1977, (En), v. 17(86), pp. 357-366, ISSN 0045-060X.

□ Presents trial results showing the effect of a phosphorus supplement on liveweight gain of steers grazing native pasture or Townsville stylo with and without superphosphate fertilizer. Lib. code: L30-06141

0161 The feeding of phosphorus supplements to growing cattle. Murray, C.A.; Romya, A.E. *Rhodesia Agricultural Journal*, s.d., (En), pp. 384-390, Summary (En).

□ Presents results of a study conducted to compare the values of dicalcium phosphate and bone meal as supplements for growing cattle, by subjecting animals to four treatments consisting of either veld grazing only, veld grazing plus dicalcium phosphate, veld grazing plus either bone meal or blood meal; includes data on the growth performance of the animals. Lib. code: P-L30-51342

0162 The productivity of beef cows and their progeny when offered different mineral supplements over three breeding seasons. Rudert, C.P.; O'Donovan, W.M. *Rhodesian Journal of Agricultural Research*, 1976, (En), v. 14, pp. 3-10.

□ Describes findings of a trial carried out to compare the performance of a group of cows and their progeny offered a range of macro-elements and trace elements ad lib, with other groups offered either a mineral mixture of salt, phosphorus and iodine, or coarse salt only; includes data on calving rates, changes in body mass and growth rates. Lib. code: P-L30-06911

GENERAL MINERAL STUDIES AND DEFICIENCIES OF OTHER MAJOR MINERALS AND THEIR CORRECTION

0163 A note on serum chloride in relation to oestrous cycles and breeding seasons in Surti buffaloes. Parameswaran, M.; Patel, A.J.; Janakiraman, K. *Indian Journal of Animal Sciences*, 1978, (En), v. 48(1), pp. 56-58.

□ Reports changes in serum chloride levels at different phases of the oestrous cycle at different breeding seasons in Surti buffaloes in India, covering monsoon, winter and summer periods. Lib. code: P-L50-51349

0164 A review of the practice of feeding minerals free choice. Pamp, D.E.; Goodrich, R.D.; Meishe, J.C. *World Review of Animal Production (Italy)*, 1976, (En), v. 22(4), pp. 13-18, Summary (En).

□ Reviews papers on the feeding of free choice minerals to livestock, with particular reference to the ability of animals to select dietary deficient minerals, the economic aspects of the practice and factors affecting mineral consumption. Lib. code: P-L30-08751

0165 AID mineral research project. Development of efficient mineral supplementation regimes for grazing ruminants in the tropics. Progress report, June 1, 1979-June 30, 1982. McDowell, L.R.; Conrad, J.H.; Ellis, G.L. Florida Univ., Gainesville (USA). Dept. of Animal Science. s.d., (En), 289p.

□ Reports achievements of a project established to determine the locations of mineral deficiencies, adequacies and toxicities in selected areas of tropical Latin America; to identify the biological response and economic benefits of mineral supplementation to grazing animals; to evaluate methods of mineral supplementation of grazing cattle; and to publish and distribute research information. Lib. code: L30-51333

0166 Assessment of sodium requirements of grazing beef cattle: A review. Morris, J.G. *Journal of Animal Science (USA)*, 1980, (En), v. 50(1), pp. 145-152

□ Reviews and analyses techniques that have been proposed for the detection of sodium deficiency in grazing cattle, and studies on sodium requirements of cattle and the application of the information obtained in the nutrition of grazing cattle. Lib. code: F-L30-51324

0167 Effect of season on mineral concentrations in beef cattle in Malawi. Mtimuni, J.P.; Conrad, J.H.; McDowell, L.R. *South African Journal of Animal Science*, 1983, (En), v. 13(1), 2p., Summary (Af En).

□ Investigates mineral deficiencies and toxicities in beef cattle in Malawi as a basis for formulating mineral supplements, with particular reference to effects of season on copper, magnesium, iron, calcium and phosphorus concentration in animal tissues. Lib. code: P-L50-51356

0168 Effects of sodium and phosphorus supplements for steers on native pastures in the tropical highlands. Leche, T.F. *Papua New Guinea Agricultural Journal*, 1977, (En), v. 28(1), pp. 19-25, Summary (En).

□ Examines the response of steers grazing on native pastures in tropical highlands to weekly supplements of either sodium or phosphorus, singly or in combination, with particular reference to changes in liveweight, sodium and potassium concentrations in saliva, and sodium, potassium, phosphorus, copper and urea in blood serum. Lib. code: P-L30-51299

0169 Evaluation of mineral supplements for grazing cattle. Ellis, G.L.; McDowell, L.R.; Conrad, J.H. Florida Univ., Gainesville (USA). Dept. of Animal Science. s.d., (En), 11p.

□ Discusses ways of evaluating mineral supplements for grazing beef cattle, mentioning characteristics of an acceptable free choice mineral supplement, beef cattle requirements, content in mineral element of some sources of commonly used mineral supplements and factors that affect consumption of mineral mixtures. Lib. code: P-L30-51348

0170 Geophagia in animals. French, M.H. *East African Medical Journal (Kenya)*, 1945, (En), v. 22, pp. 103-110.

□ Discusses various possible causes and theories concerning the licking or eating of earth by domesticated animals, differentiating between those who claim that geophagia is a natural habit and those who maintain that it is a perverted habit. Lib. code: P-L74-51336

0171 Influence des suppléments minéraux sur le croît et sur certains témoins biochimiques du métabolisme minéral chez des bovins tropicaux. (Influence of mineral feed supplements on growth and some biochemical patterns of mineral metabolism in tropical cattle). Calvet, H.; Friot, D.; Chambon, J. *Revue d'Élevage et de Médecine Vétérinaire des Pays Tropicaux (France)*, 1972, (Fr), v. 25(3), pp. 397-408, ISSN 0035-1865, Summary (En Es Fr).

□ Examines effects of feed supplements of mineral salts on weight gains and biochemical patterns of mineral metabolism in tropical cattle. Lib. code: L30-14300

0172 Inorganic phosphate, calcium and magnesium levels in the sera of Botswana cattle receiving feed additives. Reed, J.B.H.; Smith, S.D.; Forbes, A.B.; Dooxey, D.L. *Tropical Animal Health and Production (UK)*, 1974, (En), v. 6, pp. 31-36.

□ Presents details of a study on three groups of lactating cows receiving different additives and one control group receiving none, in order to observe changes in the levels of serum inorganic phosphate, magnesium and calcium: inorganic phosphate ratio as a result of mineral supplementation. Lib. code: P-L30-51295

- 0173 Liveweight response following sodium chloride supplementation of beef cows and their calves grazing native pasture.** Murphy, G.M.; Plasto, A.W. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (En), v. 13, pp. 369-374.
 □ Presents results of trials designed to evaluate the effect of supplementary salt feeding on cattle grazing native pastures in Australia, with particular reference to effects on liveweight gains, growth rate of calves, and saliva values of sodium and potassium.
 Lib. code: P-L30-51317
- 0174 Mineral composition of *Digitaria decumbens* and *Brachiaria decumbens* in Jamaica.** Poland, J.S.; Schnabel, J.A. *Tropical Agriculture (Trinidad & Tobago)*, 1980, (En), v. 57(3), pp. 259-264.
 □ Reports on a study carried out to establish typical mineral levels in two tropical pasture grasses, *Digitaria decumbens* and *Brachiaria decumbens*, in Jamaica, with particular reference to copper, manganese, iron, zinc, sodium, potassium, magnesium and calcium contents of foliage; compares results to reported normal and desirable mineral contents of pasture dry matter in temperate regions.
 Lib. code: P-F60-51302
- 0175 Mineral composition of the fodders of Central Provinces and Berar and its bearing on animal nutrition.** Aiyer, A.R.P.; Hayasth, R.N. *Agriculture and Livestock in India*, 1931, (En), v. 1(5), pp. 526-533.
 □ Examines the mineral composition of the various important indigenous grasses of the Central Provinces of India.
 Lib. code: P-F60-51305
- 0176 Mineral composition of tropical forages and metabolic blood profiles of grazing cattle and sheep on calcium-dominated Caribbean soils.** Wilson, L.L.; Fisher, D.D.; Katsigianis, T.S. *Tropical Agriculture (Trinidad & Tobago)*, 1981, (En), v. 58(1), pp. 53-62, Summary (En).
 □ Presents results of a study carried out to study the mineral composition of grass and legume species, and to analyse blood profiles of cattle and sheep grazing virgin pastures on calcium-dominated limestone soil in the Caribbean.
 Lib. code: P-L36-27885
- 0177 Mineral contents in livestock in eastern Sudan.** Damir, H.A.; Tartour, G.; Adam, S.E.I. *Tropical Animal Health and Production (UK)*, 1983, (En), v. 15(1), pp. 15-16, ISSN 0049-4747.
 □ Describes concentrations of minerals in the vital organs and sera of camels, cattle, sheep and goats in the Butana area of the Sudan.
 Lib. code: L50-29507
- 0178 Mineral deficiencies in the Llanos rangelands of Colombia.** Miles, W.H.; McDowell, L.R. *World Animal Review (FAO)*, 1983, (En), v. 46, pp. 2-10.
 □ Discusses the mineral status of rangelands in Colombia, mentioning the mineral content of forages, production response of cattle to mineral supplementation, diseases related to mineral supplementation, and characteristics of a good mineral supplement administered free choice.
 Lib. code: P-L30-51355
- 0179 Mineral nutrition of beef cattle grazing native pastures on the eastern plains of Colombia.** Lebdoosekojo, S.; Ammerman, C.B.; Raun, N.S.; Gomez, J.; Littell, R.C. *Journal of Animal Science (USA)*, Dec 1980, (En), v. 51(6), pp. 1249-1260, ISSN 0021-8812, Summary (En).
 □ Describes results of trials conducted in the savanna grasslands area of the Eastern Plains of Colombia to determine the mineral status of native pastures and the effect of mineral supplementation on grazing Zebu cows. Presents data on in vitro organic matter and mineral composition of grazed for-
- ages, mineral content of liver and bones, relationship between mineral composition of forages and serum, and on the effect of supplementation on cow liveweight, calving percentage and calf weaning weight.
 Lib. code: MIC-L30-27002
- 0180 Mineral status of cattle in the San Carlos region of Costa Rica.** Kiatoko, M.; McDowell, L.R.; Fick, K.R.; Fonseca, H.; Camacho, J.; Loosli, J.K.; Conrad, J.H. *Journal of Dairy Science (USA)*, 1978, (En), v. 61(3), pp. 324-330.
 □ Presents results of experiments undertaken to determine the mineral status of grazing cattle in the San Carlos region of Costa Rica by evaluating concentrations of minerals in liver, plasma and bone ash of animals, and oxalate contents of forages.
 Lib. code: P-L30-51309
- 0181 Mineral status of cattle raised in the villages of central Thailand.** Vijchulata, P.; Chipadpanich, S.; McDowell, L.R. *Tropical Animal Production (Mexico)*, 1983, (En), v. 8(2), pp. 131-137.
 □ Evaluates the mineral status of forages and cattle tissues from 68 native cattle around Nakom Prathom in central Thailand during the dry and wet seasons; compares mineral status of forages to requirements of grazing animals.
 Lib. code: P-L30-51326
- 0182 Mineral status of grazing beef cattle in the tropics of Bolivia.** Peducasse, A.; McDowell, L.R.; Parra, L.A.; Wilkins, J.V.; Martin, F.G.; Loosli, J.K.; Conrad, J.H. *Tropical Animal Production (Mexico)*, 1983, (En), v. 8(2), pp. 118-130.
 □ Presents results of an experiment carried out in the Bolivian lowlands to determine the current mineral status of two livestock producing areas, based on the analysis of soil, forages, and animal tissues.
 Lib. code: P-L30-51327
- 0183 Mineral supplementation of beef cattle in the Bolivian tropics.** McDowell, L.R.; Bauer, B.; Galdo, E.; Koger, M.; Loosli, J.K.; Conrad, J.H. *Journal of Animal Science (USA)*, 1982, (En), v. 55(4), pp. 964-970.
 □ Evaluates the mineral status of beef cattle in Beni, Bolivia, and examines the influence of mineral supplementation for 338 days on growth rates, by assigning animals to three treatments consisting of no minerals, common salt only and salt plus bone phosphate.
 Lib. code: P-L30-51308
- 0184 Mineral supplementation of cattle grazing improved pastures in the Thai highlands.** Falvey, J.L.; Gibson, T.A. *Journal of Range Management (USA)*, 1981, (En), v. 34(5), p. 42.
 □ Presents results of a trial carried out to compare the estimated liveweight gains of cattle grazing an improved pasture based on *Desmodium intortum* while receiving a mineral supplement, with the liveweight gains of cattle not receiving a supplement.
 Lib. code: MIC-L30-27002
- 0185 Minerales on la nutrición animal en la América Latina.** (Minerals in animal nutrition in Latin America). Alba, J. de; Davis, G.K. *Turrialba (Costa Rica)*, 1957, (Es), v. 7(1,2), pp. 16-33.
 □ Correlates world literature on mineral nutrition in farm animals with existing data from Latin America, and identifies areas deficient in specific minerals.
 Lib. code: P-L30-51332
- 0186 Minerals for beef cattle in Florida.** Cunha, T.J.; Shirley, R.L.; Chapman, H.L. Jr.; Ammerman, C.B.; Dairs, G.K.; Kirk, W.G.; Hentges, J.F. Jr. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Sep 1976, (En), no. 683, 60p.

□ Summarizes mineral needs of beef cattle in Florida, USA, and ways of supplying them to the animals, discussing recommended mineral mixtures for sand and muck soils; the problem of excess molybdenum in muck soils and ways of counteracting its effect; methods of adjusting excess salts in water that decreases mineral intake; and salt levels to use for the control of protein supplement intake by cattle. Includes data on mineral composition of Florida feeds and mineral supplements, and on blood and liver values of minerals for use as guide in diagnosing deficiencies; and presents illustrations of mineral feeders for use under Florida conditions.
Lib. code: P-L30-51571

0167 Producción de carne en los zacates Guinea y Buffel, con dos niveles de fertilización, durante un año de pastoreo en Tizimin, Yuc., clima aw. (Beef production from Guinea and Buffel grass pastures at two fertilizer levels during one year of grazing in Tizimin, Yuc., climate aw). Saldívar, I.M.; Trevino, R.G.; Hernández, M.T. *Técnica Pecuaria en México*, 1977, (Es), pp. 17-20.
□ Summarizes results of a 1-year trial on the response of animals to nitrogen and phosphorus in Guinea grass and Buffel grass grazed rotationally in the state of Yucatan, Mexico; includes data on weight gain and meat production of animals.
Lib. code: P-F00-50173

0188 Reposta de novilhos Nelorados a suplementação mineral em pastagens de capim-Colonião. (Mineral supplementation of Nelore steers grazing Guinea grass pasture). Sousa, J.C. de; Gomes, R.F.C.; Rezende, A.M.; Rosa, I.V.; Cardoso, E.G.; Gomes, A.; Costa, F.P.; Oliveira, A.R. de; Neto, L.C.; Curvo, J.B.E. *Pesquisa Agropecuária Brasileira*, 1983, (Pt), v. 18(3), pp. 311-318.
□ Presents results of a study undertaken in Brazil to verify possible mineral deficiencies in Nelore steers grazing Guinea grass pasture, by subjecting 200 steers to treatments consisting of sodium chloride, phosphorus plus micro-elements; a commercial mixture; sodium chloride plus phosphorus; and sodium chloride alone. Includes observations on weight changes in animals, rib bone and liver biopsy, mineral composition of pasture and economic analysis of the different treatments.
Lib. code: P-L30-51325

0189 Response by calves grazing Kikuyu grass pastures to grain and mineral supplements.
Kaiser, A.G. *Tropical Grasslands (Australia)*, 1975, (En), v. 9(3), pp. 191-198.
□ Describes results of a trial carried out to examine the response of calves grazing nitrogen-fertilized Kikuyu grass for a 32-week period from weaning, to feeding crushed maize and/or mineral supplements containing sodium, calcium and phosphorus; with data on liveweight gain and carcass weight.
Lib. code: P-L30-51513

0190 Response by lactating cows grazing sorghum to sulphur supplementation. Stobbs, T.H.; Wheeler, J.L. *Tropical Agriculture (Trinidad & Tobago)*, 1977, (En), v. 54(8), pp. 229-234.
□ Reports a grazing experiment designed to evaluate the response to sulphur supplements of lactating cows grazing a 5- to 7-week growth of sorghum x Sudan grass hybrid (cv. Sudan SX 11a), with data on the sulphur and nitrogen levels, digestibility and cyanide content of sorghum leaf, and milk yield and composition as well as liveweight and organic matter and sulphur intake of cows.
Lib. code: P-L30-51303

0191 Some observations on feeding salt to steers grazing native pasture in north Queensland.
Winks, L.; O'Rourke, P.K. *Journal of the Australian Institute of Agricultural Science*, 1977, (En), pp. 76-77.

□ Presents findings of a trial undertaken over 2 years to measure the effect of salt feeding on the liveweight performance of beef steers grazing native pastures in the dry tropics of north Queensland, Australia.
Lib. code: P-L30-51320

0192 Supplémentations minérales, alimentaires et pertes de poids des Zébus sahéliens en saison sèche. (Mineral supplements and losses of weight in Sahelian cattle during the dry season). Calvet, H.; Friot, D.; Gueye, I.S. *Revue d'Élevage et de Médecine Vétérinaire des Pays Tropicaux (France)*, 1976, (Fr), v. 29(1), pp. 59-66, Summary (En Es Fr).
□ Studies mineral salt supplements and weight losses in Sahelian cattle during the dry season showing importance of small amounts of mineral or nitrogen supplements in feeds for extensive cattle production improvement in Sahelian areas.
Lib. code: L30-05800

0193 The mineral content of Caribbean feedingstuffs. Devendra, C. *Tropical Agriculture (Trinidad & Tobago)*, 1977, (En), v. 54(1), pp. 29-38.
□ Reports the macro-mineral compositions of about 200 randomly selected representative samples of feedingstuffs, including 101 grasses, in the Caribbean, with particular reference to calcium, phosphorus and magnesium contents.
Lib. code: P-L36-06380

0194 The positive response of cattle to sulphur and sodium supplementation while grazing *Stylosanthes guianensis* pastures in north Queensland. Hunter, R.A.; Siebert, B.D.; Webb, C.D. *Australian Journal of Experimental Agriculture and Animal Husbandry*, Oct 1979, (En), v. 19(100), pp. 517-521, ISSN 0045-060X.
□ Presents trial results showing liveweight gain of cattle fed *Stylosanthes guianensis* supplemented with sulphur alone, sodium alone or sulphur and sodium during the dry season in north Queensland, Australia.
Lib. code: L30-15949

0195 The response of cattle in the Thai highlands to a supplement containing sodium and phosphorus. Falvey, J.L. *Tropical Animal Production (Mexico)*, 1983, (En), v. 8(1), pp. 45-49.
□ Examines the response of cattle grazing native highland pastures in Thailand to a supplement containing both sodium and phosphorus, and determines the mechanism of the response, with particular reference to liveweight performance, reproduction, calf mortality, and Na and P contents of rumen, saliva, faeces and bones.
Lib. code: P-L30-51328

0196 The sodium concentration in some tropical pasture species with reference to animal requirements. Playne, M.J. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1970, (En), v. 10, pp. 32-35.
□ Describes a survey of the sodium concentrations in eight pasture species, grown on a sodic soil at "Landsdown" Pasture Research Station in Townsville, Australia, and of five other species, all of one age, at five sites within 257 km of Townsville; discusses effects of sites and species differences.
Lib. code: P-F60-51319

0197 Trace mineral nutrition in Latin America. McDowell, L.R.; Conrad, J.H. *World Animal Review (FAO)*, 1977, (En), pp. 24-33.
□ Describes the incidence and significance of livestock trace mineral deficiencies and toxicities in Latin America outlining appropriate detection techniques and preventive measures.
Lib. code: P-L30-15839

TRACE ELEMENT DEFICIENCIES AND THEIR CORRECTION

0198 A review of mineral imbalances of grazing animals in southern Africa. Boyazoglu, P.A.

Journal of the South African Veterinary Association, 1976, (En), v. 47(2), pp. 129-132, Summary (En).

□ Presents a historical review of mineral imbalances recognized in southern Africa, describing survey procedures followed both in terms of sample sources and analytical procedures with emphasis on problems encountered in each stage of the developments; includes a summary of mineral patterns known to date according to the 10 regions recognized where specific patterns of mineral imbalances are known to occur.
Lib. code: P-L30-51310

0199 Cobalt deficiency in cattle in Johore. Live-weight changes and response to treatments.

't. Manneje, L.; Sidhu, A.S.; Murugiah, M. *MARDI Research Bulletin (Malaysia)*, 1976, (En), v. 4(1), pp. 90-98.

□ Describes liveweight changes in Kedah-Kelantan cattle in Malaysia due to cobalt deficiency and examines responses to treatments with cobalt, vitamin B₁₂, copper and Terramycin.
Lib. code: P-L30-51346

0200 Cobalt deficiency of cattle grazing improved pasture, in northern Cape York Peninsula.

Winter, W.H.; Siebert, B.D.; Kuchel, R.E. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1977, (En), v. 17, pp. 10-15.

□ Reports results of trials carried out in an area of Cape York Peninsula in Australia to examine the response of cattle grazing *Panicum maximum* - *Stylosanthes guianensis* pastures to cobalt and copper treatments for the correction of deficiencies, with particular reference to weight changes and copper and vitamin B₁₂ concentrations in the blood and liver.
Lib. code: P-L30-51314

0201 Copper status in livestock, pasture and soil in western Sudan. Tartour, G.

Tropical Animal Health and Production (UK), May 1975, (En), v. 7(2), pp. 87-94, ISSN 0049-4747, Summary (En Es Fr).

□ Studies the copper status of livestock in relation to the presence of copper in pasture and soil in western Sudan.
Lib. code: L50-19605

0202 Effect of molasses supplementation and copper, cobalt and anthelmintic therapy on weight gain of beef yearling steers grazing improved pastures in a wet tropical environment. Copeman, D.B.;

Sumbung, F.P.; Poothongtong, P.; Hag, S.; Armstrong, J.R. *Australian Journal of Experimental Agriculture and Animal Husbandry*, Aug 1977, (En), v. 17(87), pp. 538-544, ISSN 0045-060X, Summary (En).

□ Examines the influence of molasses supplementation and copper, cobalt and anthelmintic therapy on weight gain of yearling steers grazing improved pastures in a wet tropical area in north Queensland, Australia.
Lib. code: L30-03910

0203 Effects of copper and cobalt treatment of cattle in the Ethiopian Rift Valley. Roeder, P.L.

Tropical Animal Health and Production (UK), 1980, (En), v. 12, pp. 63-68.

□ Describes the effects of treating young Boran-type Zebu cattle in the Ethiopian Rift Valley with copper and cyanocobalamin by injection, with particular reference to weight gain and haematological values.
Lib. code: P-L30-19839

0204 Estudo preliminar sobre uma doenca nao identificada, ainda, em Minas Gerais: A "chorona".

(Preliminary study of an unknown disease: "Chorona" in Minas Gerais State). Magalhaes, L.M. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1949, (Es), v. 2, pp. 66-81.

□ Describes a disease previously unknown in Minas Gerais State of Brazil and named "chorona" by breeders, mentioning possible causes for the disease; its distribution within the State; clinical characteristics; results of experimental treatment with copper sulphate; postmortem and histopathological findings; diseases that can be confused with "chorona" and cattle losses in Brazil due to the disease.
Lib. code: P-L73-51347

0205 Hepatic copper concentration of steers grazing pastures on developed wet heath land in southeastern Queensland. Gartner, R.J.W.; Young, J.G.;

Pepper, P.M. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1968, (En), v. 8, pp. 679-682.

□ Describes results of a trial carried out in Australia to evaluate copper and cobalt therapy, with particular reference to hepatic copper concentration in steers grazing a pasture of *Digitaria decumbens* and *Lotononis bainesii*.
Lib. code: P-L34-51315

0206 Influence of grazing management and copper supplementation on the growth rate of Hereford cattle in southeastern Queensland. Harvey, J.M.;

Beames, R.M.; Hegarty, A.; O'Bryan, M.S. *Queensland Journal of Agricultural Science (Australia)*, 1953, (En), v. 20(2), pp. 137-159, Summary (En).

□ Presents results of a 4-year study carried out in south-eastern Queensland, Australia, to evaluate the influence of continuous and rotational grazing and copper supplementation on the performance of Hereford cattle grazing predominantly *Paspalum dilatatum* pastures. Includes data on body weight, blood and liver copper levels, and grazing behaviour of animals, as well as botanical composition, yield and chemical composition of pastures.
Lib. code: P-L30-51316

0207 Initial observations on iodine deficiency in cattle in Antigua, B.V.1. Hutson, L.R.

Veterinary Record (UK), 1952, (En), v. 64(20), pp. 289-290.

□ Reports observations on iodine deficiency in cattle as manifested by simple goitre in new-born calves in Antigua, with particular reference to results of histological examination of thyroid glands removed from two new-born calves with simple goitre.
Lib. code: P-51312

0208 Mineral deficiencies limiting production of ruminants grazing tropical pastures in Australia. Gartner, R.J.W.;

McLean, R.W.; Little, D.A.; Winter, L. *Tropical Grasslands (Australia)*, 1980, (En), v. 14(3), pp. 266-272, Summary (En).

□ Reviews reports of responses in animal production following the provision of appropriate supplements to correct phosphorus, sodium, cobalt, copper and calcium deficiencies in cattle and sheep grazing tropical pastures in northern Australia, with particular reference to mineral concentrations in herbage and animal tissues in relation to accepted dietary requirements.
Lib. code: P-L30-51300

0209 Mineral malnutrition in cattle. Becker, R.B.;

Henderson, J.R.; Leighty, R.B. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Oct 1965, (En), no. 699, 54p.

□ Presents results of investigations carried out in Florida, USA, to find out the conditions under which cattle developed "Salt Sick", a deficiency of iron, copper, cobalt or other combinations, and to produce experimentally, correct and prevent the condition under controlled supplementation; includes details of observations on four conditions among cattle of various ages on certain marsh soil areas in Florida, particularly "paces", lime-hided or faded hair coat, enlarged pasterns and ankles, and falling disease.
Lib. code: P-L30-51338

0210 Mineral status of beef cattle in Guanacaste, Costa Rica. McDowell, L.R.; Lang, C.E.; Conrad, J.H.; Martin, F.G. *Tropical Agriculture (Trinidad & Tobago)*, 1978, (En), v. 55(4), pp. 343-350, Summary (En).
□ Describes findings of a study undertaken to evaluate the mineral status of grazing beef cattle in the Guanacaste region of Costa Rica, by analysing mineral concentrations in liver and blood samples.
Lib. code: P-L50-51304

0211 Nutritional composition of Latin American forages. McDowell, L.R.; Conrad, J.H.; Thomas, J.E.; Harris, L.E.; Fick, K.R. *Tropical Animal Production (Mexico)*, 1977, (En), v. 2, pp. 273-279.
□ Summarizes and evaluates information on the composition of 2615 forages from Latin America, with particular reference to nutrient composition, comparison of distribution of proximate analysis components between Latin American and US-Canadian forages, and average mineral composition for Latin American forages.
Lib. code: P-L36-51353

0212 Responses to cobalt therapy in weaner cattle in south-east Queensland. Nicol, D.C.; Smith, L.D. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1981, (En), v. 21, pp. 27-31.
□ Reports results of an experiment designed to measure the response to cobalt therapy in weaners grazing Green panic, Siratro and Townsville stylo pastures in Australia, with particular reference to liveweight performance, faecal eggs and haematology.
Lib. code: L73-51321

0213 Results of mineral research in Latin America. McDowell, L.R.; Conrad, J.H.; Loosli, J.K.; Morillo, D. Univ. of Florida, Gainesville (USA). Dept. of Animal Science, s.d., (En), 17p.
□ Summarizes and evaluates information on the mineral concentrations of 2615 Latin American forages, discussing geographical locations of mineral deficiencies or toxicities in cattle of Latin American and Caribbean countries; studies on effects of mineral supplementation; and the characteristics of an acceptable mineral supplement.
Lib. code: P-L36-51352

0214 Serum copper levels of cattle in El Salvador. Edwards, S.; Ramirez, L. *Tropical Animal Health and Production (UK)*, 1981, (En), v. 13, pp. 242-243.
□ Presents results of a study undertaken in El Salvador to determine copper levels in the adult bovine population of the country.
Lib. code: L70-51354

0215 The effects of cobalt and copper treatment on the weight gains and blood constituents of cattle in Kenya. Howard, D.A. *Veterinary Record (UK)*, 1970, (En), v. 87, pp. 771-774, Summary (De En Fr).
□ Describes a trial carried out in the Rift Valley region of Kenya to examine the effects of treating beef-type Zebu cattle with copper injections and cobalt pellets, with particular reference to weight changes, and blood haemoglobin and copper levels.
Lib. code: P-L30-51311

ENERGY AND PROTEIN SUPPLEMENTATION OF GROWING STOCK

0216 Alimentação suplementar durante as estações do ano, sobre o ganho em peso vivo de novilhas azebuadas (Gir), na Região de Cerrado. (Effects of supplemental feeding during all seasons on liveweight gains of yearling Zebu females, in the Cerrado area). Viledo, H.; Pereira, C.S.; Carneiro, G.G.; Carneiro, A.M.; Toledo, E.F. de. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1981, (Pt), v. 33(1), pp. 191-197, Summary (En Pt).

□ Reports on a study on the effects of supplementing yearling Gir heifers raised on cultivated pasture during 364 days, comparing two levels of protein supplementation over 140 days during the dry season and three levels of protein during the wet season; with particular reference to liveweight gains.
Lib. code: P-L30-51492

0217 Animal husbandry - cattle. Henke, L.A.; Work, S.H.; Burt, A.W. In: *Hawaii Agricultural Experiment Station Annual Report; 1939*, (En), 4p.
□ Reports findings of trials done at the Hawaii Agricultural Experiment Station on the nutrition of cattle, with particular reference to studies on the value of molasses as a supplement to Napier grass; comparison of Rhodes versus Sudan grasses, soybean versus cottonseed cake meal; and the use of cane molasses for pasture fattening of beef cattle.
Lib. code: P-L30-51272

0218 Beef fattening systems from Rhodes grass pastures. Addy, B.L.; Thomas, D. *Ministry of Agriculture and Natural Resources Research Bulletin (Malawi)*, Jun 1975, (En), no. 3, 8p.
□ Outlines the potential for the utilization of Rhodes grass pastures for the production of top grade beef in Malawi, mentioning suitable stocking rates, level of concentrate supplementation, comparative performance of Zebu and Zebu x Friesian steers, period of feeding, and the potential profitability of the system.
Lib. code: MIC-L30-22506

0219 Calf grazing trials in Trinidad. I. Growth and development of calves. Archibald, K.A.E.; Cowlshaw, S.J. *Tropical Agriculture (Trinidad & Tobago)*, 1972, (En), v. 49(4), pp. 297-303, Summary (En).
□ Reports results of two trials carried out in Trinidad, the first conducted to determine the weight gains and body measurements of Holstein-Zebu calves under three treatments, viz. (a) keeping indoors and giving cut grass, (b) grazing from 15.30 to 06.30 hours daily or (c) grazing from 08.30 to 15.30 hours daily, with all animals under the three treatments given supplements; and the second trial designed to measure weight gains and body measurements of crossbred Holstein calves rotationally grazed full-time on Pangola grass pastures with daily supplements of 1.36 to 2.04 kg mixed meal.
Lib. code: P-L30-51520

0220 Changes in blood parameters of heifers during survival feeding. Payne, E.; Morris, J.G.; Gartner, R.J.W. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1970, (En), v. 10, pp. 256-261.
□ Presents results of a study carried out to determine the response of non-pregnant heifers to a survival ration consisting of whole or cracked sorghum grain fed at daily and twice-weekly intervals, examining changes in blood plasma, red cells and haemoglobin, packed cell volume, as well as serum albumin, globulin and total protein.
Lib. code: P-L30-51495

0221 Compensatory growth of cattle on the natural grasslands of Northern Rhodesia. Smith, C.A.; Hodnett, G.E. *Nature (UK)*, 1962, (En), v. 195, pp. 919-920.
□ Describes a trial carried out to determine the response of Sanga and Zebu cattle on re-alimentation to different levels of nutrition during the dry season in Northern Rhodesia, with particular reference to weight gains.
Lib. code: P-L30-51516

0222 Contribuição para o estudo da alimentação de bovinos durante o período seco. (Contribution to the study of cattle feeding during the dry season). Mattos, J.C.A. de; Tundisi, A.G.A.; Velloso, L.; Dupas, W.; Soliva, R. *Boletim de Indústria Animal (Brazil)*, 1967, (Pt), v. 24, pp. 17-26, Summary (En Pt).
□ Describes results of a trial designed to evaluate the weight gain response of cattle to different supplementary feeding

- treatments during the dry season, viz. rice straw and cottonseed meal fed free-choice in one trough and molasses in another; corn-and-cob meal and cottonseed meal plus corn cobs and corn husks at will; cottonseed meal on pasture with or without molasses; and pasture only.
Lib. code: P-L30-51504
- 0223 Cottonseed meal and grain as supplements for grazing beef cattle.** Alexander, G.I.; Sullivan, J.J.; Stokoe, J. *Proceedings of the Australian Society of Animal Production*, Aug 1970, (En), v. 8, pp. 45-49, ISSN 0067-2149.
□ Presents trial results showing the effect of grain sorghum and cottonseed meal supplements on growth response of grazing beef cattle; with data on weight changes of animals during the feeding and post-feeding periods.
Lib. code: L30-16211
- 0224 Creep feeding of beef breed calves.** Retief, H.A. s.l., s.n.; 1979, (En), 3p. (Extracted from Meat Board Focus, Sep 1979, pp. 16-19).
□ Discusses the possibility of increasing the profitability of beef cattle enterprises through employing creep-feeding practices, mentioning the nutritional requirements of beef breed calves, combined contribution of veld and grazing to the nutritional requirement of calves, and some creep feed rations which could be used.
Lib. code: P-L30-51496
- 0225 Drought feeding studies with cattle and sheep. 1. The use of native grass hay (Bush hay) as the basal component of a drought fodder for cattle.** Morris, J.G. *Queensland Journal of Agricultural Science (Australia)*, 1958, (En), v. 15(4), pp. 161-180, Summary (En).
□ Presents results of two trials, the first designed to evaluate Bush hay as a drought fodder for cattle and to examine the effect of addition of two levels of lucerne chaff and one level of mealmeal to a basal ration of Bush hay; and the second trial carried out to evaluate the addition of a salt-boneflour mineralized lick and two isocaloric supplements at different nitrogen contents; includes data from both trials on the effects of the rations on body weight, feed intake, coat changes, behaviour and ovarian activity, as well as blood composition.
Lib. code: P-L30-51376
- 0226 Efecto del intervalo de suplementación energética en el mantenimiento de vacunos de carne en pasto llorón (*Eragrostis curvula*) durante el invierno.** (Effect of interval of feeding supplemental energy on the maintenance of beef cattle grazing on Weeping Lovegrass (*Eragrostis curvula*) during winter). Cairnie, A.G. *Revista de Investigaciones Agropecuarias, Serie I: Biología y Producción Animal (Argentina)*, 1968, (Es), v. 5(6), pp. 107-117.
□ Describes a trial conducted during 3 consecutive years in order to study the influence of a supplementary ration given one, two, three or seven times a week, on the weight gains of beef cattle grazing Weeping Lovegrass during winter.
Lib. code: P-L30-51490
- 0227 Efeito da administração de suplemento de milho desintegrado, durante a seca, a novilhas das raças Gir e Sindhi.** (Effects of ground ear corn administration to Gir and Sindhi heifers during dry season). Benintendi, R.P.; Freitas, E.A.N. de; Biondi, P. B. *Boletim de Indústria Animal (Brazil)*, 1974, (Pt), v. 31(2), p. 221-227.
□ Presents results of a study conducted to examine the effects of corn supplementation on Gir and Sindhi cattle grazing Guinea grass pastures during the dry season, with particular reference to liveweight gain and breed differences.
Lib. code: L30-51505
- 0228 Effect of level of meat and bone meal supplements on growth of weaner cattle on dry-season improved pasture at Adelaide River, N.T.** Moran, J.B. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (Fn), v. 13, pp. 134-141.
□ Reports results of trials conducted with Brahman cross weaner heifers grazing a Townsville stylo dominant pasture during the dry season in Australia and supplemented with meat and bone meals at different rates; includes data on feed intake, liveweight response to the supplement and efficiency of utilization, faecal nitrogen, serum inorganic phosphate concentrations and serum urea levels.
Lib. code: P-F00-51267
- 0229 Effect of supplementary feeding of concentrates and of restricted grazing on Holstein heifers on intensively managed grass pastures.** Carro-Costas, R.; Vicente-Chandler, J. *Journal of Agriculture of the University of Puerto Rico*, 1979, (En), v. 63(4), pp. 336-343.
□ Presents results of two experiments conducted on intensively managed grass pastures in the humid mountain region of Puerto Rico to determine the effect of different levels and methods of supplementary feeding of concentrates, and of restricted grazing on the weight gains of Holstein heifers and on the carrying capacity of the pastures.
Lib. code: P-L30-51593
- 0230 Effect of winter gains of beef calves on subsequent feedlot performance.** Peacock, F.M.; Kirk, W.G.; Hodges, E.M.; Palmer, A.Z.; Carpenter, J.W. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Mar 1964, (En), no. 667, 12p.
□ Presents findings of a study designed to determine the effect of rate of gain during winter on subsequent feedlot performance of calves wintered on low-quality pastures and given supplemental feeds to produce different rates of daily gains. Includes data on average winter daily gain, estimated winter slaughter grade, feedlot average daily gain, carcass grade, dressing percentage, nutrient requirements for gain and total winter and feedlot gains.
Lib. code: P-L30-51525
- 0231 Effects of feeding hay on the early wet season weight loss of cattle in western Tanzania.** Walker, B. *Experimental Agriculture (UK)*, 1969, (En), v. 5, pp. 53-57.
□ Describes an experiment conducted at Ukiriguru in western Tanzania to compare the effects of three levels of supplementary hay feeding on liveweight changes and growth in cattle.
Lib. code: P-L30-51488
- 0232 Effects of feeding limited amounts of concentrate to stocker steers on pasture.** Haines, C.E.; Chapman, H.L. Jr.; Kidder, R.W.; Greene, R.E.L. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Jul 1965, (En), no. 693, 17p.
□ Presents results of a study conducted to determine the effects of supplementing grazing cattle with limited amounts of concentrate mixtures and their combinations at different times during the year, with data on weight gains, changes in market grades, and final net market value of the animals.
Lib. code: P-L30-51519
- 0233 El uso de la melaza como suplemento para novillos en potrero.** (The use of molasses as a supplement for grazing steers). Butterworth, M.H.; Carrera, C. *Mexico Ganadero*, Jun 1969, (Es), no. 136, pp. 68-70.
□ Describes experiments carried out in tropical Mexico on the use of molasses with and without urea as a supplement for various types of pasture; includes data on liveweight gains and economic aspects.
Lib. code: P-L30-51357
- 0234 Evaluation of different feeding systems in beef cattle production.** Carlo, I.; Mendoza, R.; Velez, J. *Journal of Agriculture of the University of Puerto Rico*, 1972, (En), v. 56(40), pp. 327-336, Summary (En Es).

□ Presents results of trials conducted at two locations in Puerto Rico to compare different beef cattle feeding systems, viz. grazing alone; grazing alone plus either corn, cane or a bulky feed; bulky feeding; and grazing with a bulky ration finishing period or Pangola grass soilage ad lib; with data on comparative net weight gains and corresponding dressing percentages of the animals under different feeding systems.
Lib. code: P-L30-51491

0235 Factors affecting response to urea-molasses supplements by yearling cattle in tropical Queensland.

Winks, L.; Laing, A.R.; O'Rourke, P.K.; Wright, G.S. *Australian Journal of Experimental Agriculture and Animal Husbandry*, Oct 1979, (En), v. 19(100), pp. 522-529, ISSN 0045-060X.

□ Describes details of experiments undertaken in Australia to show the effect of supplements of molasses, phosphorus, urea or biuret on liveweight performance, and that of different urea levels in urea-molasses supplements on dry-season performance of yearling cattle.
Lib. code: L30-15950

0236 Ganancia de peso durante la temporada de secas en Forrer, Estrella y Pangola, utilizando bovinos destetados con y sin suplementación previa en Aldama, Tamps.

(Weight gains of weaned calves with and without supplements grazing Forrer, Star or Pangola grass pastures during the dry season in Aldama, Tamps). Martinez, G.G.; Garza, R.T.; Monroy, J.L. *Técnica Pecuaria en Mexico*, 1976, (Es), v. 30 pp. 18-22.

□ Presents findings of a trial carried out in Mexico to compare *Cynodon dactylon*, *Digitaria decumbens* and *Cynodon plecostachyus* during 140 days of the dry season in terms of meat production/ha of animals receiving or not receiving preweaning supplementation.
Lib. code: P-L30-51529

0237 Good levels of beef production from Balklæa and other species woodland on Kalahari soil.

Bembridge, T.J. *Rhodesia Agricultural Journal*, s.d., (En), Bull. 2569, pp. 11-14, ISSN 0035-4686.

□ Presents results of trials undertaken to determine effect of supplementary feeding in winter on liveweight changes of cattle grazing *Baikiaea* and other species woodland in Zimbabwe.
Lib. code: MIC-L30-22821

0238 Growth of heifers on supplemented tropical roughages.

Lambourne, L.J.; Holmes, J.H.G. In: *CSIRO Animal Physiology Annual Report 1966-67*; s.l., s.n.; 1967, (En), pp. 73-74.

□ Examines the weight gains of 1 1/2 to 2 1/2 year-old heifers given supplements of cottonseed meal and sorghum grain added to basal rations of Spear grass hay or sorghum straw; also measures the utilization of each feed by the regression of performance on intake.
Lib. code: P-L30-51514

0239 Intensive fattening of beef cattle on Rhodes grass pastures on the Lilongwe Plain, Malawi.

Addy, B.L.; Thomas, D. *Tropical Animal Health and Production (UK)*, 1977, (En), no. 9, pp. 99-106, ISSN 0049-4747, Summary (En Es Fr).

□ Presents results of beef fattening trials with Malawi Zebu and Friesian x Malawi Zebu on Rhodes grass pastures, investigating the effects of stocking rate and level of supplement on daily weight gain and carcass yield.
Lib. code: L30-06536

0240 Liveweight response in heifers fed a mealmeal - molasses supplement.

Llewellyn, D.; Kempton, T.J.; Nolan, J.V. *Proceedings of the Australian Society of Animal Production*, 1978, (En), v. 12, p. 174.

□ Briefly summarizes results of trials carried out in Australia on the use of supplements of meal (bypass protein) and

molasses (available energy) to stimulate consumption of dry roughages by cattle; includes data on liveweight change of supplemented cattle.

Lib. code: P-L30-51391

0241 Melaza de caña como suplemento en el engorde de bovinos en zacate Guineá (*Panicum maximum*).

(Sugar cane molasses as a supplement for the fattening of cattle on Guinea grass (*Panicum maximum*) pastures). Carrera, C.; Munoz, H.; Solares, L. *Técnica Pecuaria en Mexico*, 1963, (Es), no. 1, 5p., Summary (Es).

□ Presents results on liveweight gains of steers grazing pastures with or without supplements of molasses during both wet and dry seasons in tropical Mexico.
Lib. code: P-L30-51502

0242 Mellemsejvødding aan jong osse op comerveld en veskillende wintervoedingspelle.

(Maize meal supplementation to young steers on summer veld and different planes of nutrition during winter). Merwe, H.J. van der; Chevallerie, M.K.S.L. von la. s.l., s.n.; 1980, (Af), 8p., Summary (Af En). (Reprinted from *S. Afr. Tydskr. Veek*, v. 10, 1980, pp. 189-196).

□ Describes results of investigations on the influence of two planes of nutrition during winter as well as maize supplementation at different stages of growth of summer veld, and on the growth and carcass quality of Hereford x Africander steers; discusses the economic aspects of the supplementation.
Lib. code: P-L30-51493

0243 Novas interpretações sobre a eficiência das provas de ganho de peso e a viabilidade da produção econômica de novilhos Zebu próximo dos 24 meses de idade.

(The Zebu cattle as meat producers at 2 years old. The influences of supplementation during the first dry season). Tundisi, A.G.A.; Lima, F.P.; Dalil, E.B.; Villares, J.B.; Correa, A.; Vidal, M.E.P. *Boletim de Industria Animal (Brazil)*, 1966, (Pt), v. 23, pp. 67-81, Summary (En Pt).

□ Describes findings of a trial carried out to examine the effect of different feeding regimes, viz. pasture alone, pasture plus different quantities of a corn and cottonseed meal mixture, and hay plus corn and cottonseed meal under confinement, on the performance of Nelore cattle, with particular reference to weight gains of cattle with and without supplementation.
Lib. code: P-L30-51527

0244 Oat forage and grain supplements for the production of yearling beef from pasture on the Northern Tablelands of New South Wales.

Hennessy, D.W.; Robinson, G.G. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1978, (En), v. 18, pp. 183-189.

□ Presents findings of a trial carried out to assess the use of supplements of oat grain alone, or with silage or hay, to produce marketable yearling cattle in October in NSW, Australia, by grazing weaned cattle on improved pastures and supplying grain supplements. Includes data on time required up to finishing, weight gains, and economic aspects of supplementation.
Lib. code: P-L30-51515

0245 Optimal land use: Manipulation of the nutritional level for increased beef production in the bushveld, and some management aspects.

Ludemann, C.J.F. In: *Farmers' day - Mara Agricultural Research Station, 6 September 1973*; Department of Agricultural Technical Services, Pretoria (South Africa). Mara Agricultural Research Station. *Mara Lecture Series (South Africa)*, 1974, (En), no. 15, pp. 16-20, Summary (Af En).

□ Discusses ways of raising the nutritional level of beef breeding cows, calves or weaners in order to increase beef production from the bushveld in South Africa, mentioning advantages of improving the natural veld, supplementary feeding and provision of licks.
Lib. code: P-L30-51517

- 0246 Productivity of beef cows as influenced by pasture and winter supplements during growth.** Warnick, A.C.; Koger, M.; Martinez, A.; Cunha, T.J. *Florida University Agricultural Experiment Stations Bulletin (USA)*, May 1969, (En), no. 695, 15p., Summary (En).
 □ Examines the response of replacement heifers to two types of pasture and two levels of protein supplementation, particularly grass and clover-grass pastures with different combinations of low and high protein; includes data on weight gain, reproduction and weaning.
 Lib. code: P-L30-51602
- 0247 Prospects for animal production in the tropics using new feeding systems.** *Turrialba (Costa Rica)*, 1972, (En), v. 1(1), pp. 6-8, ISSN 0041-4360.
 □ Examines the potentials of agro-industrial byproducts for cattle feeding in the tropics, particularly cull bananas and molasses, mentioning the differential effect of molasses on weight gain of purebred and crossbred cattle.
 Lib. code: L30-00996
- 0248 Response of steers to dry-season protein supplementation on improved pastures.** Falvey, L. *Australian Journal of Experimental Agriculture and Animal Husbandry*, Oct 1977, (En), v. 17(88), pp. 724-727, ISSN 0045-060X, Summary (En).
 □ Presents trial results showing effect of meat and bone supplementation on liveweight gain of Brahman x Shorthorn weaner steers grazing improved legume pasture; with discussion on the potential benefits of protein supplementation.
 Lib. code: L30-09243
- 0249 Self-feeding salt supplement to grazing steers under tropical conditions.** Chicco, C.F.; Shultz, T.A.; Rios, J.; Plasse, D.; Burguera, M. *Journal of Animal Science (USA)*, 1971, (En), v. 33(1), pp. 142-146.
 □ Summarizes results of a trial conducted to evaluate the effect of self-feeding a 30% salt supplement to beef cattle grazing average quality tropical pastures, with particular reference to effects on weight gain; blood sodium, chloride and chlorine concentrations; hematocrit and haemoglobin values; rumen processes; dry matter, cellulose or protein digestibility; and carcass values. Compares response of Charolais, Red Poll and Brown Swiss crosses with Brahman cattle.
 Lib. code: P-L30-51512
- 0250 Studies in the supplementation of grazing Friesian steers in the central coast area of New South Wales.** Lloyd Davis, H.; Lemcke, B.G. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1977, (En), v. 17, pp. 545-549.
 □ Describes results of a study undertaken to study the performance of yearling Friesian steers offered different amounts of a barley-based grain ration while grazing *Trifolium repens*, *Lolium perenne*, *Festuca arundinacea* and *Phalaris tuberosa* based pastures in New South Wales, Australia; with data on grain intake, liveweight gains, health of animals and rate of gain. Compares results with those for penned animals receiving the same ration.
 Lib. code: P-L30-51253
- 0251 Suplementações alimentares protéico-energéticas de novilhos em pastejo.** (Supplemental feeding of steers on pasture with protein-energy supplements). Bisschoff, W.V.A.; Quinn, L.R.; Mott, G.O.; Rocha, G.L. da. *Pesquisa Agropecuária Brasileira*, 1967, (Pt), v. 2, pp. 421-436.
 □ Summarizes findings of a trial on the response of cattle to supplementary feeding of concentrates, with particular reference to caloric and protein intake, weight gain in different seasons, and effects of adding vitamin A or Terramycin to the supplement on rates of weight gain.
 Lib. code: P-L30-51503
- 0252 Supplemental feeding of beef cattle on pastures in south Florida.** Chapman, H.L. Jr.; Peacock, F.M.; Kirk, W.G.; Shirley, R.L.; Cunha, T.J. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Feb 1964, (En), no. 665, 28p.
 □ Discusses various issues related to the nutrition of beef cattle in south Florida, USA, with particular reference to requirements in total digestible nutrients, digestible protein, phosphorus, copper, cobalt, iron and vitamin A; factors affecting nutritive value of permanent pastures in the area, particularly type of soil, kind of forages used, seasons, fertilization and stage of plant maturity. Describes concentrate and roughage supplements available to farmers in the area, and recommends supplemental feeding practices.
 Lib. code: P-L30-51506
- 0253 Supplemental feeding of steers on Everglades pasture.** Pate, F.M.; Hayes, B.W.; Beardsley, D.W.; Guene, R.E.L.; Palmer, A.Z. *Florida University Agricultural Experiment Stations Bulletin (USA)*, May 1975, (En), no. 775, 17p., Summary (En).
 □ Describes results of trials conducted to determine the level of protein supplementation required by weaner cattle, particularly mentioning live and carcass mass changes of weaner cattle fed different amounts of cottonseed meal and urea over the winter.
 Lib. code: L30-22581
- 0254 Supplementary feeding of beef cattle - Part 2.** Grant, J.L. *Productive Farming (Zambia)*, Apr 1976, (En), no. 33, pp. 17-21.
 □ Describes results of trials conducted to determine the level of protein supplementation required by weaner cattle, particularly mentioning live and carcass mass changes of weaner cattle fed different amounts of cottonseed meal and urea over the winter.
 Lib. code: L30-22581
- 0255 Supplementation of energy and/or protein to steers grazing summer veld.** Reyneke, J. *South African Journal of Animal Science*, 1976, (En), v. 6, pp. 59-66, Summary (Af En).
 □ Investigates some effects of supplementary energy and/or protein strategically provided to Friesian steers, with particular reference to average daily gain and grading.
 Lib. code: P-L30-13051
- 0256 Supplementation with molasses of steers grazing fertilized Paspala grass pastures.** Tierney, T.J.; Evans, J.; Taylor, W.J. *Tropical Grasslands (Australia)*, Dec 1983, (En), v. 17(4), pp. 156-163, ISSN 0049-4763, Summary (En).
 □ Discusses results of a study carried out in Australia to examine the effect of various molasses supplements fed to steers grazing fertilized Paspala grass during the active pasture growth phase for 3 years; with data on liveweight gain, feed conversion efficiency, carcass weights, dressing percentage, and fat thickness.
 Lib. code: L30-65244
- 0257 Supplementing steers on pasture from weaning to feedlot and subsequent effect on finishing performance.** Pate, F.M.; Hayes, C.E.; Greene, R.E.L.; Palmer, A.Z.; Carpenter, J.W.; Beardsley, D.W. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Nov 1972, (En), no. 752, 21p.
 □ Describes results of three trials conducted to determine the value of feeding various levels of supplements to stocker steers on Roselawn St. Augustine grass pasture and finished in drylot or on pasture; with particular reference to finishing performance, carcass quality, and production costs during the stocker and finishing phases.
 Lib. code: P-L30-51590

0258 The effect of feeding mineral, protein, and carbohydrate supplements to growing beef cattle in Mashonaland. Rhodes, F.B. *Rhodesia Agricultural Journal*, Dec 1956, (En), v. 53(6), pp. 969-982, ISSN 0035-4686.

□ Presents results of experiments carried out at the Grasslands Research Station in order to investigate the effect of feeding protein, carbohydrate, phosphorus, iron and salt supplements to growing exotic and native beef cattle on veld, with particular reference to liveweight changes during the summer and winter periods, growth and carcass composition.
Lib. code: MIC-L30-22907

0259 The influence of supplementary feeding and stocking rate on the performance of steers on ring-barked *Baikiaea* other species woodland on Kalahari sand. Bembridge, T.J.; Gammon, D.M. *Rhodesia Agricultural Journal*, s.d., (En), v. 74(6), pp. 165-169, ISSN 0035-4686, Summary (En).

□ Reports results of trials conducted in Rhodesia to study the effects of supplementing diets with phosphate in summer, protein in summer in the form of a urea/molasses lick, and free-choice minerals all year round on the beef production performance of steers kept on ring-barked *Baikiaea* other species woodland on Kalahari sand; includes observations on changes in the vegetation.
Lib. code: MIC-L30-22783

0260 The role of protein supplements in nutrition of young grazing cattle and their subsequent productivity. Hennessy, D.W.; Williamson, P.J.; Lowe, R.F.; Baigent, D.R. *Journal of Agricultural Science (UK)*, Feb 1981, (En), v. 96(pt.1), pp. 205-212, ISSN 0021-8596.

□ Reports results of experiments conducted to study the effects of supplements of protein meal or sorghum grain given to young cattle grazing low-quality pastures in subtropical Australia during their first winter and spring post weaning; includes data on the effects of supplementation on liveweight, height and girth, and free-amino acids in plasma, and on the nutritional value of unimproved pasture.
Lib. code: L30-27862

0261 The supplementary feeding of mineral and protein supplements to growing cattle in Southern Rhodesia and its relation to the production of beef steers. Murray, A.C.; Romy, A.E.; Haylett, D.G.; Erickson, F. *Rhodesia Agricultural Journal*, s.d., (En), pp. 422-441.

□ Presents results of experiments conducted on the sandveld pastures of Southern Rhodesia on the response of growing cattle to supplementary feeding of phosphorus, sodium, chlorine and groundnut cake, particularly in terms of rate of growth and weight gain
Lib. code: P-L30-51526

0262 The utilization of *Eragrostis curvula* and *Pennisetum clandestinum* pastures for growing out and finishing young beef steers. Rethman, N.F.G.; Eden, D.W.; Beukes, B.H.; Witt, C.C. de. *Proceedings of the Grassland Society of South Africa*, 1977, (En), v. 12, pp. 83-86, Summary (Af En).

□ Presents results from three observation trials undertaken to assess the feasibility of utilizing *Eragrostis curvula* and Kikuyu grass with young beef steers; with particular reference to growth, production and nutritive value of the pasture, and animal performance with and without supplements.
Lib. code: P-F00-50168

0263 Voorlopige resultate met byvoedings aan veebeeste op somerveld. (Preliminary results of supplementing beef cattle on summer veld). Peiters, P.J.S.; Pretler, J.H. *Proceedings of the South African Society of Animal Production*, 1965, (Af), pp. 125-126, Summary (En Es).

□ Presents results of trials conducted in South Africa to examine the performance of beef steers under three planes of nutrition designated as high, medium and low, during a 147-day winter period and put to veld for 107 days during summer with half the animals receiving a supplement of maize meal at the rate of 24 lb. per animal per week; discusses liveweight performance and economic aspects.
Lib. code: P-L30-51524

0264 Winter feeding experiments. Clark, R.; Barric, N. *Farming in South Africa*, 1954, (En), pp. 135-138.

□ Presents results of trials conducted to test the value of different supplements used to correct protein, phosphate and vitamin A deficiencies in animals maintained through the winter on a diet consisting mainly of hay.
Lib. code: P-L30-51386

SUPPLEMENTATION WITH NON-PROTEIN NITROGEN (NPN)

0265 A note on the preservation of a solution of molasses and urea in water. Beames, R.M. *Queensland Journal of Agricultural Science (Australia)*, 1960, (En), v. 17(3), pp. 205-206.

□ Discusses a method of keeping a molasses/urea/water solution sufficiently alkaline in order to ensure its stability, by first saturating the water with slaked lime and then adding the molasses.
Lib. code: P-L32-51380

0266 Biuret as a nitrogen supplement for cattle grazing native pasture and Townsville stylo (*Stylosanthes humilis*) at Adelaide River, N.T. Ford, B.D. *Proceedings of the Australian Society of Animal Production*, Feb 1976, (En), v. 11, pp. 357-360, ISSN 0067-2149, Summary (En).

□ Presents trial results showing the effect of using biuret as a nitrogen supplement for cattle grazing native pasture and *Stylosanthes humilis*, particularly on liveweight and condition changes.
Lib. code: L30-13300

0267 Biuret as a source of supplemental nitrogen for wintering beef cows. Martin, L.C.; Ammerman, C.B.; Burns, W.C.; Koger, M. *Journal of Animal Science (USA)*, 1976, (En), v. 24(1), pp. 21-26.

□ Describes results of a study carried out to compare the effects of isocaloric supplements containing no supplemental nitrogen, nitrogen in the form of biuret and nitrogen from cottonseed meal upon cows and heifers wintered under pasture conditions; with particular reference to weight changes, conception rate, calf survival and time required to reconceive.
Lib. code: P-L30-51522

0268 Biuret as a supplement to roughage rations for sheep and cattle. Mackenzie, H.I.; Altona, R.E. *Journal of the South African Veterinary Medical Association*, 1964, (En), v. 35(3), pp. 301-306.

□ Presents findings of feeding trials conducted over two winter periods to compare the value of crude biuret, urea and mixtures of the two chemicals as sources of supplementary nitrogen for sheep and cattle on hay diets; with data on feed intake and weight gains.
Lib. code: P-L30-51409

0269 Biuret y la urea como suplementos proteicos para novillos a pastoreo. (Biuret and urea as protein supplements for grazing cattle). Chicco, C.F.; Rios, J.; Shultz, E.; Shultz, T.A. *Agronomia Tropical (Venezuela)*, 1975, (Es), v. 25(6), pp. 561-567.

- Evaluates the value of supplements of mineral salt alone or with either biuret, molasses or urea given to purebred Brahman steers and their crosses with Charolais, Brown Swiss and Red Poll cattle grazing mixed tropical grass pastures; with particular reference to weight changes and carcass composition.
Lib. code: P-L30-51389
- 0270 Combat losses with urea and molasses.** Bishop, E.I.B. *Farming in South Africa*, 1957, (En), pp. 30-32.
□ Presents results of experiments on the performance of cattle grazing veld sprayed with urea and molasses, with particular reference to changes in liveweight; compares results with those obtained on veld sprayed with molasses only and without supplements.
Lib. code: P-L30-51371
- 0271 Compléments d'azote non protéique donnés aux animaux élevés sur pâturage en Australie.** (Non-protein nitrogen supplements for grazing animals in Australia). Alexander, G.I. *Revue Mondiale de Zootechnie (FAO)*, 1972, (En Fr), no. 4, pp. 11-14.
□ Outlines different methods of NPN supplementation, and presents trial results showing the improvement in growth rate and the decrease in mortality of cattle, as well as the increase in wool production of sheep grazed on pastures supplemented with NPN.
Lib. code: L30-15542
- 0272 Dry season supplementation of cattle in northern Thailand.** Falvey, L.; Mikled, C. *Proceedings of the Australian Society of Animal Production*, 1978, (En), v. 12, p. 175.
□ Presents results of a trial conducted in Thailand to study the response of cattle to supplements of molasses, urea or minerals fed from a roller lick or half-day grazing on improved pastures, with particular reference to liveweight changes.
Lib. code: P-L30-51362
- 0273 Efecto de la suplementación a novillonas en pastoreo. II. Epoca de secas.** (Effect of supplementation on heifers grazing irrigated and fertilized Pangola grass. II. Dry season). Garza, D.R.; Portugal, G.A.; Ballesteros, W.H. *Técnica Pecuaria en Mexico*, 1975, (Es), v. 27, pp. 5-10, Summary (Es En).
□ Investigates the effect of urea and molasses supplementation on heifers grazing nitrogen-fertilized Pangola grass during the dry season in a subhumid tropical climate at Veracruz, Mexico; with data on average daily gains, meat yield and profitability of the treatments.
Lib. code: P-F00-50146
- 0274 Efecto de la suplementación a novillonas en pastoreo, así como de la fertilización al pasto Pangola. 1. Epoca de lluvias.** (The effect of supplementation on grazing heifers and fertilization of Pangola grass. 1. Rainy season). Garza, T.R.; Portugal, G.A.; Tijerina, R.V.H.; Ballesteros, W.H. *Técnica Pecuaria en Mexico*, 1974, (Es), v. 27, pp. 41-46, Summary (En Es).
□ Investigates the effect of urea and molasses supplementation on heifers grazing nitrogen-fertilized Pangola grass during the rainy season in a subhumid tropical climate at Veracruz, Mexico; with data on meat production and profitability of the treatments.
Lib. code: P-F00-50145
- 0275 Efecto de la suplementación con melaza y urea para bovinos a pastoreo.** (Supplementary feeding of molasses and urea to cattle on pasture). Carnevali, A.; Chicco, C.F.; Shultz, T.A.; Rodriguez, S.C. *Revista Agronomía Tropical (Venezuela)*, 1970, (Es), v. 20(6), pp. 433-443.
□ Describes a trial conducted to examine the response of cattle to three feeding treatments, viz. pasture plus molasses and urea, pasture plus molasses and pasture only, particularly referring to average daily gains, differences among treatments and between sexes and in vitro fermentation rates of rumen contents. Includes results of a feedlot trial wherein animals were corral-fattened with corn silage and a concentrate containing 16% crude protein; with data on weight gain, residual effects and carcass values.
Lib. code: P-L30-51501
- 0276 Efecto de suplementación con melaza y urea para bovinos en pastoreo.** (Effects of supplementation with molasses and urea on grazing bovines). Carnevali, A.; Chicco, C.F.; Shultz, T.A.; Rodriguez, S.; Shultz, E. *Memoria (Mexico)*, 1968, (Es), v. 3, pp. 169-170.
□ Summarizes results of trials on the weight gains of steers and heifers fed supplements of molasses with or without urea and grazed on three different tropical pastures in Venezuela; with data on carcass grades and killing-out percentages; discusses the use of the nylon-bag technique in following cellulose digestion.
Lib. code: L30-51384
- 0277 Effect of molasses - urea supplements on digestibility of mature carpet grass (*Axonopus affinis*) and liveweight change of beef steers.** Cohen, R.D.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1974, (En), v. 14, pp. 589-597, Summary (En).
□ Presents results of a trial on the effect of adding molasses alone or with two levels of urea to mature carpet grass hay fed to penned beef steers at Grafton, New South Wales in Australia, with data on dry matter intake, digestibility of dry matter, energy and protein, and liveweight change of animals.
Lib. code: P-L30-51415
- 0278 Effect of molasses/urea supplementation on Holstein calves grazing Pangola grass.** Ugarte, J.; Preston, T.R. *Cuban Journal of Agricultural Science*, 1975, (En), v. 9, pp. 109-118.
□ Examines the response of Holstein female calves to Pangola grass, with molasses - urea supplementation, at two grazing intensities, with particular reference to weight gain and feed intake; includes a bibliography.
Lib. code: L30-06794
- 0279 Effect of nitrogen and energy supplements on the growth of cattle grazing oats or Rhodes grass.** Morris, J.G.; Gulbrandsen, B. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1970, (En), v. 10, pp. 379-383.
□ Presents results of two experiments, the first conducted to study the performance of steers grazing oats, without supplements or with either a predominantly energy supplement or with a high-protein supplement; and the second trial carried out to examine the effect of liquid supplements of molasses plus minerals and molasses plus minerals and urea on the body weight changes of cattle grazing a Rhodes grass pasture in late winter.
Lib. code: P-L30-51494
- 0280 Effect of nitrogen, phosphorus and molasses supplements on the performance of weaner cattle during the dry season in north Queensland.** Winks, I.; Laing, A.R.; Wright, E.S.; Stokoe, J. *Journal of the Australian Institute of Agricultural Science*, 1976, (En), pp. 246-251, Summary (En).
□ Reports results of studies undertaken to examine the effects of supplements of molasses, phosphoric acid, superphosphate, mono-ammonium phosphate, urea and biuret on liveweight performance of weaner cattle grazing native pastures during the dry season in north Queensland, Australia.
Lib. code: P-L30-51307
- 0281 Effect of restricted molasses-urea supplementation on bulls grazing Pangola grass (*Digitaria decumbens* Stent).** Martin, P.C.; Alfonso, F. *Cuban Journal of Agricultural Science*, 1978, (En), v. 12, pp. 51-58.

- Studies the effects of different molasses levels with 7% urea as supplementation for crossbred yearling calves under continuous grazing conditions in a Pangola grass sward without irrigation or fertilization in the dry season; includes data on liveweight changes and the economic aspects of the supplementation.
Lib. code: P-L30-51361
- 0282 Effect of supplements of molasses and urea on intake and digestibility of native pasture hay by steers.** Ernst, A.J.; Limpus, J.F.; O'Rourke, P.K. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1974, (En), v. 15, pp. 451-455.
□ Presents results of trials conducted in Australia using Short-horn and Brahman crossbred cattle to determine dry matter intake and digestibility of dry matter, organic matter and crude protein of native pasture hay; and to assess the influence of supplements of urea and molasses on intake and digestibility.
Lib. code: P-L30-51370
- 0283 Effect of urea supplementation in dry-season feed for N'Dama cattle.** Adepoju, A. *Proceedings of the Annual Conference of the Nigerian Society for Animal Production*, Jun 1974, (En), v. 1(1), p. 92 (Summary only).
□ Summarizes a study on the effect of feeding maize silage, supplemented with urea and a plant protein in addition to normal grazing, on the performance and weight gain of N'Dama steers during the dry season.
Lib. code: L30-08983
- 0284 Evaluation of a urea-molasses supplement for grazing cattle.** Nolan, J.V.; Ball, F.M.; Leng, R.A.; Norton, B.W.; Murray, R.M. *Proceedings of the Australian Society of Animal Production*, Feb 1974, (En), v. 10, pp. 91-94, ISSN 0067-2149, Summary (En).
□ Presents trial results showing effect of a urea-molasses supplement on feed intake and liveweight changes of cattle grazing native pasture in the Northern Tableland region of New South Wales, Australia.
Lib. code: L30-16171
- 0285 Feeding urea to cattle.** Kreft, H.W. *Proceedings of the South African Society of Animal Production*, 1963, (En), v. 2, pp. 43-44, Summary (Af).
□ Examines the effects of giving licks consisting of degelatinised bone meal and salt with or without urea to cattle grazed on autumn veld; with particular reference to feed intake and liveweight changes.
Lib. code: P-L30-51364
- 0286 Feeding urea to cattle on winter veld. New system successful.** Pieterse, P.J.S. *Farming in South Africa*, Aug 1961, (En), pp. 15-17.
□ Presents results of two observation trials conducted on cattle to determine whether urea had any value when mixed with bone meal and salt; with data on weight changes and feed intake.
Lib. code: P-L30-51408
- 0287 Handy urea-molasses lick feeder.** Mutch, C.B. *Queensland Agricultural Journal (Australia)*, 1966, (En), pp. 630-632.
□ Describes a method developed for the feeding of urea to cattle, which consists of an ordinary, heavy-duty 44-gal. fuel drum mounted on an axle fitted centrally to either end of the drum and suspended in a metal or concrete trough. Explains advantages of the method in avoiding toxicities arising from too much or too rapid consumption of urea by cattle.
Lib. code: P-L30-51403
- 0288 Hay or restricted grazing as roughage sources for Holstein steers fed molasses/urea.** Ugarte, J.; Preston, T.R. *Cuban Journal of Agricultural Science*, 1974, (En), v. 8, pp. 151-155, Summary (En).
- Describes findings of a trial carried out to compare two methods of supplying the roughage component of a molasses-based diet, by assigning Holstein steers to treatments consisting of 1 kg hay and grazing for 2 hours daily, and observing effects of the treatments on growth, feed conversion efficiency, and carcass composition.
Lib. code: P-L30-51396
- 0289 Level of urea for grazing yearling cattle during the dry season in tropical Queensland.** Winks, L.; Laing, A.R.; Stokoe, J. *Proceedings of the Australian Society of Animal Production*, Feb 1972, (En), v. 9, pp. 258-261, ISSN 0067-2149.
□ Compares three levels of urea given in a molasses supplement to grazing yearling beef cattle during the dry season with respect to liveweight changes.
Lib. code: L30-16235
- 0290 Liquid supplements for cattle grazing native range.** Pearson, H.A. *Proceedings of the Louisiana State University XIV Livestock Producers' Day*, 1971, (En), pp. 33-40.
□ Presents preliminary findings of a trial carried out to determine if liquid supplements containing molasses and urea fed free-choice would adequately support a yearling cow-calf operation on southern pine ranges in central Louisiana, USA; with particular reference to feed intake, cattle performance as well as cost and returns.
Lib. code: P-G430-51531
- 0291 Melaço e melaço + 5% de uréia na criação de novilhos mestiços Holandês x Zebu em pastagem natural de capim-Gordura (*Melinis minutiflora*, Pal. Beauv.).** (Molasses versus molasses plus 5% urea for raising Holstein x Zebu steers in *Melinis minutiflora*, Pal. Beauv. pasture). Villaca, H.A.; Moreira, H.A.; Viana, J. A. C. de; Carneiro, G.G.; Souza, R.M.; Assis, A.G. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1976, (Pt), v. 28(1), pp. 153-167, Summary (En Pt).
□ Reports on a trial conducted to study the effect of energy (molasses) and energy plus protein (molasses plus 5% urea) on the weight gains of Holstein x Zebu steers kept in a molasses grass pasture during 140 days of the second half of the rainy season, with particular reference to weight gains.
Lib. code: P-L30-51369
- 0292 Mixing molasses licks...an easy way.** Pollard, D. *Queensland Agricultural Journal (Australia)*, 1970, (En), v. 10, 3p.
□ Describes a method of mixing molasses with water to prepare licks for cattle, illustrating the layout of the mixing equipment and procedures involved in the actual mixing.
Lib. code: P-L32-51375
- 0293 Molasses and molasses/urea as supplements for F₁ Holstein x Brahman bulls grazing highly fertilized Pangola (*Digitaria decumbens*) pasture.** Porres, G. *Revista Cubana de Ciencia Agricola*, 1971, (En), v. 5(13), pp. 13-20, Summary (F-).
□ Describes experiment carried out to examine the effect of high levels of nitrogenous fertilizer on the nutritive value of Pangola pasture in terms of liveweight gain produced in fattening cattle. Includes comparisons of the effect of supplementation with molasses alone, or mixed with urea, on daily gain of cattle on fertilized Pangola pasture supplemented with molasses/urea and concentrates.
Lib. code: P- -51412
- 0294 Molasses and urea as a supplement to low-quality pasture hay for cattle.** Beames, R.M. *Queensland Journal of Agricultural Science (Australia)*, 1959, (En), v. 16, pp. 223-232.
□ Describes results of a study conducted with heifers to examine the effects of feeding either hay alone, hay plus molasses, or hay plus molasses and urea for a period of 16 weeks on body weight changes, feed intake and digestibility.
Lib. code: P-L30-51404

- 0295 Molasses-urea supplements for beef weaners.** Condon, M.J.; Smith, P.C.; Winks, L. *Queensland Agricultural Journal (Australia)*, 1970, (En), 6p.
 □ Presents results of a trial carried out in Australia to compare the performance of weaners grazing native pasture with that of weaners grazing similar pasture and receiving a supplement of either molasses or molasses and urea; with particular reference to feed intake and liveweight of animals and the costs of feeding.
 Lib. code: P-L30-51407
- 0296 Non-protein nitrogen supplements for grazing animals in Australia.** Alexander, G.I. s.l., s.n.; 1972, (En), 4p.
 □ Examines different methods of feeding urea and molasses supplements to cattle, particularly by pasture spraying, as a liquid in troughs, as a block lick, inclusion in drinking water and with cereal grains in dry licks; summarizes results of trials on the response of cattle and sheep to supplementary NPN feeding.
 Lib. code: P-L30-51393
- 0297 Observations on a biuret-containing lick as a nitrogen supplement to low-quality roughage.** Mackenzie, H.I.; Altona, R.E. *Journal of the South African Veterinary Medical Association*, 1964, (En), v. 35(3), pp. 309-312, Summary (En).
 □ Investigates the response of cattle and sheep to feeding a lick containing 3 parts crude biuret, 2 parts bone meal and 1 part salt; with particular reference to liveweight changes, voluntary intake of lick and growth rate.
 Lib. code: P-L30-51394
- 0298 Oorwintoring vlistbeeste in hoefeld.** (Winter management of beef cattle in the high veld). Verbeek, W.A.; Chevallier, M.K.S.L. von la. Landboukollege Potchefstroom (South Africa), 1958, (Af), 12p.
 □ Presents preliminary results on the supplementation of store cattle with molasses and urea in the high-veld area of South Africa.
 Lib. code: P-L30-51508
- 0299 Preliminary studies on supplemental feeding of cattle reared under essentially "local" conditions in northern Ghana.** Wharton, F.D.; Shepard, J.M.; Buamah, T.F. *Ghana Journal of Science*, 1967, (En), v. 7(1,2), pp. 30-36, Summary (En).
 □ Describes trial results showing weight gains of N'Dama, Fulani and Sanga heifers fed urea, protein, mineral and vitamin in salt mixtures during the dry season.
 Lib. code: L30-05562
- 0300 Provision of urea to cattle in a salt/urea/molasses block.** Beames, R.M. *Queensland Journal of Agricultural Science (Australia)*, 1963, (En), v. 20, pp. 213-230.
 □ Presents findings of a study conducted to examine the effects of feeding either hay alone, hay plus molasses, or hay with free access to a salt/urea/molasses block, on the performance of cattle; with particular reference to effects on hay and block intake, body weight, blood biochemistry and animal behaviour.
 Lib. code: P-L30-51402
- 0301 Response of beef cattle to infused supplements of urea and of urea-molasses when offered a low-quality grass hay.** Hennessy, D.W.; Nolan, J.V.; Norton, B.W.; Ball, F.M.; Leng, R.A. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1978, (En), v. 18, pp. 477-482.
 □ Presents results of a trial carried out on eight rumen fistulated Hereford steers offered a low-quality carpet grass hay, in order to evaluate effects of direct intraruminal infusion of urea and urea-molasses supplements on hay intake, rumen fermentation and liveweight changes.
 Lib. code: P-L30-51414
- 0302 Some observations on behaviour of beef cattle at urea-molasses lick feeders.** Ernst, A.J. *Journal of the Australian Institute of Agricultural Science*, 1973, (En), pp. 266-268.
 □ Reports observations carried out on beef cattle supplemented with urea and molasses via roller licks to determine when animals visited the feeder, and the length and frequency of visits; also examines effects of dilution with water.
 Lib. code: P-L30-51383
- 0303 Success achieved with cheap winter supplementary feeding.** Louwrens, J.H. s.l., s.n.; s.d., (En), 2p.
 □ Describes a liquid stock lick based on urea and molasses and used as a source of nitrogen supplements for cattle, outlining ways of preparing the lick and suitable feeding techniques.
 Lib. code: P-L30-51368
- 0304 Supplement the deficiencies in low-grade roughage.** Pieterse, P.J.S. *Farming in South Africa*, 1964, (En), v. 10(4), pp. 37-40.
 □ Discusses the need to supplement cattle grazing poor-quality roughages with nitrogen, outlining some of the more economical, practical and safe methods of providing nitrogen, and the precautionary measures required.
 Lib. code: P-L30-51379
- 0305 Supplement veld pasturage in winter.** Lombard, P.E.; Greeff, H.M. *Farming in South Africa*, 1964, (En), pp. 54-55.
 □ Discusses the possibility of supplementing low-quality veld pasturage by means of protein and energy licks, outlining various sources of proteins, response of cattle to licks on sweet and sour veld, and ways of applying licks.
 Lib. code: P-L30-51410
- 0306 Supplementary feeding of ruminants during the winter months in South Africa.** Pieterse, P.J.S. *Department of Agricultural Technical Services Communication (South Africa)*, s.d., (En), no. 48, 12p. Summary (Af En).
 □ Discusses nutritional deficiencies of winter veld in South Africa, reviewing experiments on supplementation of poor-quality roughage for cattle and sheep under confinement feeding and on winter veld; provision of urea to animals in normal salt and phosphate licks; and the use of biuret in animal nutrition.
 Lib. code: P-L30-51365
- 0307 The effect of level of urea on the utilization of energy in mature veld hay by steers.** Lesch, S.F.; Schalkwyk, A.P. van. *Proceedings of the South African Society of Animal Production*, 1967, (En), pp. 96-98.
 □ Reports results of a study aimed at determining the effect of different levels of supplementary urea on the utilization of the energy in mature veld hay by steers; with data on daily nutrient intake, digestibility and energy loss in faeces and urine.
 Lib. code: P-L30-51411
- 0308 The effect of urea on the nitrogen metabolism of steers fed on poor-quality veld hay.** Pieterse, P.J.S.; Lesch, S.F. *Proceedings of the South African Society of Animal Production*, 1963, (En), v. 2, pp. 49-52.
 □ Reports on the effects of supplementing steers fed on poor-quality hay with urea in an ordinary salt and phosphate lick with and without additional carbohydrate; with particular reference to effects on nitrogen metabolism and urinary nitrogen excretion.
 Lib. code: P-L30-51385
- 0309 The effect of urea on the production of volatile fatty acids in the rumen of steers fed on poor-quality veld hay.** Toit, S.P. du; Lesch, S.F.; Pieterse, P.J.S. *Proceedings of the South African Society of Animal Production*, 1963, (En), v. 15, pp. 52-54.

- Reports a study initiated to determine whether urea supplementation affects the relative proportions of volatile fatty acids in the rumen of animals on a ration of hay made from winter veld grazing.
Lib. code: P-L30-51413
- 0310 The effect of urea-salt-molasses supplements on the winter performance of beef cattle on improved pastures at Samford, southeastern Queensland.** Jones, R.J. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1966, (En), v. 6, pp. 145-149, Summary (En).
□ Describes findings of a trial conducted in Australia to assess the value of nitrogen-fertilized subtropical grasses for beef production, by grazing cattle on improved pastures of *Setaria sphacelata* and *Chloris gayana* for 3 months, giving them supplements of urea-salt-molasses blocks, and observing live-weights and feed intake; compares results with those for un-supplemented animals.
Lib. code: P-L30-51382
- 0311 The effects of (a) soluble phosphato and (b) cobalt on the utilization of urea nitrogen by cattle.** Barrie, N.; Clark, R. *Journal of the South African Veterinary Medical Association*, 1959, (En), v. 30(4), pp. 457-458.
□ Examines the effects of substituting soluble phosphate for bone flour, and adding cobalt, when feeding a urea and molasses supplement to cattle; with particular reference to effects on liveweight changes.
Lib. code: P-L30-51363
- 0312 The feeding of urea supplements to sheep and cattle: The results of penned feeding and grazing experiments.** Coombe, J.B.; Tribe, D.E. *Journal of Agricultural Science (UK)*, Aug 1962, (En), v. 59(pt. 1), pp. 125-141, ISSN 0021-8596, Summary (En).
□ Presents results of pen-feeding and grazing experiments showing the performance of sheep and cattle fed diets of low-quality roughage supplemented with urea and molasses or urea and starch; with reference to feed intake, liveweight change, wool growth, survival and maintenance. Includes observations on the effect of spraying with molasses and urea on the palatability of herbage.
Lib. code: L30-26143
- 0313 The use of molasses to increase the utilization of rank, dry forage and molasses-urea as a supplement for weaner calves.** Wagnon, K.A.; Goss, H. *Journal of Range Management (USA)*, 1961, (En), v. 14(1), pp. 5-9.
□ Presents results of a study carried out in California, USA, to examine the effects of different dietary supplements, particularly molasses-urea mixtures, cottonseed pellets and cottonseed meal-salt, on growth and feed intake of weaner heifers.
Lib. code: P-L30-51405
- 0314 The use of non-protein nutrients with cattle grazing improved pastures in the Australian dry tropics.** Playne, M.J.; Seibert, B.D.; Edye, L.A. *Proceedings of the III World Conference on Animal Production*, 1975, (En), pp. 575-580.
□ Reports observations on the ability of native pastures, improved with the legume *Stylosanthes humilis* and fertilized with superphosphate, to meet requirements for nitrogen, phosphorus and sulphur in the dry tropics of Australia. Discusses ways of rectifying deficiencies by the use of mineral supplements which promote feed intake; and examines the effects of phosphoric acid, urea and sodium sulphate on the conception rate of beef cows.
Lib. code: P-L30-06390
- 0315 The use of NPM supplements for grazing cattle and sheep in Australia.** Alexander, G.I. In: *Report of an ad hoc consultation on the value of non-protein nitrogen for ruminants consuming poor herbage*; FAO, Rome (Italy), 1971, (En), pp. 81-91; Ad hoc Consultation on the Value of Non-protein Nitrogen for Ruminants Consuming Poor Herbage, Kampala (Uganda), 29 Jun 1971.
□ Presents experimental studies with grazing cattle and sheep fed urea and other NPN compounds; includes data on live-weight changes.
Lib. code: L30-02380
- 0316 Urea and molasses as a supplement in the sweet bushveld.** Skinner, J.D. *Proceedings of the South African Society of Animal Production*, 1964, (En), pp. 125-128, Summary (Af En).
□ Describes results of experiments carried out in the arid sweet bushveld of South Africa to examine the response of cows to urea supplementation, with particular reference to weight gain, carcass weight and dressing percentage.
Lib. code: P-L30-51367
- 0317 Urea and molasses as a winter supplement for weaner steers grazing improved pasture in central Queensland.** Graham, T.W.G.; Wood, S.J.; Knight, J.L.; Blight, G.W. *Tropical Grasslands (Australia)*, 1983, (En), v. 17(1), pp. 11-20, Summary (En).
□ Presents findings of two experiments made in separate years to determine the effect of urea-molasses supplements from roller drum lickets on Hereford weaner steers grazing Buffel grass pastures during winter and spring in Australia; with particular reference to liveweight changes and growth rates.
Lib. code: P-L30-51377
- 0318 Urea as a source of protein for cattle.** Vyver, J. van der. *Farming in South Africa*, 1954, (En), p. 286.
□ Discusses the use of urea in cattle rations given either to correct protein deficiencies or to stimulate the growth of bacteria in the rumen; outlines ways of making pasture more palatable and nutritious by spraying it with a solution of urea, molasses and water, and describes precautions required to avoid toxicities.
Lib. code: P-L30-51401
- 0319 Urea as nutrient for ruminants: Injudicious use dangerous.** Chevallier, M.K.S.L. von la. *Farming in South Africa*, 1959, (En), pp. 44-45.
□ Discusses precautions necessary when feeding urea to ruminants in order to avoid problems of poisoning, referring to the use of urea fertilizer in animal nutrition, spraying poor-quality hay or straw with urea, molasses and water to improve nutritive value and palatability, as well as to methods of feeding urea and molasses in cribs and troughs, and as concentrates.
Lib. code: P-L30-51373
- 0320 Urea in supplements for growing young cattle on veld grazing in the dry season.** Grant, J.L. *South African Journal of Animal Science*, 1979, (En), v. 9(1), pp. 33-39, Summary (Af En).
□ Examines changes in body and carcass mass of steers fed supplements containing different proportions of urea.
Lib. code: L30-19501
- 0321 Urea in winter rations of young beef cattle.** Heydenrych, H.J. *Farming in South Africa*, 1962, (En), pp. 33-37.
□ Describes ways of preparing an adequate supply of urea and molasses lick for 100 head of cattle for 3 days, indicating required amounts of each ingredient, and results obtained from winter feeding of such licks to cattle; includes precautionary steps necessary when using urea and measures to apply in case poisoning occurs.
Lib. code: P-L32-51381
- 0322 Urea or biuret supplements to low-protein grazing in Africa.** Topps, J.H. *World Animal Review (FAO)*, 1972, (En), v. 3, pp. 14-18, Summary (En).

□ Discusses the need for supplementary feeding of grazing animals in Africa, outlining the characteristics of the grazing areas, observed deficiency in protein and energy; and summarizes results of trials on supplementary feeding of biuret and urea to cattle and sheep, with particular reference to effects of supplementation on reproductive performance, feed intake and body weights.
Lib. code: P-L30-51397

0323 Urea proved effective in mineral licks. Pieterse, P.J.S.; Kock, J.P. de. *Farming in South Africa*, 1962, (En), pp. 84-87.

□ Discusses the advantages of the inclusion of urea in mineral licks provided to cattle, presenting results of an experiment carried out to compare the weight gain and feed intake of cattle receiving mineral licks with or without urea. Describes precautionary measures required to prevent poisoning.
Lib. code: P-L30-51400

0324 Urea supplements for grazing beef weaners. Winks, L.; Alexander, G.I.; Lynch, D. *Proceedings of the Australian Society of Animal Production*, Aug 1970, (En), v. 8, pp. 34-38, ISSN 0067-2149, Summary (En).

□ Compares the growth rate of grazing beef cattle supplemented with urea-molasses and molasses alone during the drier months of the year when pasture quality was low.
Lib. code: L30-16210

0325 Urea, phosphorus and molasses supplements for grazing beef weaners. Winks, L.;

Laing, A.R. *Proceedings of the Australian Society of Animal Production*, Feb 1972, (En), v. 9, pp. 253-258, ISSN 0067-2149.

□ Compares supplements of urea, molasses and phosphoric acid for grazing weaner cattle with respect to liveweight changes.
Lib. code: L30-16234

0326 Urea-molasses makes the difference. Weller, M.C. *Queensland Agricultural Journal (Australia)*, 1969, (En), pp. 2-3.

□ Discusses the advantages of providing cattle with a supplementary licking block consisting of urea as a source of protein needed to help digest rough feed and increase appetite, of molasses to entice cattle to take the lick, and of water to regulate intake.
Lib. code: P-L30-51399

0327 Use of molasses containing urea as a supplement to Pangola grass pastures in northeast Mexico. Butterworth, M.H.; Aguirre, E.L.; Aragon, A.C.; Huss, D.L. *Journal of Range Management (USA)*, Jul 1973, (En), v. 26(4), pp. 269-271, ISSN 0022-409X, Summary (En).

□ Describes an experiment carried out in northeast Mexico during winter and spring when scarcity of forage prevailed, using molasses and different levels of urea as supplements to Pangola grass pastures fed to Zebu and Criollo bulls.
Lib. code: L30-27568

0328 Use of urea and molasses in winter feeding. Clark, R. *Farming in South Africa*, 1952, (En), pp. 453-454.

□ Discusses the supplementation of protein deficiency in veld hay by feeding urea and molasses to cattle or by spraying the hay; describes the use of mealie cobs as cattle feed.
Lib. code: P-L30-51378

0329 Utilización de melaza y urea en el mantenimiento de ganado bovino durante la estación seca en Panamá. (Utilization of molasses and urea in maintaining cattle weight gains during the dry season in Panama). Roux, H.; Rodríguez, H.H. *Turrialba (Costa Rica)*, 1971, (Es), v. 21(2), pp. 137-144, Summary (En).

□ Presents results of a study carried out in Panama to examine the response of steers to feed treatments consisting of sugarcane molasses alone or in combination with either urea or an intake restricting device, with particular reference to response in terms of weight gain and dry matter intake.
Lib. code: P-L30-51358

0330 Utilization of the energy in mature veld hay by steers: Effect of urea supplementation. Lesch, S.F.; Pieterse, P.J.S.; Oosthuizen, F.J. *Proceedings of the South African Society of Animal Production*, 1963, (En), pp. 45-46, Summary (Af En).

□ Reports results of an investigation designed to determine the effect of urea as part of a mineral lick, with and without the addition of an easily digestible carbohydrate, on the intake and digestibility of energy and feed nutrients of poor-quality hay.
Lib. code: P-L30-51388

0331 Vleiland development in west Kenya. II. Pasture, fertilizer and grazing trials. Gosnell, J.M.;

Weiss, E.A. *East African Agricultural and Forestry Journal (Kenya)*, Jan 1965, (En), v. 30(3), pp. 169-176, ISSN 0012-8325, Summary (En).

□ Examines the green matter and protein yield responses of *Pennisetum purpureum* in vleiland to phosphate and nitrogen, especially superphosphate, ammonium sulphate and gypsum. Compares Napier grass, *Chloris gayana*, *Panicum coloratum* and *Setaria sphacelata* with respect to liveweight gains of steers.
Lib. code: P25-14943

ENERGY AND PROTEIN SUPPLEMENTATION OF BREEDING STOCK

0332 Breeding performance of Hereford cows grazing tropical pastures at Beerwah, south-east Queensland. Evans, T.R.; Biggs, J. *Tropical Grasslands (Australia)*, 1979, (En), v. 13(3), pp. 129-134, Summary (En).

□ Reports on a 5-year study conducted at Beerwah, southeast Queensland, Australia, on the breeding performance and calf growth rates of Hereford herds grazing either Pangola grass pastures fertilized with nitrogen or mixed grass-legume pastures at 2.5 breeders/ha on the N system and 1.0 breeders/ha on the grass-legume system; includes data comparing breeder or calf performance, calving rates, weaning percentages and weights, as well as weight gains on the two systems.
Lib. code: P-F00-50210

0333 Comparison of supplementation methods for cow herds grazing Pine-Bluestem range.

Duvall, V.L. *Journal of Range Management (USA)*, 1969, (En), v. 22(3), pp. 182-187.

□ Describes responses of cattle to two methods of supplementary feeding of cottonseed cake, viz. feed on alternate days, and controlling of intake by adulteration with salt, with particular reference to consumption of supplements, weight and condition of animals, calf production, and feed distribution costs.
Lib. code: P-L30-51511

0334 Concentrate supplementation according to the lactation stage and calving trimester of cows grazing Pangola grass (*Digitaria decumbens* Stent). Martinez, R.O.; Pereira, M. *Cuban Journal of Agricultural Science*, 1979, (En), v. 13, pp. 247-253.

□ Describes findings of a trial designed to study the response of Holstein cows at different stages of lactation to supplementation with concentrates, with particular reference to milk yield and liveweight gains.
Lib. code: P-L30-51366

0335 Economics of two beef production systems: A comparison over 23 years. Steenkamp, J.D.G.; Horst, C. van der. *Rhodesia Agricultural Journal*, s.d., (En), v. 72(1), pp. 15-19, ISSN 0035-4686.

- Compares the profitability of a system of beef production in which cattle are supplementary fed in winter at maintenance level with one in which production is entirely off the veld; with data comparing carcass mass, production costs and returns from the two groups.
Lib. code: MIC-L30-22795
- 0336 Effect of pasture type and supplementary feeding on the milk yield of Shorthorn and Brahman cross cows and the growth rate of their progeny in the dry tropics of north Queensland.** Holroyd, R.G.; O'Rourke, P.K.; Allan, P.J. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1979, (En), v. 19, pp. 389-394, Summary (En).
□ Discusses results of a trial carried out in the tropics of Australia on the effects of feeding treatments consisting of grazing native pasture or native pasture oversown with Townsville stylo and fertilized with superphosphate, with animals in both groups receiving supplements of molasses, urea and phosphorus at various times of the year; includes data on milk yields of cows and birth weight and growth rate of their progeny up to weaning.
Lib. code: p-L30-51510
- 0337 Effect of pasture type and supplementary feeding on the reproductive performance of cattle in the dry tropics of north Queensland.** Holroyd, R.G.; Allan, P.J.; O'Rourke, P.K. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1977, (En), v. 17, pp. 197-206.
□ Presents results of a 4-year study carried out in Australia on the reproductive performance of cows grazing either native pasture or native pasture sown with Townsville stylo and fertilized with superphosphate, along with supplemental feeding of molasses, urea and phosphorus; includes data on conception rate, calving date, body condition, survival feeding, faecal composition, pasture yield and chemical composition.
Lib. code: P-L30-07402
- 0338 Effect of three levels of grazing nutrition upon calving and subsequent performance in Hereford heifers.** Hodge, P.B.; Beasley, R.C.; Stokoe, J. *Proceedings of the Australian Society of Animal Production*, Feb 1976, (En), v. 11, pp. 245-248, ISSN 0067-2149.
□ Presents precalving, calving and postcalving data, particularly on dam and calf liveweight changes, for Hereford heifers grazing either poor-quality *Chloris gayana*, supplemented with cottonseed meal, or *Sorghum vulgare* during the final 12 weeks of pregnancy.
Lib. code: L30-13281
- 0339 Effects of dry-season supplements of protein and phosphorus to pregnant cows on the incidence of first postpartum oestrus.** Little, D.A. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1975, (En), v. 15, pp. 25-31.
□ Presents results of a trial conducted in Australia to determine the response of pregnant multiparous Brahman cross cows grazing native pasture to treatments consisting of either a daily supplement of 180 g crude protein (as peanut meal) plus 10 g phosphorus (P), or 10 g P, or neither protein nor P; with particular reference to the length of the interval from calving to first postpartum oestrus, weight gains and grazing selectivity.
Lib. code: P-L30-51797
- 0340 Fertility in the Afrikaner cow. 1. The influence of concentrate supplementation during the postpartum on ovarian activity and conception.** Wells, P.L.; Hopley, J.D.H.; Holness, D.H. *Zimbabwe Journal of Agricultural Research*, 1981, (En), v. 19(1), pp. 13-21, ISSN 0035-4813.
□ Investigates the interaction of supplementation and ovarian activity in the postpartum Afrikaner cow, with data on the effects of supplementary feeding on ovulation rate, interval from calving to first ovulation, conception rate and interval from calving to conception; distinguishes four classes of postpartum ovarian activity on the basis of the cow's progesterone profiles.
Lib. code: L30-27276
- 0341 Genetic and environmental influences on performance of supplementary fed and not fed Afrikaner cattle.** Steenkamp, J.D.G.; Horst, C. van der. *Rhodesia Agricultural Journal*, 1975, (En), v. 72(1), pp. 9-13, ISSN 0035-4686.
□ Studies genotype x environment interaction in grade Afrikaner beef cattle fed or not fed protein-rich supplements in winter, comparing calving rate, calf survival, response of additive traits to feeding and selection, as well as differences in magnitude of genetic parameters.
Lib. code: MIC-L10-22794
- 0342 High calving rate with limited feed.** Bembridge, T.J. *Rhodesia Agricultural Journal*, 1975, (En), v. 61(Bull. 2270), pp. 112-113, ISSN 0035-4686.
□ Presents data on improvements in calving percentage by supplementing feed with protein containing 5% urea over a 3-year period and indicates crude protein percentages and dry matter yields of the various species at different seasons of the year on a ranch in Zimbabwe.
Lib. code: L30-22857
- 0343 Progress in beef cow productivity.** Ward, H.K.; Tiffin, J. de W. *Rhodesia Agricultural Journal*, s.d., (En), v. 72(1), pp. 1-7, ISSN 0035-4686.
□ Reviews results of research conducted in Rhodesia, particularly on the fertility, weaner production and mating age of veld-grazed cows offered protein supplement in winter, and aspects of management and selection of breeding cows. Outlines plans for new work in the field of beef cow productivity.
Lib. code: MIC-L00-22793
- 0344 Reconception in grade and pedigree Afrikaner cows of different sizes. Postpartum factors influencing reconception.** Steenkamp, J.D.G.; Horst, C. van der; Andrew, M.J.A. *South African Journal of Animal Science*, 1975, (En), v. 5, pp. 103-110, Summary (Af En).
□ Studies the influences of postpartum body weight, weight gain, and month of calving on reconception among Afrikaner cows fed and not fed protein-rich supplements.
Lib. code: L10-06797
- 0345 Reproduction in Queensland beef cattle.** Barr, N.C.E. Queensland Dept. of Primary Industries (Australia). Beef Cattle Husbandry Branch. 1971, (En), 37p., Summary (En).
□ Describes conception patterns and pregnancy rates in beef cattle herds in different areas of Queensland, Australia, and discusses the effect of age, lactation status, condition, breed, disease, location and management on these characteristics. Presents results of various trials relating to supplementary feeding for improved reproduction.
Lib. code: L30-51533
- 0346 Supplementation of beef cows grazing on veld.** Ward, H.K. *Rhodesian Journal of Agricultural Research*, 1968, (En), pp. 93-101, ISSN 0035-4813.
□ Presents trial results showing the effect of vitamin A, bone meal or groundnut cake supplementation on the productivity of Mas'ama cows grazing on veld.
Lib. code: L30-S-031
- 0347 Supplementation to increase fertility of beef cows in a drought.** Barr, N.C.E.; Burns, M.A. *Proceedings of the Australian Society of Animal Production*, Feb 1972, (En), v. 9, pp. 159-164, ISSN 0067-2149.

□ Studies the effect of supplementing Hereford and Brahman cows with either cottonseed meal or urea and molasses during a drought period on weight gain, ovarian activity and pregnancy rate.

Lib. code: L30-16233

0348 Survival feeding of Africander cows. Elliott, R.C.; Mills, W.R.; Reed, W.D.C. *Rhodesia, Zambia and Malawi Journal of Agricultural Research*, Jul 1966, (En), v. 4(2), pp. 69-75.

□ Presents results of a preliminary study of minimal food requirements of Africander cows for survival: discusses animal health and animal behaviour, body weight, feed intake of cattle fed diets composed of roughages, concentrate foods and mineral-rich ingredients, and digestibility of feed rations.

Lib. code: L30-S-031

0349 The effect of pre-calving nutrition on the productivity of beef breeding cows in Swaziland.

Pleasants, A.B.; Chinidza, M.M. *Zimbabwe Journal of Agricultural Research*, 1981, (En), v. 19(1), pp. 7-12, ISSN 0035-4813.

□ Investigates the benefits of supplementing beef breeding cows with a high-energy diet shortly before calving, following a period of body-mass loss over the winter dry season; mentions effects of supplementation on calf birth mass, calf weaning mass, length of the postpartum anoestrus interval, as well as on the amount of foetal tissue and fluids at calving.

Lib. code: L30-27275

0350 The effect of supplementation on the growth of dairy heifers grazed on medium-quality pasture under East African conditions.

Kayongo-Male, H.; Karue, C.N.; Mutiga, E.R. *East African Agricultural and Forestry Journal (Kenya)*, 1977, (En), v. 42(4), pp. 435-440, ISSN 0012-8325.

□ Presents trial results showing effects of different rates of supplementation on weight gains of Friesian and Ayrshire heifers grazed on medium-quality pasture.

Lib. code: L30-26559

0351 The effects of climate and nutrient supplementation on the fertility of heifers in north Queensland.

Siebert, B.D.; Playne, M.J.; Edey, L.A. *Proceedings of the Australian Society of Animal Production*, 1976, (En), v. 2, pp. 249-253.

□ Describes trials designed to examine the effects of seasons and supplementation with combinations of urea, molasses, maize, protein concentrates and cottonseed meal on the live-weight and pregnancy rates of breeding heifers on unimproved pasture in Australia.

Lib. code: P-L30-51509

0352 The influence of different planes of nutrition during winter on the conception rate of heifers.

Meaker, H.J. *South African Journal of Animal Science*, 1976, (En), v. 6(1), pp. 21-23.

□ Describes trials carried out to determine optimal nutritional levels for beef heifers from weaning to mating, with special reference to weight gains, conception rate and feed intake.

Lib. code: L30-13238

0353 The influence of winter nutrition depressions on the growth, reproduction and production of cattle.

Joubert, M. *Journal of Agricultural Science (UK)*, 1954, (En), v. 44(pt. 1), 66p., Summary (En).

□ Presents results of a study carried out in South Africa to examine the influence of seasonal fluctuations in the nutritive value of natural pastures in the Bankenveld region of Transvaal on the growth, production and reproduction of cattle, comparing the performance of cattle receiving supplements with that of those without supplements. Includes data on nutritional requirements, weight, body measurements, puberty, growth during pregnancy, maternal effects, milk and butterfat yields of dairy breeds and calf growth of beef breeds.

Lib. code: P-L30-51498

0354 The relationship between reproduction and undernutrition in beef cattle. Topps, J.H.

World Review of Animal Production (Italy), Jun 1977, (En), v. 13(2), pp. 43-49.

□ Studies the effect of undernutrition on fertility of heifers, calf birth weight, reconception and pregnancy of cows, with recommendations for the improvement of fertility.

Lib. code: L30-03122

0355 Wintering levels and reproduction in Afrikaner heifers. Penzhorn, E.J. *Agroanimalia (South Africa)*, 1975, (En), v. 7(2), pp. 49-59, Summary (Af En Fr).

□ Presents findings of a study conducted to determine most suitable wintering levels for Afrikaner cattle in order to achieve the required stage of development at breeding time; with reference to liveweight, feed intake, feed conversion efficiency, body measurements, sexual activity, reproduction, milk yield and calf growth.

Lib. code: L30-07899

LEGUME-BASED PASTURES

0356 23. The ecology of Siratro-based pastures.

Jones, R.J.; Jones, R.M. In: *Plant relation in pastures*; Wilson, J.R. (ed.). 1978, (En), 15p., Summary (En).

□ Reviews the reaction of Siratro to a range of soils, climatic and agronomic factors as well as grazing; discusses reasons for the widespread success of the legume, indicating some of its weaknesses along with suggestions for their alleviation through management or breeding.

Lib. code: P-F40-18166

0357 8. Management and use of pastures and forage crops. (A) Beef production from pastures and forages. Management systems on Spear grass country.

Addison, K.B. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 789-793.

□ Presents results of trials conducted at Brian Pasture Research Station, Queensland, Australia, to test the possibility of using improved pasture during December/May when it is more productive than native pasture, and allowing native pasture to accumulate as a source of low-quality roughage for June/November, suitably supplementing it to rectify protein shortages; includes data on body weights of cattle grazing during the different seasons.

Lib. code: P-F00-50188

0358 A comparison of the productivity and nutritive value of three mixture of tropical grasses and legumes rotationally grazed by N'Dama cattle.

Okorie, I.I. s.l., s.n.: s.d., (En), 12p.

□ Compares the productivity and nutritive value of three mixtures of tropical pasture grasses and legumes, viz. *Cynodon plectostachyus*, *Digitaria decumbens* and *Centrosema pubescens*, rotationally grazed by N'Dama steers; with measurements of herbage yield, palatability, chemical composition, digestibility and comparison of liveweight gains of sheep.

Lib. code: MIC-L36-20514

0359 A note on the performance of calves fed cut or grazed *Leucaena leucocephala* (LAM) de WIT.

Baez, L.; Pound, B.; Pena, G. *Tropical Animal Production (Mexico)*, 1983, (En), v. 8(1), pp. 56-58, Summary (En).

□ Presents results of trials wherein two similar groups of eight calves each were given fresh-cut, chopped *Leucaena* forage at 3% of liveweight together with molasses/urea ad libitum, residual milk left after hand milking and 2 hours grazing of a mixture of *Brachiaria mutica* and Pangola grass; with data on liveweight gains.

Lib. code: L30-29651

0360 A study of beef cattle production from *Digitaria decumbens* and *Cynodon niemtuensis* var. *robustus* with and without *Centrosema*.

Antwi, M.K. *Ghana Journal of Agricultural Science*, Aug 1977, (En), v. 10(pt. 2), pp. 99-102.

- Describes results of a grazing trial conducted at Pokoase in Ghana to assess potential beef production from Pangola grass and Star grass in pure stands and in admixture with *Centrosema*; with data on total dry matter production, crude fibre and crude protein contents of herbage, and liveweight response of animals.
Lib. code: L30-27158
- 0361 A study of three important pasture mixtures in the Queensland subtropics. Progress report, 1955-1958.** Young, N.O.; Fox, N.F.; Burns, M.A. *Queensland Journal of Agricultural Science (Australia)*, 1959, (En), v. 16, pp. 199-215.
□ Presents results of the first 4 years of a grazing trial undertaken in Queensland, Australia, on three pasture mixtures, particularly Rhodes grass, Green panic and Gayndah strain Buffel grass, each sown with Hunter River lucerne and Phasey bean; compares the carrying capacity, dry matter yields, protein contents and persistence of the pastures under rotational grazing, and weight gains of beef cattle.
Lib. code: P-F00-50195
- 0362 A study of three important pasture mixtures in the Queensland subtropics. Progress report, 1958-1963.** Young, N.D.; Daly, J.J. *Queensland Journal of Agricultural Science (Australia)*, 1967, (En), v. 24, pp. 149-158.
□ Reports results of the last 5 years of a 9-year grazing trial conducted in the subtropical zones of Australia, comparing the productivity of Rhodes grass, Green panic and Gayndah Buffel grass pasture mixtures each sown with Hunter River lucerne and Phasey bean; with particular reference to recovery of the mixtures following a severe drought, carrying capacity, herbage yields, dry matter and crude protein contents, and liveweight gains of beef cattle.
Lib. code: P-F00-50194
- 0363 Animal husbandry.** Henke, L.A.; Work, S.H. In: *Hawaii Agricultural Experiment Station annual report, 1940*; Hawaii Univ., Honolulu (USA). Hawaii Agricultural Experiment Station, 1940, (En), pp. 18-21.
□ Briefly summarizes results of fattening trials undertaken with beef cattle in Hawaii, with particular reference to trials carried out to determine the value of cane molasses as a supplement for Aberdeen Angus steers on pastures of Koa Haole (*Leucaena glauca*).
Lib. code: P-L30-51271
- 0364 Animal production from a Sorghum almu. 1 pasture in southeast Queensland.** Yates, J.J.; Edey, L.A.; Davies, J.G.; Haydock, K.P. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1964, (En), v. 4, pp. 326-335, Summary (En).
□ Presents details of a grazing experiment conducted in Australia to examine the performance of cattle on three pasture combinations, viz. urea-fertilized *Sorghum almu*; *S. almu* plus lucerne only; *S. almu* plus lucerne, *Glycine javanica*, *Phaseolus atropurpureus* and *P. lathyroides*; includes data on dry matter yield and crude protein content of pastures and liveweight changes of animals.
Lib. code: P-L30-51479
- 0365 Animal production from Hyparrhenia grassland oversown with Stylosanthes gracilis.** Stobbs, T.H. *East African Agricultural and Forestry Journal (Kenya)*, Oct 1969, (En), v. 35(2), pp. 128-134, ISSN 0012-8325.
□ Compares the liveweight gains, mineral content of steer blood samples, herbage yields, botanical composition of pasture and chemical composition of herbage from *Hyparrhenia* grassland oversown with *S. gracilis*, with and without single superphosphate fertilizer.
Lib. code: F00-08737
- 0366 Animal production on sown and native pastures on brigalow land in southern Queensland during drought.** Coaldrake, J.E.; Smith, C.A.; Yates, J.J.; Edey, L.A. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1969, (En), v. 9, pp. 45-56.
□ Presents results of a trial conducted in southern Queensland, Australia, to compare liveweight gains of yearling steers on four introduced grasses (*Sorghum almu*, *Chloris gayana*, *Cenchrus ciliaris* and *Panicum maximum*) each with lucerne, with those from native pastures plus forage oats.
Lib. code: P F00-51247
- 0367 Beef cattle liveweight gains from mixed pastures of some Guinea grasses and legumes on the wet tropical coast of Queensland.** Mellor, W.; Hibberd, M.J.; Grof, B. *Queensland Journal of Agricultural and Animal Sciences (Australia)*, 1973, (En), v. 30(3), pp. 259-266, ISSN 0033-6076.
□ Presents trial results showing liveweight gain of Brahman cattle grazing four Guinea grasses, each grown with centro or with a mixture of legumes, on the wet tropical coast of Queensland, Australia.
Lib. code: L30-00343
- 0368 Beef cattle performance on pastures on heath plains in southern Queensland.** Young, J.G.; Chippendale, F. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 849-852.
□ Presents results of two experiments conducted on the low-fertility sands of the heath plains of southeast Queensland, Australia, to assess the effect of different fertilizer levels and stocking rates on the performance of yearling steers grazing Pangola grass-legume pastures.
Lib. code: P-F00-50183
- 0369 Beef cow performance from tropical pastures on semi-arid brigalow lands under intermittent drought.** Silvey, M.W.; Coaldrake, J.E.; Haydock, K.P.; Ratcliff, D.; Smith, C.A. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1978, (En), v. 18, pp. 618-628.
□ Examines the nutritive value for breeding cows of perennial pastures established in *Panicum maximum* var. *trichoglume* and *Chloris gayana* cv. Pioneer grown alone or with the legumes *Macroptilium atropurpureum*, *Glycine wightii* and *Medicago sativa* and rotationally grazed at different stocking rates; includes data on the effects of stocking rate and pasture combinations on cow liveweight, conception rate and time, and calving rates.
Lib. code: P-F00-51259
- 0370 Beef production from native pastures sown to fine-stem stylo in the Burnett region of south-eastern Queensland.** Bowen, E.J.; Rickert, K.G. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1979, (En), v. 19(97), pp. 140-149, ISSN 0045-060X.
□ Describes findings of experiments on liveweight changes of steers grazing a native *Heteropogon contortus* pasture sown with fine-stem stylo at different stocking rates; and on the effects of protection from grazing on botanical composition, and of fertilizers on productivity of pasture.
Lib. code: L30-15074
- 0371 Beef production from pastures and forage crops in a tropical monsoon climate.** Woods, L.E. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 845-849.
□ Describes findings of trials undertaken at Katherine, Northern Territory, Australia, to compare the liveweight gains of Shorthorn steers on native pastures, native pastures supplemented with *Stylosanthes humilis*, *S. humilis* dominant pastures, and forage crops of *Vigna sinensis* and *Pennisetum typhoides*.
Lib. code: P-F00-50215

- 0372 Beef production from three pastures at Grafton, N.S.W.** Cohen, R.D.H.; O'Brien, A.D. *Tropical Grasslands (Australia)*, 1974, (En), v. 8(2), pp. 71-79.
 □ Reports results of experiments undertaken in the Clarence River Valley, New South Wales, Australia, to study potential beef production at different stocking rates on natural pasture which had been unfertilized or fertilized with superphosphate and oversown with naturalized white clover or a mixture of commercially available legumes; includes data on weight gain and fertility of cows, as well as growth of calves.
 Lib. code: P-F00-3087
- 0373 Beef production from tropical legume-grass pastures in the coastal ranges of southeastern Queensland.** Bewg, W.P.; Kyneur, G.W.; Hart, I.B. *Proceedings of the Australian Society of Animal Production*, 1970, (En), v. 8, pp. 433-438.
 □ Presents results of a trial carried out in southeastern Queensland, Australia, to measure body weight gains of beef cattle on a tropical legume-grass pasture, relating weight gain to stocking rate and season.
 Lib. code: P-F00-51278
- 0374 Beef production from Uganda pastures containing *Stylosanthes gracilis* and *Centrosema pubescens*.** Stobbs, T.H. *Proceedings of the IX International Grassland Congress*, 1965, (En), pp. 939-942.
 □ Presents results of four grazing trials undertaken at Serere in Uganda to measure beef production from grass and grass-legume swards (*Stylosanthes gracilis* and *Centrosema pubescens*), with particular reference to the effects of addition of legume to pasture, different stocking rates and fertilizing with nitrogen, phosphorus and sulphur, on liveweight gains of animals and carrying capacity of pasture.
 Lib. code: P-F00-51252
- 0375 Beef production on native/stylo, and native/centro pastures.** Sinta, C.H.; Castillo, A.P.; Moog, F.A.; Javier, E.O. *Philippine Journal of Animal Industry*, 1978, (En), v. 32, pp. 25-34.
 □ Presents results of a 1-year grazing trial undertaken at the Milagros Stock Farm's Bureau of Animal Industry in Masbate, Philippines, to determine cattle liveweight gains on native, native/centro and native/Schofield stylo pastures.
 Lib. code: P-L30-51249
- 0376 Beef production potential of *Desmodium intortum* cv. Greenleaf in the coastal belt to the north of East London.** Nel, L.O.; Bosman, S.W. *Proceedings of the Grassland Society of South Africa*, 1979, (En), v. 14, pp. 109-110, Summary (Af En).
 □ Presents results of a study on the establishment of a Greenleaf *Desmodium*/Rhodes grass pasture and its beef production potential in the coastal belt of East England in South Africa, with data on potential carrying capacity, costs per hectare and expected gross margin per hectare.
 Lib. code: P-F00-51234
- 0377 Botanical and chemical composition of a Townsville stylo-Spear grass pasture in relation to conception rate of cows.** Ritson, J.B.; Edey, L.A.; Robinson, P.J. *Australian Journal of Agricultural Research*, 1971, (En), v. 22, pp. 993-1007, Summary (En).
 □ Describes an experiment designed to examine the effects of superphosphate application, stocking rates and hay conservation on the nutritional adequacy of Townsville stylo-Spear grass pastures for breeding cows, with particular reference to changes in dry matter yield, botanical composition and chemical contents.
 Lib. code: P-FOO-50218
- 0378 Calf production of Droughtmaster cows grazing a Townsville stylo-Spear grass pasture.** Edey, L.A.; Ritson, J.B.; Haydock, K.P. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1972, (En), v. 12, pp. 7-12.
 □ Reports experiments conducted to measure calf production over four annual calvings of 96 Droughtmaster cows grazing a Townsville stylo-Spear grass pasture and two replicates of treatments, particularly factorial combinations of 3 levels of superphosphate, 2 levels of stocking rate and 2 levels of hay combination; includes data on birth, weaning and liveweights of calves.
 Lib. code: P-F00-50190
- 0379 Cattle growth on Townsville stylo pasture.** Toon, B.C. *Queensland Agricultural Journal (Australia)*, 1971, (En), pp. 442.
 □ Briefly reviews results of trials on the weight gain of cattle grazing Townsville stylo pastures fertilized with superphosphate, comparing results with those observed on natural Spear grass and native grasses.
 Lib. code: P-F25-50191
- 0380 Cattle liveweight changes on fodder rolls and standing hay of Townsville stylo-native grass.** Sturtz, J.D.; Parker, G.V. *Proceedings of the Australian Society of Animal Production*, Feb 1974, (En), v. 10, pp. 344-348, ISSN 0067-2149, Summary (En).
 □ Compares liveweight changes of steers grazing either standing hay or fodder rolls during the dry season, and relation of these responses to pasture characteristics.
 Lib. code: L30-16175
- 0381 Comparative beef production from ley and improved natural pasture.** Otim, J.J. *East African Agricultural and Forestry Journal (Kenya)*, Jul 1975, (En), v. 41(1), pp. 45-51, ISSN 0012-8325.
 □ Presents trial results showing weight gains of Small East African Zebu steers grazed on ley and natural pasture oversown with *Stylosanthes gracilis* at Serere Research Station; includes data on comparative botanical composition, herbage yield, crude protein content and profitability.
 Lib. code: L30-07904
- 0382 Comparison of Guinea grass-tropical Kudzu, Para grass, Pangola grass, and St. Augustine grass as pasture crops in the Yabucoa Valley in eastern Puerto Rico.** Rivera-Brenes, L.; Cabrera, J.I.; Colon, L.F. *Journal of Agriculture of the University of Puerto Rico*, 1954, (En), v. 38, pp. 96-104.
 □ Reports a trial carried out at Yabucoa on the eastern coast of Puerto Rico to determine the grazing potentials of several grasses and a grass-legume mixture, viz. Pangola, long-stemmed St. Augustine, Para, and Guinea grass-tropical Kudzu; includes data on carrying capacities, income, and analysis of grasses.
 Lib. code: P-F00-51284
- 0383 Comparison of *Stylosanthes humilis* with *S. hamata* and *S. subsericea* in the Queensland dry tropics: Effects on pasture composition and cattle liveweight gain.** Gillard, P.; Edey, L.A.; Hall, R.L. *Australian Journal of Agricultural Research*, Jan 1980, (En), v. 31(1), pp. 205-220, ISSN 0004-9409.
 □ Evaluates differences in yield, quality and adaptation of three perennial pasture legumes, viz. *Stylosanthes hamata*, *S. subsericea* and *S. humilis*, under grazing at four sites in the Queensland dry tropics, taking into consideration such determining factors as soil fertility, annual rainfall, temperature and vegetation; discusses the impact of each feed on cattle liveweight gain.
 Lib. code: MIC-L30-26758

- 0384 Complementary grazing of native pasture and standing Townsville lucerne in the dry season at Katherine, N.T.** Norman, M.J.T.; Stewart, G.A. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1967, (En), v. 7, pp. 224-231.
 □ Describes an experiment carried out at Katherine in Australia to measure the liveweight gain of Shorthorn steers on varying combinations of native pasture and Townsville lucerne, particularly native pasture alone; Townsville lucerne 2 days and native pasture 5 days; Townsville lucerne 4 days and native pasture 3 days; and Townsville lucerne alone.
 Lib. code: P-F00-50189
- 0385 Culture and yield performance of *Desmodium intortum* and *D. canum* in Hawaii.** Young, O.R.; Plucknett, D.L.; Rotar, P.P. *Hawaii Agricultural Experiment Station Bulletin (USA)*, 1964, (En), no. 59, pp. 5-27.
 □ Presents information on the economic potentials of *Desmodium canum* and *D. intortum* species under Hawaii conditions, with particular reference to taxonomic descriptions, performance under limited irrigation, yield under various conditions, and grazing performance.
 Lib. code: P-F00-51263
- 0386 Diet selection and liveweight performance of steers on *Stylosanthes hamata*-native grass pastures.** Gardner, C.J. *Australian Journal of Agricultural Research*, 1980, (En), v. 31, pp. 379-392.
 □ Describes findings of a study conducted at Lansdown, north Queensland, Australia, to examine diet selection for *Stylosanthes hamata* by oesophageally fistulated steers, using results to interpret the relationship between winter rainfall and liveweight gain of steers on pastures with and without *S. hamata*.
 Lib. code: P-F00-50197
- 0387 Dry matter yields and animal production of Guinea grass (*Panicum maximum*) on the humid tropical coast of north Queensland.** Grof, B.; Harding, W.A.T. *Tropical Grasslands (Australia)*, 1970, (En), v. 4(1), pp. 85-95.
 □ Presents results of cutting and grazing experiments comparing common Guinea grass with new accessions and a range of other tropical grasses grown with the legumes *Stylosanthes guianensis*, *Centrosema pubescens*, *Pueraria phaseoloides*, *Phaseolus atropurpureus* and *Glycine wightii*, or with nitrogen fertilizer. Discusses effects of applied phosphorus and nitrogen on yield of Guinea grass and includes data on liveweight gain of animals on pasture mixtures of Guinea grass and different legumes.
 Lib. code: P-F00-51577
- 0388 Dry-season supplementation of cattle grazing native grasslands in the north Thai/land highlands.** Mikled, C. *Thai Journal of Agricultural Science*, 1977, (En), v. 10, pp. 135-142.
 □ Discusses a dry-season experiment carried out in Thailand to compare the performance of cattle grazing native *Imperata cylindrica* grassland under three different feeding systems, viz. an improved legume-based pasture for half of each grazing day, a urea/molasses/mineral lick and no additional lick; includes data on growth rates and liveweight gains of animals.
 Lib. code: P-L30-51390
- 0385 Efeito de pastagens de gramínea e de gramínea e leguminosas sobre o ganho em peso de novilhos. I. Época da "seca".** (Effect of Guinea grass versus Guinea grass with tropical legumes on liveweight gain. I. Dry season). Vilela, H.; Oliveira, S. de; Nascimento, C.H.F.; Gontijo, R.M. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1977, (Pt), v. 29(1), pp. 11-17, Summary (En Pt).
 □ Reports findings of a grazing trial with crossbred steers conducted during the dry season in order to compare Guinea grass alone with Guinea grass associated with tropical legumes, particularly in terms of liveweight gains of animals, chemical composition of pastures and total digestible nutrient required per kg weight gain.
 Lib. code: P-L30-51239
- 0390 Efeito de pastagens de gramínea e de gramínea e leguminosas sobre o ganho em peso de novilhos. (1) Época da "seca".** (Effect of grass and grass/legume pastures on weight gain of steers. (1) Dry season). Vilela, H.; Oliveira, S. de; Nascimento, C.H.F. *Sociedade Brasileira de Zootécnica Revista*, 1976, (Pt), v. 5(2), pp. 236-247.
 □ Presents results of a grazing trial with mixed-bred steers conducted during the dry season to compare a pasture of Guinea grass versus Guinea grass with a mixture of tropical legumes, with particular reference to carrying capacity, protein composition and total digestible nutrients required per kg beef produced.
 Lib. code: P-F00-51236
- 0391 Effect of sod-seeded Siratro on beef production and botanical composition of native pasture in southeastern Queensland.** Lowe, K.F.; Filet, G.F.; Burns, M.A.; Bowdler, T.M. *Tropical Grasslands (Australia)*, 1977, (En), v. 11(3), pp. 223-230.
 □ Discusses the value of introducing Siratro into a native pasture containing *Heteropogon contortus* under a commercial grazing situation in southeastern Queensland, Australia, reporting animal production from three grazing seasons and changes in botanical composition over 4 years.
 Lib. code: P-F00-51287
- 0392 Effects of legume reinforcement of veld on the performance of beef steers.** Clatworthy, J.N.; Holland, D.G.E. *Proceedings of the Grassland Society of South Africa*, 1979, (En), v. 14, pp. 111-114, Summary (Af En).
 □ Discusses findings of a study conducted to measure the effect of reinforcing sandveld dominated by *Hypparrhenia filipendula* by seeding it with various legumes, on the weight gain of grazing beef cattle. Includes observations on changes in dry matter and crude protein yields of veld as a result of legume reinforcement.
 Lib. code: P-L30-51245
- 0393 Effects of pasture improvement on reproduction and pre-weaning growth of Hereford cattle in central sub-coastal Queensland.** Mannetje, L.; Coates, D.B. *Proceedings of the Australian Society of Animal Production*, 1976, (En), v. 11, pp. 257-260, Summary (En).
 □ Presents 3 years' data on cow liveweights, conception rates, calving rates, average daily calf liveweight gain and weaning weights for Hereford cattle in Australia under four grazing systems, viz. native pasture at 0.17 cow/ha, sown pasture of Green panic and Siratro at 0.51 and 0.68 cow/ha, and native pasture during summer at 0.34 cow/ha plus access to sown pasture during winter and spring at 1.00 cow/ha.
 Lib. code: P-L30-13283
- 0394 Endeavour stylo...strengths and weaknesses.** Mortiss, P.D. *Queensland Agricultural Journal (Australia)*, 1974, (En), v. 100, pp. 285-288.
 □ Reports results of a grazing comparison made on Endeavour and Schofield stylo at Murray Upper, Australia, with particular reference to grazing damage and recovery, and liveweight performance of grazing beef steers.
 Lib. code: P-F00-50206
- 0395 Enlarged thyroid glands in cattle grazing *Leucaena* pastures.** Jones, R.J.; Blunt, C.G.; Holmes, J.H.G. *Tropical Grasslands (Australia)*, 1976, (En), v. 10(2), pp. 113-116, Summary (En).
 □ Reports the occurrence of enlarged thyroid glands in adult cattle grazing mixed pastures of *Leucaena* in Queensland, North Western Australia, and New Guinea; examines associated effects of prolonged *Leucaena* grazing, particularly low liveweight gains, excessive salivation and hair loss.
 Lib. code: P-L30-51289

- 0396** **Ensaio de pastejo em capim-Jaraguá (*Hyparrhenia rufa* (Nees) Stapf.) consorciado com quatro leguminosas tropicais.** (Grazing trial on Jaraguá grass (*Hyparrhenia rufa* (Nees) Stapf.) associated with four tropical legumes). Lourenco, A.J.; Sartini, H.J.; Abramides, P.L.G.; Neto, L.M.B.; Rocha, G.L. da. *Boletim de Industria Animal (Brazil)*, 1980, (Pt), v. 37(1), pp. 67-89.
 □ Discusses findings of a trial carried out to examine the effects of three increasing levels of phosphorus and four stocking rates on the liveweight gain of beef cattle grazing a Jaraguá grass pasture mixed with four tropical legumes.
 Lib. code: P-L30-51293
- 0397** **Ensaio de pastejo usando lotação fixa em uma consorciação entre capim-Gordura (*Melinis minutiflora*) e *Centrosema pubescens*.** (A grazing trial using fixed stocking rates on a *Melinis minutiflora*/*Centrosema pubescens* association). Sartini, H.J.; Santamaria, M.; Lourenco, A.J.; Caielli, E.L.; Rocha, G.L. da. *Zootecnia (Spain)*, 1975, (Pt), v. 13(4), pp. 219-228.
 □ Presents results of a trial on the weight gains of beef steers grazing a *Melinis minutiflora*/*Centrosema pubescens* pasture at three different stocking rates in Brazil.
 Lib. code: P-L30-51231
- 0398** **Essais d'embouche intensive de Zébus maliens en Côte d'Ivoire.** (Intensive fattening trials with Mali Zebu cattle). Jouve, J.L.; Letenneur, L. *Revue d'Élevage et de Médecine Vétérinaire des Pays Tropicaux (France)*, 1972, (Fr), v. 25(2), pp. 297-308.
 □ Presents trial results on intensive fattening of Malian Zebu cattle in Ivory Coast, comparing *Stylosanthes gracilis* with Guinea grass, in terms of feed conversion efficiency, weight gain and carcass yield; includes a discussion on economic aspects of the operation.
 Lib. code: L30-07802
- 0399** **Establishment of stylo (*Stylosanthes guianensis*) in Kunsai (*Imperata cylindrica*) pastures and its effect on dry matter yield and animal production in the Markham Valley, Papua New Guinea.** Chadokar, P.A. *Tropical Grasslands (Australia)*, 1977, (En), v. 11(3), pp. 263-272.
 □ Presents results of studies carried out in the Markham Valley, Papua New Guinea, to examine the quality of *Imperata cylindrica* pastures, methods of oversowing stylo in *I. cylindrica* pastures, dry matter yields and animal production.
 Lib. code: P-F00-51262
- 0400** **Etude, en Côte d'Ivoire, de la croissance de taureillons N'Dama entretenus suivant divers modes d'embouche.** (Study of the growth of N'Dama bull-calves under different fattening systems, in Ivory Coast). Jouve, J.L.; Letenneur, L. *Revue d'Élevage et de Médecine Vétérinaire des Pays Tropicaux (France)*, 1972, (Fr), v. 25(2), pp. 317-324, ISSN 0035-1865, Summary (En Es Fr).
 □ Compares weight gains and feed conversion efficiency in young N'Dama bulls maintained under zero grazing and on natural pastures with or without feed supplements, and discusses economic aspects of meat production.
 Lib. code: L30-14296
- 0401** **Evaluación en pastoreo de asociaciones de zacates y leguminosas utilizando vaquillas de razas Europeas, en clima tropical.** (Evaluation of associations of grasses and legumes using grazing heifers of European breeds in a tropical climate). Garza, T.R.; Portugal, G.A.; Ballesteros, W.H. *Técnica Pecuaria en Mexico*, s.d., (Es), v. 23, pp. 7-11, Summary (En Es).
 □ Presents results of experiments carried out with Holstein and Brown Swiss heifers rotationally grazing Pangola, Clitoria, Pangola-Siratiro and Guinea-Siratiro pastures; with particular reference to resistance of pastures to trampling and recovery after grazing, as well as meat production and daily gains of cattle.
 Lib. code: P-F00-51250
- 0402** **Evaluation of pasture grasses and legume grown in mixtures in southeast Queensland.** Rees, M.C.; Jones, R.M.; Roe, R. *Tropical Grasslands (Australia)*, 1976, (En), v. 10(2), pp. 65-78.
 □ Evaluates the productivity and persistence of a range of tropical and temperate legumes grown in mixtures with tropical grasses under grazing at three contrasting sites in southeast Queensland, Australia; discusses results in relation to yield and persistence of sown species; under two stocking rates together with the effects of legume components of grass-legume mixtures and stocking rate on the nitrogen level of the grass.
 Lib. code: P-F00-50200
- 0403** **Experiences in sod-seeding Siratro into native Spear grass pastures on granite near Mundubbera.** Tothill, J.C. *Proceedings of the Tropical Grassland Society of Australia*, Jul 1974, (En), v. 8(2), pp. 128-131.
 □ Studies the productivity of establishing Siratro into native Spear grass pastures in terms of animal production.
 Lib. code: F00-03074
- 0404** **Fertility and seasonal changes in liveweight of Droughtmaster cows grazing a Townsville stylo-Spear grass pasture.** Edyc, L.A.; Ritson, J.B.; Haydock, K.P.; Davies, G. *Australian Journal of Agricultural Research*, 1971, (En), v. 22, pp. 963-971, Summary (En).
 □ Reports results of experiments carried out at Lansdown, Australia, to examine the response of cows grazing a Townsville stylo-Spear grass pasture, to 12 treatments comprising factorial combinations of 2 stocking rates and 3 levels of superphosphate, with and without conservation of hay; includes data on changes in cow liveweight as well as conception and calving rates.
 Lib. code: P-F00-50217
- 0405** **Forage and supplement systems for beef cows in south-central Florida.** Hodges, E.M.; Peacock, F.M.; Chapman, H.L. Jr.; Greene, R.E.L. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1973, (En), v. 33(27-29), pp. 56-59.
 □ Evaluates eight forage and supplement systems in south-central Florida, USA, over a period of 5 years, using breeding herds of commercial Brahman-European cows; with particular reference to systems involving perennial grass, molasses supplement, Hubam sweet clover, *Aeschynomene*, white clover, ryegrass and ryegrass-sorghum-white clover.
 Lib. code: P-F00-51254
- 0406** **Forage systems and beef production.** Peacock, F.M.; Hodges, E.M.; Kirk, W.G.; Koger, M. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1972, (En), v. 32, pp. 20-23.
 □ Compares cow-calf production from three different forage systems, viz. native range, native-improved pasture combination and improved grasses-white clover, with particular reference to survival, birth and weaning rates, liveweights at different periods, market grade values and weaning ages.
 Lib. code: P-F00-51241
- 0407** **From pioneering pastures to stable systems—attainment and challenge in the Queensland wet tropics.** Teitzel, J.K. South Johnstone Research Station, Queensland (Australia). Agriculture Branch. *South Johnstone Research Station Agricultural Branch Technical Report (Australia)*, 1974, (En), no. 13, 5p.
 □ Reviews research associated with the development of a cattle-fattening industry in the wet tropical coast of Queensland, Australia, with particular reference to the discovery of a range of introduced, highly productive grasses and legumes, and the determination of cultural practices and fertilizers required to establish pastures on any part of the wet tropical coast.
 Lib. code: P-F00-50219

- 0408** **Grazing studies with Pensacola Bahia grass and warm-season annual legumes.** Hodges, E.M.; Peacock, F.M.; Chapman, H.L. Jr.; Martin, F.G. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1976, (En), v. 36, pp. 173-175.
 □ Presents results of trials carried out in Florida, USA, to measure year-long animal performance and beef production from Pensacola Bahia grass alone and in combination with two warm-season annual legumes, *Indigofera hirsuta* L. and *Aeschynomene americana* L.; includes data on seasonal and year-long daily gains, annual beef production and estimated slaughter grades.
 Lib. code: P-F00-51256
- 0409** **Grazing trials on the Wallum of southeastern Queensland. 2. Complex mixtures under common grazing.** Bryan, W.W. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1968, (En), v. 8, pp. 683-690.
 □ Reports results of experiments carried out in Queensland, Australia, to study the performance of pastures consisting of grass and legume mixtures, with particular reference to their establishment, persistence under grazing and suitability to beef cattle, especially in terms of liveweight gain.
 Lib. code: P-F00-51609
- 0410** **Grazing trials with tropical grasses and legumes in peninsular Florida.** Hodges, E.M.; Peacock, F.M.; Chapman, H.L. Jr.; Martin, F.G. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1975, (En), v. 35, pp. 84-86, Summary (En).
 □ Presents results of a grazing trial undertaken in Florida, USA, to evaluate eight tropical grass and grass-legume pastures over a period of 5 years, particularly in terms of seasonal and yearly daily gains of cattle, estimated slaughter grade and plant response to grazing.
 Lib. code: P-F00-51255
- 0411** **Growth of Brahman cross heifers grazing *Leucaena*.** Holmes, J.H.G. *Proceedings of the Australian Society of Animal Production*, 1976, (En), v. 11, pp. 453-456, ISSN 0067-2149.
 □ Presents results of trials showing weight gain and reproductive performance of Brahman cross heifers grazing *Leucaena*, with reference to its toxic effects.
 Lib. code: L30-13339
- 0412** **Growth rate studies - "Swan's Lagoon."** Winks, L. s.l., s.n.; Jun 1973, (En), 12p.
 □ Describes results of research into the potential role of Townsville stylo in the Australian beef industry, with particular reference to its establishment, fertilizing, nutritive value, carrying capacity, supplementary feeding and economics; includes results of studies on beef cattle supplementation and comparative performances of different breeds of cattle.
 Lib. code: P-F00-51264
- 0413** **Improved pastures - the key to meat production.** Atkinson, F.J.B. *Rhodesia Agricultural Journal*, 1963, (En), v. 60, pp. 2-4.
 □ Discusses ways of intensifying beef production in Zimbabwe, mentioning the need for encouraging farmers to reduce the size of their holdings in order to operate them efficiently; improvement of veld quality through the introduction of East African clovers and by using mixtures of Kikuyu/clover pastures; introduction of sheep in the grazing system to increase stocking rate; and feeding strategies to achieve growth rate targets.
 Lib. code: P-F00-51241
- 0414** **Improved pastures in the Thai highlands.** Flavey, L.; Andrews, A. *Tropical Grasslands (Australia)*, 1979, (En), v. 13(3), pp. 154-156, Summary (En).
 □ Reports some preliminary information on pasture and animal production from improved pastures in the Thai highlands, with particular reference to dry matter production; productive legume species; comparative liveweight gains of cattle grazing native and improved pasture; persistence of sown pastures; and weed invasion; includes suggestions for future research.
 Lib. code: P-F00-51257
- 0415** **Increased beef production from Townsville lucerne (*Stylosanthes sundaica* Taub.) in the Spear grass pastures of central coastal Queensland.** Shaw, N.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1961, (En), v. 1, pp. 73-80.
 □ Examines the performance of Townsville lucerne (*Stylosanthes sundaica* Taub.) as a legume for inclusion in native pastures dominated by Spear grass near Gladstone, central coastal Queensland, Australia; includes data on effects of superphosphate, potassium chloride and sodium molybdate fertilization on liveweight gains of beef cattle and carrying capacity.
 Lib. code: P-F00-51268
- 0416** **Integration of native and sown pastures for increased animal production.** Winks, L. *Tropical Grasslands (Australia)*, 1975, (En), v. 90(2), pp. 159-164.
 □ Reviews research on the integrated usage of native and sown pastures for increased beef cattle production in different regions of Australia; suggests a modelling approach for future areas of research.
 Lib. code: P-F00-50193
- 0417** **Investigations on the feeding of beef cattle in the Katherine Region, N.T.** Norman, M.J.T.; Stewart, G.A. *Journal of the Australian Institute of Agricultural Science*, 1964, (En), pp. 39-46.
 □ Reviews progress up to 1963 of research on the feeding of beef cattle begun at the Katherine Research Station in 1955 in order to define the liveweight pattern of cattle grazing dry, standing forages of Townsville lucerne and bullrush millet, and native pasture with a protein supplement; examines the nutritive deficiencies of the pastures and evaluates introduced forages that could usefully replace them.
 Lib. code: P-F00-50201
- 0418** **Legume-based improved tropical pastures.** Santhirasegaram, K. CIAT, Cali (Colombia). Aug 1975, (En), pp. 49-61; Seminar on the Potential to Increase Beef Production in Tropical America, Cali (Colombia), 18-21 Feb 1974.
 □ Discusses the role of tropical pasture legumes, particularly their importance in nitrogen fixation, with data on liveweight gain obtained under different conditions.
 Lib. code: F00-01767
- 0419** **Liveweight gains of Shorthorn steers on native and improved pastures at Adelaide River, Northern Territory.** Westly-Smith, R.N. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1972, (En), v. 12, pp. 566-572.
 □ Summarizes results of long- and short-term grazing trials conducted on the Adelaide River flats in Australia, to determine the performance of Shorthorn steers on native pastures, legumes (mainly Phasey bean), perennial grasses (mainly Para grass), mixed improved grasses and legumes (Para grass and Phasey bean), and rice stubble.
 Lib. code: P-F00-50214
- 0420** **More beef from Spear grass country. Pasture research at Rodd's Bay, central Queensland, 1945-1977.** Hacker, J.B.; Shaw, N.H.; t'Mannetje, L. *CSIRO Division of Tropical Crops and Pastures Research Report*, 1982, (En), no. 2, 41p., ISSN 0156-2444, Summary (En).
 □ Describes over 30 years of research on the Spear grasslands of central Queensland, Australia, particularly mentioning results of work on pasture establishment and improvement; species testing of feed grasses; grazing experiments with sown pasture; sowing methods, fertilizer response, botanical composition and stability of Townsville stylo pasture; animal production from Townsville stylo; and trials with Siratro and *Leucaena*.
 Lib. code: P-F00-51477

- 0421 Pasture development in the dry tropics of north Queensland.** Gillard, P. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 807-810.
 □ Describes a grazing experiment on native pasture oversown with *Stylosanthes humilis* in the dry inland of northern Queensland, Australia, referring to the effects of forest clearing, fertilizing and stocking rate on pasture growth, legume establishment and animal performance.
 Lib. code: P-F00-50150
- 0422 Pasture legume for the tropics.** Robertson, A.D. *Thai Journal of Agricultural Science*, 1974, (En), v. 7, pp. 123-144.
 □ Describes a study on tropical feed legumes for improved animal production, with particular reference to animal performance, forage quality, nitrogen fixation, establishment and factors affecting growth.
 Lib. code: L30-00340
- 0423 Performance of eight tropical legumes and lucerne and four tropical grasses on semi-arid brigalow land in central Queensland.** Russell, M.J.; Coaldrake, J.E. *Tropical Grasslands (Australia)*, 1970, (En), v. 4(1), pp. 111-120.
 □ Presents results of trials conducted on brigalow land at Taroom in central Queensland, Australia, to examine the performance of eight tropical legumes and Hunter River lucerne grown in mixed pastures with four grasses through two complete summers and grazed intermittently by cattle; with particular reference to plant establishment, persistence, regeneration and yield.
 Lib. code: P-F00-50211
- 0424 Performance of Kennedy Ruzi grass on the wet tropical coast of Queensland.** Mellor, W.; Hibbard, M.J.; Grof, B. *Queensland Journal of Agricultural and Animal Sciences (Australia)* 1973, (En), v. 30, pp. 53-56.
 □ Examines the productivity of pastures of common Guinea grass/legume, Ruzi grass/legume and Ruzi grass with nitrogen fertilizer over a period of two and a half years in the wet tropical coast of Queensland, Australia, using Brahman cross steers; includes data on liveweight gain per acre.
 Lib. code: P-F00-51246
- 0425 Performance of steers in north Queensland grazing a tropical legume-grass pasture at two stocking rates on two soil types.** Winks, L.; O'Grady, P.; Edgley, W.; Stokoe, J. *Proceedings of the Australian Society of Animal Production*, 1970, (En), v. 8, pp. 450-454.
 □ Presents results of an experiment on the performance of steers grazing pasture mixtures of Green panic and *Glycine wightii* at two stocking rates on granitic and basaltic soils; with data on body weight gains, hot dressed weights and dressing percentage. Discusses results in terms of possible change in production per hectare with variation in management.
 Lib. code: P-L00-51277
- 0426 Performance of tropical legumes in the upland savannah of central Brazil.** Buller, R.E.; Aronovich, S.; Quinn, L.R.; Bisschoff, W.V.A. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 143-146.
 □ Presents results of clipping trials conducted on 11 perennial legumes selected from among 2000 legumes comprising 64 genera collected and/or introduced at Matao, Sao Paulo, Brazil, comparing adaptation on acid, low-fertility soils, yields and foliage retention during feed-critical, cool-dry seasons. Includes results of grazing trials on *Stylosanthes gracilis* and *Glycine javanica* associated with Pangola grass, examining the legumes' establishment with the grass, acceptability to livestock and persistence.
 Lib. code: P-F30-50129
- 0427 Productivity and dynamics of two Siratro-based pastures in the Burnett coastal foothills of southeast Queensland.** Bisset, W.J.; Marlowe, G.W.C. *Tropical Grasslands (Australia)*, Mar 1974, (En), v. 8(1), pp. 17-24, ISSN 0049-4763, Summary (En).
 □ Presents trial results showing productivity of pastures based on Siratro and Scrobic, under different stocking rates over a period of 5 years.
 Lib. code: F00-03066
- 0428 Productivity of *Macroptilium atropurpureum* cv. Siratro pastures.** Walker, B. *Tropical Grasslands (Australia)*, 1977, (En), v. 11(1), pp. 79-86.
 □ Reviews information on pasture production from Siratro, with particular reference to studies conducted in Australia, Uganda and Fiji on its yields, quality, palatability, liveweight gain of animals, optimum stocking rates and grazing methods.
 Lib. code: P-F00-11875
- 0429 Productivity of native and native/stylo pastures.** Siota, C.M.; Castillo, A.P.; Moog, F.A.; Javier, E.Q. *Philippine Journal of Animal Industry*, 1977, (En), v. 31, pp. 101-108.
 □ Presents results of a study conducted to determine herbage production, cattle liveweight gains and economics of beef production on native and native/Schofield stylo pastures, using Brahman x Ongole heifers.
 Lib. code: P-F00-51237
- 0430 Relations between pasture attributes and liveweight gains on a subtropical pasture.** t'Mannetje, L. *Proceedings of the XI International Grassland Congress*, 1974, (En), v. 3(pt. 1), pp. 209-304.
 □ Describes the relationship and measurements of pasture and liveweight of steers grazing Buffel grass with or without nitrogen fertilizer or with Siratro, mentioning the feeding value of Buffel grass and Siratro pastures for finishing grazing cattle.
 Lib. code: L30-14749
- 0431 Relationships between liveweight gain of grazing beef steers and availability of Townsville lucerne.** Norman, M.J.T. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 829-832.
 □ Examines the effect of substituting Townsville lucerne for native pastures on the liveweight gain of Shorthorn beef steers under three experimental grazing situations, viz. steers grazing Townsville lucerne pastures and native pastures in a sequential system or in a complementary system, and grazing on mixed Townsville lucerne/native species pastures.
 Lib. code: P-F00-50203
- 0432 Returns from pasture in the brigalow lands.** Mayer, B.G.; Arthur, B.A.; Rudder, T.H. *Queensland Agricultural Journal (Australia)*, 1972, (En), v. 98, pp. 179-182.
 □ Reports beef production obtained from improved pastures based on 8 years of observations in the brigalow lands at Tartrus in Australia, with data on stocking rates, growth rates of grazing cattle and profitability of improved pastures.
 Lib. code: P-F00-50205
- 0433 Sabi grass (*Urochloa mosambicensis*) as a component of Townsville stylo (*Stylosanthes humilis*) pastures.** Falvey, L. *Proceedings of the Australian Society of Animal Production*, 1976, (En), v. 11, pp. 337-340, Summary (En).
 □ Describes findings of a trial carried out to compare the performance of steers grazing pastures sown to Townsville stylo (T.S.) and T.S.-Sabi, with particular reference to liveweight change.
 Lib. code: P-L30-13295

- 0434 Sod seeding Siratro into native pastures - 2 years after.** Lowe, K.F. *Tropical Grasslands (Australia)*, Jul 1974, (En), v. 8(2), pp. 125-128, ISSN 0049-4763.
 □ Investigates the productivity of Siratro in native pastures, with reference to liveweight gains of animals and cost and returns.
 Lib. code: F00-03075
- 0435 Steer wintering rations in north Florida.** Baker, F.A. Jr. Florida Univ., Gainesville (USA). Agricultural Experiment Stations. Jan 1966, (En), 15p., circular 5-174, Summary (En).
 □ Summarizes results of three trials carried out in north Florida, USA, to evaluate wintering rations consisting of corn, small grain pasture, grass hay and frost-killed grass pasture, with or without reseeded spring clover; and to determine the effect of wintering rations on subsequent pasture and feedlot performance, carcass quality, as well as costs and returns.
 Lib. code: P-L30-51518
- 0436 Studies on a Spear grass pasture in central coastal Queensland. The effect of fertilizer, stocking rate, and oversowing with *Stylosanthes humilis* on beef production and botanical composition.** Shaw, N.H.; t'Mannetje, L. *Tropical Grasslands (Australia)*, 1970, (En), v. 4(1), pp. 43-56.
 □ Examines the effects of oversowing with Townsville stylo and application of molybdenized superphosphate on beef production from native *Heteropogon contortus* dominant pasture; with data on weight gains and stocking rates. Discusses problems associated with heavier grazing of untreated pasture, particularly reduced weight gain, overgrazing and changes in botanical composition.
 Lib. code: P-F00-50174
- 0437 The development of tropical pastures for the Swaziland middleveld.** t'Ons, J.H. *Proceedings of the Grassland Society of South Africa*, 1968, (En), v. 3, pp. 67-73, Summary (Af En).
 □ Describes findings of experiments carried out to determine whether tropical pastures could help overcome the feed problem in the Swaziland middleveld, by screening numerous species in a nursery and conducting trials with promising lines to determine their nutrient requirements and to test their performance under grazing.
 Lib. code: P-F00-51243
- 0438 The effects of some management practices on pasture production.** t'Mannetje, L. *Proceedings of the Tropical Grassland Society of Australia*, 1971, (En), v. 6(3), pp. 260-263.
 □ Discusses the choice of pastures for Spear grass country, outlining liveweight gains on alternative pasture, particularly Spear grass dominant native pasture, native pasture sown with a legume such as Townsville stylo, and sown pasture.
 Lib. code: P-F00-51276
- 0439 The effects of supplemental *Leucaena leucocephala* browse on steers grazing *Dichanthium caricosum* in Fiji.** Partridge, I.J.; Ranacou, E. *Tropical Grasslands (Australia)*, Jul 1974, (En), pp. 107-112, ISSN 0049-4763, Summary (En).
 □ Discusses trial results showing liveweight gain of steers grazed on *Dichanthium caricosum* paddock planted with different levels of fertilized *Leucaena leucocephala*.
 Lib. code: L30-03073
- 0440 The examination of Townsville lucerne (*Stylosanthes humilis*) for oestrogenic activity.** Little, D.A. *Australian Veterinary Journal*, 1969, (En), v. 45, p. 24-26.
 □ Examines Townsville lucerne for oestrogenicity at two stages of growth (pre-flowering and post-seeding), using changes in the uterine weight and teat length of ovariectomized mature ewes as indices.
 Lib. code: P-F00-51265
- 0441 The impact of sown pastures on cattle numbers in Queensland.** Ebersohn, J.P.; Lee, G.R. *Australian Veterinary Journal*, 1972, (En), v. 48, pp. 217-223.
 □ Examines the rate of pasture development, stock numbers and animal production in Queensland, Australia, with particular reference to the distribution of sown pastures, seed production and body weight gains of animals in relation to season and stocking rates; includes an appraisal of the future of pastures and animals.
 Lib. code: P-L00-50137
- 0442 The influence of superphosphate on the legume content of the diet selected by cattle grazing *Stylosanthes*-native grass pastures.** McLean, R.W.; Winter, W.H.; Mott, J.J.; Little, D.A. *Journal of Agricultural Science (UK)*, Feb 1981, (En), v. 96 (pt. 1), pp. 247-249, ISSN 0021-8596, Summary (En).
 □ Reports results of a study on the influence of small quantities of superphosphate on the preference of legume by cattle grazing *Stylosanthes*-native grass pastures; with data on legume percentages in the diet of cattle, and in the *Stylosanthes*-native grass pastures on offer, with or without superphosphate application, and appropriate selection ratios during a monsoonal growing season.
 Lib. code: L30-27863
- 0443 The performance of beef cattle on different sequences of Townsville lucerne and native pasture at Katherine, N.T.** Norman, M.J.T. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1968, (En), v. 8, pp. 21-25.
 □ Discusses details of an experiment carried out at Katherine, Northern Territory, Australia, to examine the performance of six groups of Shorthorn weaner steers maintained on different sequences of native pasture and Townsville lucerne sown pasture, with particular reference to liveweight and carcass data.
 Lib. code: P-F00-50216
- 0444 The production and management of *Stylosanthes gracilis* at Shika, Nigeria. I. In sown pastures.** Hagger, R.J. *Samaru Research Bulletin (Nigeria)*, 1972, (En), no. 161, v.p., ISSN 0080-5777.
 □ Presents trial results showing effects of *Stylosanthes gracilis* grown in association with *Chloris gayana* under cutting and grazing conditions, and effects of phosphorus, nitrogen and sulphur fertilizers on dry matter and crude protein yields at Shika Agricultural Research Station in Nigeria.
 Lib. code: F00-51616
- 0445 The production and management of *Stylosanthes gracilis* at Shika, Nigeria. II. In savanna grassland.** Hagger, R.J.; Leeuw, P.N. de; Agishi, E. *Samaru Research Bulletin (Nigeria)*, 1972, (En), no. 161, v.p., ISSN 0080-5777.
 □ Presents trial results showing weight gains of cattle grazing unimproved savanna grassland oversown with *Stylosanthes gracilis*, or different proportions of stylo and unimproved pasture, at the Shika Agricultural Research Station in Nigeria.
 Lib. code: L30-03217
- 0446 The productivity and nutritive value of tropical grass/legume pastures rotationally grazed by N'Dama cattle at Ibadan, Nigeria.** Okorie, I.I.; Hill, D.H.; Mellroy, R.J. *Journal of Agricultural Science (UK)*, Apr 1965, (En), v. 64 (pt. 2), pp. 235-245, ISSN 0021-8596.
 □ Describes trials on the productivity and nutritive value of tropical grasses and legumes, rotationally grazed by N'Dama cattle; with data on feed intake, weight gain, carcass composition, dry matter yield and chemical composition, particularly crude fibre and crude protein content of herbage.
 Lib. code: L30-05265
- 0447 The relation between animal gain and stocking rate in grazing trials: An examination of published theoretical models.** Sandland, R.L.; Jones, R.J.

Journal of Agricultural Science (UK), 1975, (En), v. 85, pp. 123-128. Summary (En).

□ Examines models alternative to the linear model for gain per animal on stocking rate, outlining discrepancies between the alternative models and the linear model.
Lib. code: P-L30-51280

0446 The use of liveweight gain for pasture evaluation in the tropics. 5. Type of stock. Stobbs, T.H. *Journal of the British Grassland Society*, 1969, (En), v. 24(4), pp. 345-348.

□ Describes an experiment in which liveweight gains were measured from two grass/legume pastures using Small East African Zebu cattle and progeny of East African Zebu cows crossed with *Bos taurus* bulls; discusses problems of designing, conducting and interpreting results of such grazing trials.
Lib. code: P-L30-51286

0449 The utilization of grasses, legumes and other forage crops for cattle feeding in Puerto Rico. I. Comparison of Guinea grass, Para grass "Malojillo" and a mixture of Para grass and tropical Kudzu as pasture crops. Brenes, L.R. *Journal of Agriculture of the University of Puerto Rico*, 1947, (En), v. 31, p. 189.

□ Presents details of a study carried out in Puerto Rico to compare Para grass, Guinea grass and a mixture of Para grass and tropical Kudzu as pasture crops rotationally grazed by native heifers, with particular reference to total digestible nutrients, weight gain of animals and carrying capacity.
Lib. code: P-L30-51445

0450 The utilization of grasses, legumes and other forage crops for cattle feeding in Puerto Rico. III. Comparison of fertilized Guinea grass, Para grass and tropical Kudzu and Guinea grass and tropical Kudzu. Brenes, L.R.; Marchan, F.J.; Cabrera, J.I. *Journal of Agriculture of the University of Puerto Rico*, 1950, (En), v. 34(4), pp. 309-315.

□ Describes findings of an experiment conducted in Puerto Rico to evaluate pastures of Para grass-Kudzu, Guinea grass-Kudzu and nitrogen-fertilized Guinea grass, particularly in terms of carrying capacity, chemical composition and nutritive value.
Lib. code: P-F00-51610

0451 The utilization of grasses, legumes and other forage crops for cattle feeding in Puerto Rico. II. Comparison of fertilized Guinea grass, Para grass and tropical Kudzu and tropical Kudzu alone as pasture crops. Brenes, L.R.; Marchan, F.J.; Cabrera, J.I. *Journal of Agriculture of the University of Puerto Rico*, 1949, (En), v. 33(3), pp. 85-97.

□ Presents results of grazing trials carried out in Puerto Rico to compare the value of nitrogen-fertilized pastures of Guinea grass, mixtures of tropical Kudzu and Para grass and tropical Kudzu alone, with particular reference to chemical composition, carrying capacity and nutritive value.
Lib. code: P-F00-51273

0452 The value of standing dry forage for winter cattle grazing at Katherine, Northern Territory, Australia. Norman, M.J.T. *Annals of Arid Zone (India)*, 1964, (En), v. 3, pp. 38-43.

□ Describes investigations made at Katherine in the Northern Territory of Australia to assess the nutritive value of a standing pasture of Townsville lucerne heavily grazed by beef cattle in the dry season; with data on changes in pasture quality due to grazing.
Lib. code: P-F00-50187

0453 Townsville stylo research at Swan's Lagoon. Winks, L. *Tropical Grasslands (Australia)*, 1973, (En), v. 7(2), pp. 201-208.

□ Presents results of trials carried out in Australia to study various aspects of managing Townsville stylo pastures, particularly establishment techniques; effect of fertilizers on pasture yield, legume-grass ratio, chemical composition and animal performance; relationship between animal performance and carrying capacity; and phosphorus supplementation of animals grazing unfertilized Townsville stylo.
Lib. code: P-F00-51288

0454 Toxicity of *Leucaena leucocephala* for steers in the wet tropics. Holmes, J.H.G. *Tropical Animal Health and Production (UK)*, May 1981, (En), v. 13(2), pp. 94-100, ISSN 0049-4747.

□ Describes a study conducted on *Leucaena leucocephala* for cattle feeding in the wet tropics, using Brahman crossbred steers grazed on different proportions of *L. leucocephala* alone or in combination with Buffel grass. Examines possible management systems for *Leucaena* and recommends further research.
Lib. code: L34-27316

0455 Tropical grass-legume pastures in Northern Rhodesia. Smith, C.A. *Journal of Agricultural Science (UK)*, Aug. 1962, (En), v. 59(pt. 1), pp. 111-118, ISSN 0021-8596.

□ Presents results of trials showing herbage yield of tropical grass-legume pastures and weight gains of grazing cattle; with determination of nutritive values of forages by digestibility trials.
Lib. code: L30-26142

0456 Tropical pasture legumes and animal production in Malawi. Thomas, D.; Addy, B.L. *World Review of Animal Production (Italy)*, 1977, (En), v. 13(3), 6p.

□ Reviews briefly the development of leguminous pastures in Malawi and summarizes the main findings of a research programme aimed at evaluating tropical pasture legumes in terms of liveweight gain production in beef cattle.
Lib. code: P-F00-09345

0457 Use of legumes for livestock production in Nigeria. Agishi, E.C. In: *Proceedings of the Livestock Conference held by Extension and Research Liaison Service*; Institute for Agricultural Research, Samaru (Nigeria). Extension and Research Liaison Service, 1971, (En), pp. 115-119; 1. Livestock Conference, Zaria (Nigeria), 31 Aug-1 Sep 1971.

□ Discusses the importance of legumes in livestock production in Nigeria, mentioning the establishment of *Stylosanthes* spp.; with data on the beneficial effects of including legumes in pastures, nutritive value of silages and dried forages, and liveweight gain of Fulani cattle from crop residues and cottonseed.
Lib. code: L30-20139

0458 Use of *Leucaena leucocephala* to supplement yearling and two-year-old cattle grazing Spear grass in southeast Queensland. Foster, A.H.; Blight, G.W. *Tropical Grasslands (Australia)*, Dec 1983, (En), v. 17(4), pp. 170-178, ISSN 0049-4763, Summary (En).

□ Investigates the value of *Leucaena leucocephala* cv. Peru as a legume supplement to improve the growth and fattening of cattle grazing Spear grass in southeast Queensland, Australia; with data on forage dry matter yield, digestibility and metabolizable energy content, as well as the liveweight performance and carcass characteristics of animals.
Lib. code: L30-65245

0459 Value of *Leucaena glauca* as a feed for cattle. Henke, L.A. In: *8. Pacific Science Congress*; 1958, (En), pp. 591-600.

□ Presents results of trials conducted in Hawaii to determine the nutritive value of *Leucaena glauca* for milking cows, with

data on the composition of the plant, consumption and nutrient intake by cows, and resultant milk and fat production, reproductive efficiency and feed costs; includes an analysis of gains, feed consumption and dressing percentage of beef steers grazed on *L. glauca* alone and with supplementary cane molasses.

Lib. code: P-F00-51275

0460 Veld improvement with legumes. Clatworth, J.N.; Barnes, D.L. *Rhodesia Agricultural Journal*, 1975, (En), v. 72(3), pp. 87-90, ISSN 0035-4686.

□ Describes legume strains suitable for veld or sown pasture improvement in Zimbabwe, especially stylo, Siratro, Beit *Lotononis*, Cooper, *Glycine*, Archer, Silverleaf *Desmodium*, and outlines sowing methods, fertilizer needs and costs of improvement; compares liveweight gains in stylo-reinforced and unimproved veld.

Lib. code: MIC-F00-22802

0461 Weight increase of Zebu cattle grazing on the legumes *Dolichos lablab* and *Cajanus indicus*. Schaffhausen, R. von. *Proceedings of the IX International Grassland Congress*, 1965, (En), p. 965-968, Summary (En Es).

□ Presents results of trials undertaken in Sao Paulo, Brazil, to examine the weight gain of Zebu cattle grazing legumes, perennial soybean, *Dolichos lablab* and Pigeon pea during severe drought.

Lib. code: P-L30-51260

0462 Wet-season grazing of Townsville stylo pasture at Katherine, N.T. Norman, M.J.T.; Phillips, L.J. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1970, (En), v. 10, pp. 710-715.

□ Presents results of trials undertaken at Katherine, N.T. Australia, to measure the liveweight gain of steers grazed on Townsville stylo during the wet season at three stocking rates, and to observe changes in yield and the botanical and chemical compositions of the pastures.

Lib. code: P-F00-50202

FERTILIZATION OF PASTURES

0463 A comparison of beef production from nitrogen-fertilized Pangola grass and from a Pangola grass-legume pasture. Bryan, W.W.; Evans, T.R. *Tropical Grasslands (Australia)*, 1971, (En), v. 5(2), pp. 89-98, Summary (En).

□ Presents results of trials conducted in southeast Queensland, Australia, wherein Pangola grass under two levels of nitrogen fertilizers was grazed by beef cattle at different stocking rates; with data on liveweight gains of animals, as well as botanical and chemical composition of pasture.

Lib. code: P-F00-50127

0464 An economic analysis of fertility experiments with Coastal and common Bermuda grasses (*Cynodon dactylon* (L.) Pers.). Ibach, D.B.; Adams, W.E. *Agronomy Journal (USA)*, 1963, (En), v. 57, pp. 15-21.

□ Presents an economic analysis of fertility experiments with Coastal Bermuda grasses with Crimson clover, and Coastal and common Bermuda grasses with and without Crimson clover on Cecil sandy soil at Watkinsville, Georgia, USA; with particular reference to yield responses at different levels of application, optimum applications, costs and returns and fertilizer-land substitution relationships. Discusses the implication of results for research on yield response.

Lib. code: P-F25-50157

0465 Animal production from nitrogen-fertilized pastures. Evans, T.R. *Tropical Grasslands (Australia)*, 1973, (En), v. 7(3), p. 345.

□ Summarizes results of a trial conducted to compare production from Pangola and Nandi *Setaria* pastures receiving 280, 476 or 673 kg N/ha/yr and continuously grazed at stocking rates of 2.5, 4.3, 6.2, 8.0 and 9.4 steers/ha in Australia.

Lib. code: P-F00-50141

0466 Animal production on Rhodes grass pastures:

A report on the pasture recording results at the Beef Research Station's Mereroni Farm Lanet, 1971/2 and 1972/3. Miles, D.G. FAO, Rome (Italy), 1973, (En), 9p.

□ Presents results of pasture recording at Mereroni Research Station, particularly on weight gain of Boran and Friesian crosses grazing on Rhodes grass; effect of precipitation and nitrogen and phosphorus fertilizer application on growth and herbage yield of Rhodes grass; economic aspects of cattle fattening.

Lib. code: L00-03718

0467 Application of nitrogen and irrigation to pasture to enhance cattle production during the dry seasons in Uganda. Tiharuhondi, E.R.; Clsen, F.J.; Musangi, R.S. *Eur. African Agricultural and Forestry Journal (Kenya)*, Apr 1973, (En), v. 38(4), pp. 383-393, ISSN 0012-8325, Summary (En).

□ Studies productivity of planted pasture supplied with varying levels of nitrogen and moisture, and the extent to which these factors enhance the quantity and quality of herbage during the dry season at Makerere University farm in Uganda, with data showing liveweight gain of cattle on nitrogen-fertilized and irrigated swards.

Lib. code: Z25-01203

0468 Beef production from nitrogen-fertilized Pangola grass (*Digitalis decumbens*) on the coastal lowlands of southern Queensland. Evans, T.R. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1969, (En), v. 9, pp. 282-286.

□ Presents results of a grazing experiment undertaken in Queensland, Australia, in which animal production was determined using high levels of nitrogen fertilizer and a variable stocking rate which was dependent on daily liveweight gains.

Lib. code: P-F00-50142

0469 Beef production on improved pasture. Hanham, E.P. In: *Beef production in the Federation of Rhodesia and Nyasaland; Rhodesia & Nyasaland, Federal Ministry of Agriculture, Salisbury, s.l., s.n.; 1957, (En), pp. 68-74; 3. Annual Conference of the Professional Officers of the Department of Research and Specialist Studies, Harare (Zimbabwe), 1-2 Apr 1957.*

□ Assesses the value of improved pasture or grassland as leys for beef production; with data comparing liveweight gain per acre from fertilized leys with that from veld.

Lib. code: L30-20031

0470 Beef production with heavy phosphorus fertilization in infertile wetlands of Hawaii.

Young, O.R.; Plucknett, D.L. *Proceedings of the IX International Grassland Congress*, 1965, (En), pp. 959-963.

□ Presents results of forage and grazing experiments conducted on acidic ferruginous Latosols in Hawaii to examine the liveweight gains of beef steers on Pangola grass/*Desmodium intortum* pastures treated with four rates of phosphorus; examines the economic aspects of improving extensive sub-marginal jungle lands.

Lib. code: P-F00-51244

0471 Effect of discing and superphosphate application on the performance of steers grazing native pastures in north Queensland. Winks, L.; Laing, A.R.; Stokoe, J. *Proceedings of the Australian Society of Animal Production*, 1972, (En), v. 9, pp. 230-234, Summary (En).

□ Presents 3 years' results of a trial carried out in north Queensland, Australia, to determine the effect of discing and superphosphate fertilizer application on the performance of steers grazing native pastures; examines liveweight changes in dry and wet seasons, and hot-dressed carcass weights.

Lib. code: P-F00-50196

0472 Effect of fertilization on carrying capacity and beef produced by Napier grass pasture. Carro-

Costas, R.; Vicente-Chandler, J. *Agronomy Journal (USA)*, 1961, (En), v. 53, pp. 204-205.

- Presents results of grazing trials conducted in the humid mountains of Puerto Rico to determine the effects of three levels of fertilization on the productivity of Napier grass pastures, with particular reference to liveweight gain and dry forage consumption of animals, total digestible nutrients, carrying capacity and protein content of forage consumed.
Lib. code: P-F25-50132
- 0473 Effect of four levels of fertilization on beef production and carrying capacity of Pangola grass pastures in the humid mountain region of Puerto Rico.** Caro-Costas, R.; Vicente-Chandler, J.; Abruna, F. *Journal of Agriculture of the University of Puerto Rico*, 1972, (En), v. 56(3), pp. 219-222.
□ Describes results of trials conducted in the humid mountain regions of Puerto Rico, to determine the response of Pangola grass pastures to applications of up to 2400 pounds of 14-4-10 fertilizer per acre yearly, particularly in terms of beef production, carrying capacity and economic returns.
Lib. code: P-F00-50134
- 0474 Effect of heavy rates of fertilization on beef production and carrying capacity of Napier grass pastures over 5 consecutive years of grazing under humid tropical conditions.** Caro-Costas, R.; Vicente-Chandler, J. *Journal of Agriculture of the University of Puerto Rico*, 1972, (En), v. 56(3), pp. 223-227.
□ Reports findings of trials undertaken on steep slopes in the humid mountain region of Puerto Rico to examine the response of Napier grass pastures grazed by young growing cattle over a 5-year period, to applications of 1600, 2800 and 4000 pounds of 14-4-10 fertilizer per acre, particularly in terms of beef production, carrying capacity and total digestible nutrients production.
Lib. code: P-FOQ-50135
- 0475 Effect of nitrogen fertilizer and legume upon beef production of Pangola grass pasture.** Aronovich, S.; Serpa, A.; Ribeiro, H. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 795-800.
□ Presents results of grazing trials with mixed-breed calves conducted over 4 years to compare three experimental treatments, viz. pure stand of Pangola grass fertilized with a commercial fertilizer, mixed pasture with centro as source of nitrogen, and pure stand of Pangola grass without nitrogen fertilization, with particular reference to the effect of the treatments on pasture production and total digestible nutrients required per kg beef produced; discusses relationships between prices of fertilizer and beef produced.
Lib. code: P-F25-50125
- 0476 Effect of nitrogen fertilizer on growth rate of Hereford heifers grazing *Paspalum dilatatum* dominant pasture.** Moir, K. W.; Ryley, J. W.; Pepper, P. M.; Middleton, C. H. *Queensland Journal of Agricultural and Animal Sciences (Australia)*, 1969, (En), v. 26, pp. 341-352.
□ Presents findings of a trial undertaken to investigate factors affecting growth rates of Hereford heifers grazing a predominantly *Paspalum dilatatum* pasture with and without nitrogen fertilizer at 1 and 2 animals per hectare; with particular reference to body weight and growth rate of animals, and dry matter and crude protein yield as well as species composition of the pasture.
Lib. code: P-F00-50160
- 0477 Effect of phosphate fertilizers on Pangola grass pastures and beef production.** Hodges, E. M.; Kirk, W. G.; Dairs, G. K.; Shirley, R. L.; Peacock, F. M.; Easley, J. F.; Breland, H. L.; Martin, F. G. *Florida University Agricultural Experiment Stations Circular (USA)*, Aug 1968, (En), no. S-190, 11p.
□ Reports findings of a trial carried out to examine the effect of phosphate fertilizers from five sources applied to Pangola grass, with emphasis on their effects on soil fertility, forage yield and on weaning weight, weight gain and fertility of cow-calf herds grazing the pastures.
Lib. code: P-F25-51572
- 0478 Effects of fertilization and seeding on grazing of flatwood pastures.** Hodges, E. M.; Kirk, W. G.; Jones, D. W.; Fulford, H. J. In: *Florida Agricultural Experiment Station Annual Report*; 1949, (En), pp. 236-237.
□ Summarizes results of a trial carried out to test the response of beef cattle to fertilization of pastures with rock phosphate and calcic lime in different combinations; with data on weight gain and mineral consumption.
Lib. code: P-F00-50154
- 0479 Effects of fertilizer and stocking rate on pasture and beef production from sown pastures in northern Cape York Peninsula. 2. Beef production and its relation to blood, faecal and pasture measurements.** Winter, W. H.; Edey, L. A.; Williams, W. T. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1971, (En), v. 17, pp. 187-196, Summary (En).
□ Presents results of a trial undertaken to measure the effects on beef production of two grass/legume pastures (*Brachiaria decumbens*, *Panicum maximum*, *Stylosanthes guianensis* and *Macroptilium atropurpureum*) grazed at four stocking rates and annually receiving one of three maintenance rates of phosphorus fertilizer, with the animals receiving a phosphorus supplement at two rates; includes data on liveweight gain per head and per hectare, and blood and faecal composition.
Lib. code: P-F00-9269
- 0480 Effects of phosphorus and stocking rate on pasture and animal production from a Guinea grass-legume pasture in Johore, Malaysia. 2. Animal liveweight change.** Eng, P. K.; t'Mannetje, L.; Chen, C. P. *Tropical Grasslands (Australia)*, 1978, (En), v. 12(3), pp. 198-207.
□ Reports results of trials conducted in Malaysia to examine the effects of varying levels of annual phosphorus maintenance application and stocking rates of 2, 4 and 6 animals per hectare on the liveweight gain of animals from pasture consisting of Guinea grass and different legumes, viz. *Stylosanthes guianensis*, *Centrosema pubescens* and *Pueraria phaseoloides*.
Lib. code: P-F00-50140
- 0481 Effects of soils, fertilizers and stocking rates on pastures and beef production on the Wulum of southeastern Queensland. 4. Budgetary appraisals of fertilizer and stocking rates.** Firth, J. A.; Evans, T. R.; Bryan, W. W. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1975, (En), v. 15, pp. 531-540.
□ Presents results of a grazing experiment carried out on grass-legume pastures in the coastal lowlands of southeast Queensland, Australia, in which comparative budgeting techniques were used to determine the effects of different stocking rates and maintenance levels of fertilizer on beef production, maintenance costs and rates of return.
Lib. code: P-F00-50144
- 0482 Effects of soils, fertilizers and stocking rates on pastures and beef production on the Wulum of southeastern Queensland. 2. Liveweight change and beef production.** Evans, T. R.; Bryan, W. W. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (En), v. 13, pp. 530-536.
□ Presents results of a trial undertaken in Australia to measure animal production from grass-legume pastures receiving different maintenance rates of phosphorus and potassium fertilizers, and continuously grazed at different stocking rates; with data on liveweight gains and carcass weight and grade values.
Lib. code: P-F00-50143
- 0483 Effects of soils, fertilizers and stocking rates on pastures and beef production on the Wulum of southeastern Queensland. 1. Botanical composition and chemical effects of plants and soils.** Bryan, W. W.; Evans, T. R. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (En), v. 13, pp. 516-529.

- Examines the effects of three stocking rates, four fertilizer treatments involving two rates of superphosphate and three of KCl, and soil types on a complex pasture mixture in southeastern Queensland, Australia, with particular reference to effects on species frequencies, botanical composition, dry matter yields, weed competition and soil fertility.
Lib. code: P-F00-50128
- 0484 Effects of soils, fertilizers and stocking rates on pastures and beef production on the Watum of southeastern Queensland. 3. Relation of live-weight changes to chemical composition of blood and pasture.** Thornton, R.F.; Minson, D.J. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1973, (En), v. 13, pp. 537-543.
□ Presents results of a study made during the concluding phase of a 6-year grazing trial in southeastern Queensland, Australia, to determine the main cause of the higher liveweight gain achieved when the annual maintenance dressing of superphosphate was doubled, with particular reference to chemical composition of blood and pasture, and *in vitro* digestibility of pasture in different seasons and under different superphosphate treatments.
Lib. code: P-F00-51235
- 0485 Fertilización de pastizales de hierba Guinea y producción de carne con novillos Cebú.** (Fertilization of Guinea grass pastures and meat production from Zebu steers). Quinn, L.R.; Mott, G.O.; Bisschoff, W.V.A. *IBEC Research Institute Bulletin (USA)*, 1960, (Es), no. 24, 35p.
□ Presents animal production and economic data obtained from experiments in Brazil with different levels of nitrogen, phosphorus and sulphur fertilization of tropical Guinea grass pastures which were constantly grazed.
Lib. code: P-L30-51570
- 0486 Fertilizing natural veld and its effect on sward, chemical composition, carrying capacity and beef production.** Hall, T.D.; Meredith, D.; Murray, S.M. *South African Journal of Science*, 1941, (En), v. 37, pp. 111-129, Summary (En).
□ Describes a grazing experiment carried out in South Africa to compare unfertilized veld with veld fertilized in different ways, by means of botanical observations, yields and chemical composition of herbage, carrying capacity expressed as grazing days, and liveweight changes of beef steers.
Lib. code: P-F00-50152
- 0487 Forage and animal response to different phosphatic fertilizers on Pangola grass pastures.** Hodges, E.M.; Kirk, W.G.; Peacock, F.M.; Jones, D.W.; Dairs, G.K.; Neller, J.R. *Florida University Agricultural Experiment Stations Bulletin (USA)*, Dec 1964, (En), no. 686, 28p.
□ Describes results of experiments carried out to study the effects of treating Pangola grass pastures with either superphosphate, superphosphate plus lime, rock phosphate, colloidal phosphate, triple superphosphate or basic slag, or herbage yield and soil phosphorus values, as well as on the performance of grade Brahman cows grazing continuously on the pasture treatments; with particular reference to calf crop, weaning, mineral intake and weight gain.
Lib. code: P-F25-51569
- 0488 Forage systems for cow-calf herds in south-central Florida.** Hodges, E.M.; Peacock, F.M.; Chapman H.L. Jr.; Craae, D. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1977, (En), v. 37, pp. 66-68.
□ Presents results of trials carried out in Florida, USA, with Charolais and Brahman cows to evaluate four forage systems, viz. perennial grass fertilized annually with 143, 31, 58 kg/ha of nitrogen, phosphorus, and potassium respectively; perennial grass receiving 50% additional N annually; perennial grass with 1/4 of area seeded to ryegrass; and perennial grass with 1/4 ryegrass and 1/4 irrigated white clover; includes data on production or reproduction values of the four systems.
Lib. code: P-F00-50155
- 0489 Grass species, fodder conservation and stocking rate effects on nitrogen-fertilized subtropical pastures.** Jones, R.J. *Proceedings of the Australian Society of Animal Production*, 1976, (En), v. 11, pp. 445-448, ISSN 0067-2149.
□ Examines the effects of *Setaria anceps* and *Chloris gayana* species, forage conservation and stocking rate on nitrogen-fertilized subtropical pastures, with data showing weight gain of cattle.
Lib. code: L30-13337
- 0490 Grazing management on *Digitaria* grass and Bahia grass.** Mislevy, P.; Hodges, E.M. *Soil and Crop Science Society of Florida Proceedings (USA)*, 1975, (En), v. 35, pp. 76-79.
□ Studies the effect of nitrogen source and plant height at grazing on four tropical perennial grasses, viz. Transvala, Bahia, Pangola and Slenderstem grasses, using measurements of forage yield, estimated TDN, cow days per hectare and species persistence as criteria of response.
Lib. code: P-F00-51603
- 0491 Growth and water metabolism of cows and progeny on fertilized and unfertilized tropical pastures.** Siebert, B.D. *Australian Journal of Agricultural Research*, 1971, (En), v. 22, pp. 415-428.
□ Reports results of grazing and pen studies designed to measure the productivity of cattle on tropical grassland improved by the introduction of *Stylosanthes humilis* comparing the performance of cattle grazing pasture fertilized with superphosphate with cattle grazing unfertilized pasture; includes data on body weights and water turnover. Discusses the relationship between pasture quality and growth of cows and their calves.
Lib. code: P-F00-50175
- 0492 Influence of nitrogenous fertilizers on Guinea grass yield and carrying capacity in Lajas Valley.** Rivera-Brenes, L.; Colon-Torres, E.N.; Gelpi, F.; Torres-Mas, J. *Journal of Agriculture of the University of Puerto Rico*, 1958, (En), v. 42, pp. 239-247.
□ Describes results of fertilizer trials conducted at Lajas Valley in Puerto Rico wherein Guinea grass was submitted to different amounts of nitrogen per acre applied as ammonium sulfate every 4 months under rotational grazing, with data on weight gains of grazing animals, returns above fertilizer costs and plant response, particularly in terms of weed competition.
Lib. code: P-F25-50170
- 0493 Long-term nitrogen application to veld in South Africa.** Grunow, J.O.; Pienaar, A.J.; Breytenbach, C. *Proceedings of the Grassland Society of South Africa*, 1970, (En), v. 5, pp. 75-90, Summary (Af En).
□ Summarizes salient features of results obtained from 13 fertilizer experiments on veld carried out in different parts of South Africa, with particular reference to experiments on displacement effects of fertilizer, yield response of plants, weight gain and milk production from fertilized veld, crude protein and dry matter composition of nitrogen-fertilized veld and effects on length of grazing period.
Lib. code: P-F25-50151
- 0494 Melaço como suplemento energético para novilhos da raça Zebu, em pastejo de capim-Colonião, com e sem adubo nitrogenado.** (Molasses as an energy supplement for Zebu steers grazing nitrogen-fertilized and unfertilized colonial Guinea grass pasture). Mott, G.O.; Quinn, L.R.; Bisschoff, W.V.A.; Rocha, G.L. da. *Pesquisa Agropecuária Brasileira*, 1967, (Pt), v. 2, pp. 441-459, Summary (En Es).

- Presents results of a study conducted to examine the combined effects of nitrogenous fertilizers and molasses supplementation on the performance of Zebu cattle grazing Guinea grass pastures, with particular reference to feed intake and liveweight gain of animals.
Lib. code: P-L30-51500
- 0495 Nitrogen response and stocking rate of *Pennisetum clandestinum* pastures. II. Cattle growth.** Meares, P.T.; Humphreys, L.R. *Journal of Agricultural Science (UK)*, 1974, (En), v. 83, pp. 469-478.
□ Describes results of a grazing experiment studying the interaction of nitrogen fertilizer (N) and stocking rate (SR), with particular reference to their effect on individual liveweight gain, growth and carcass quality of weaner cattle continuously grazing *Pennisetum clandestinum* pastures.
Lib. code: P-F00-50184
- 0496 Pestejo competitivo entre 4 gramíneas tropicais em latossolo roxo, na engorda de bovinos da raça Nelore.** (Competitive grazing between four tropical grasses in red Latosol soil, in fattening cattle of the Nelore breed). Lima, F.P.; Martinielli, D.; Sartini, H.J.; Pares, M.F. Jr.; Biondi, P. *Boletim de Indústria Animal (Brazil)*, 1969, (Pt), v. 26, pp. 189-197.
□ Presents results of a trial carried out in north-central Sao Paulo, Brazil, to compare *Pennisetum purpureum*, *Panicum maximum*, *Digitaria decumbens* and *Cynodon dactylon* with and without nitrogen fertilization in terms of stocking rates and liveweight gains of beef cattle per hectare.
Lib. code: P-F00-50158
- 0497 Pastoreo zacate Buffel con y sin fertilizante. 1971. Temporal.** (Grazing rain-fed Buffel grass with and without fertilizer). In: *Programa de investigación de forrajes. Resumen de trabajos 1966-1972*; Flores, J.M.O.R. Serrano, G.S. Aug 1972, (Es), pp. 28-30.
□ Presents animal production data from trials on fertilizing *Cenchrus ciliaris* pastures with urea in a subhumid climate in Sinaloa, Mexico.
Lib. code: P-L30-51444
- 0498 Performance of steers in north Queensland grazing native pasture and Townsville lucerne with and without fertilizer.** Winks, L.; Lamberth, F.C. *Proceedings of the Australian Society of Animal Production*, 1968, (En), v. 7, pp. 158-162, Summary (En).
□ Examines the effects of three pasture treatments and three stocking rates on the performance of beef steers grazing Townsville lucerne pastures; compares results with that of steers grazing native pasture at two stocking rates.
Lib. code: P-F00-50182
- 0499 Problems in pasture research in Southern Rhodesia: Progress report of the Grassland Experiment Station, Marandellas, for the period 1939/43.** Romy, A.E. *Rhodesia Agricultural Journal*, Jul-Aug 1943, (En), v. 50(4), pp. 300-307, ISSN 0035-4686.
□ Briefly summarizes work done at Grasslands Research Station, Zimbabwe, particularly trials on weight gain of beef steers and milk yield of dairy cows grazed on natural and established pastures, and on pasture improvement, especially through introduction of grasses and use of fertilizer.
Lib. code: MIC-L30-236b7
- 0500 Produção de carne de bovinos em pastagens de gramíneas em região de terras roxas (Latosolo roxo).** (Beef production on four tropical grasses). Lima, F.P.; Martinelli, D.; We... I.C. *Boletim de Indústria Animal (Brazil)*, 1968, (Pt), v. 25, pp. 129-137, Summary (En Pt).
□ Presents results of experiments carried out in Brazil to compare Guinea grass, Napier grass, Pangola grass and Suwannee Bermuda grass with and without nitrogen fertilizers and under rotational or continuous grazing, with particular reference to liveweight gain per hectare, carrying capacity of pasture and daily gain per head.
Lib. code: P-L30-51446
- 0501 Producción animal de pasturas subtropicales fertilizadas.** (Animal production on fertilized subtropical pastures). Pallares, O.R.; Mufarrije, D.J. Estacion Experimental Agropecuaria, Mercedes (Argentina). *Estacion Experimental Agropecuaria, Serie Técnica (Argentina)*, 1970, (Es), no. 6, 23p.
□ Describes results obtained in a grazing trial with subtropical grasses (Pangola, Rojas and Ramirez) with and without fertilizers on Brunizems hypodromorphic soils; with data on differences among grasses and fertilizers, grass x fertilizer interactions, pasture yield and carrying capacity after top dressing, and residual effect of fertilizers.
Lib. code: P-F25-50171
- 0502 Producción animal en pasto Pangola fertilizado.** (Animal production on fertilized Pangola grass). Pallares, D.O.; Mufarrije, D.J. Estacion Experimental Agropecuaria, Mercedes (Argentina). *Estacion Experimental Agropecuaria, Serie Técnica (Argentina)*, 1974, (Es), no. 9, 16p.
□ Presents results of a trial conducted to measure animal production from Pangola grass fertilized with 200 kg nitrogen per hectare and continuously grazed at four different stocking rates, in order to determine the optimum stocking rate at which Pangola grass should be grazed to reach 300 kg liveweight with growing heifers to be mated at 26 months of age.
Lib. code: P-L30-50172
- 0503 Producción anual de carne/ha en gramas nativas (*Axonopus* y *Paspalum*) en pastoreo rotacional con fertilización al pastizal y suplementación al ganado.** (Annual beef production on native grasses). Trevino, S.M.; Garza, T.R.; Robles, B.C. *Técnica Pecuaria en Mexico*, 1976, (Es), v. 30, pp. 7-11.
□ Presents results of a trial conducted at Puebla, Mexico, to determine proper utilization of native grasses under three treatments, viz. fertilized, supplemented or fertilized-supplemented; analyses data on carrying capacity, weight gains of cattle and profit obtained under the different treatments.
Lib. code: P-F00-50179
- 0504 Producción anual de carne/ha en pastoreo rotacional en los zacates Ferrer, Estrella de África y Señal, con y sin fertilizantes, en Hueyotamalco, Pue.** (Annual beef production of rotationally grazed pastures of Ferrer, African Star and Signal grass with and without fertilizer in Hueyotamalco, Puebla). Trevino, S.M.; Garza, T.R.; Torres, H.M.; Robles, B.C. *Técnica Pecuaria en Mexico*, 1975, (Es), v. 29, pp. 7-11.
□ Describes findings of a trial undertaken at Puebla, Mexico, to investigate the annual and potential meat production on introduced grasses, viz. *Cynodon dactylon*, *Brachiaria brizantha* and *Cynodon plectostachyus*, using a different number of animals under several fertilizer treatments; includes data on weight gain and meat yield of animals and performance of plants in different seasons.
Lib. code: P-F00-50180
- 0505 Producción de carne en ganado bovino bajo pastoreo rotacional en seis zacates tropicales con y sin la adición de nitrógeno en el trópico húmedo Af (c). I. Epoca de lluvias.** (Beef production from rotationally grazed tropical grasses with and without nitrogen in the humid tropics Af (c). (1) Rainy season). Garza, T.D.; Trevino, S.M.; Chapa, G.O. *Técnica Pecuaria en Mexico*, 1973, (Es), v. 25, pp. 40-49.
□ Presents results of a trial conducted at Puebla, Mexico, to examine the influence on meat production of nitrogen fertilization of six tropical grasses (*Cynodon dactylon*, *Digitaria decumbens*, *Digitaria valida*, *Cynodon plectostachyus*, *Melinis minutiflora*, *Paspalum notatum* and *Axonopus affinis*) during 168 grazing days; includes data on meat yield, daily gains of animals and profitability of the treatments.
Lib. code: P-F00-50149
- 0506 Production from grassland in South Africa (Fertilizer treatments and livestock gains on veld).** Hall, T.D.; Meredith, D.; Altona, R.E. *Empire Jour-*

nal of Experimental Agriculture (UK), 1950, (En), v. 18(69), pp. 8-18.

□ Compares the effects of different fertilizer treatments, particularly O, P, NP, NPK, N₂PK, at different stocking rates on liveweight gains of grazing animals, botanical composition, carrying capacity and total digestible nutrient yields of pasture; examines financial returns from fertilizer applications.

Lib. code: P-F00-50153

0507 Production of beef from winter vs summer nitrogen-fertilized colonial Guinea grass (*Panicum maximum*) pastures in Brazil. Quinn, L.R., Mott, G.O.; Bisschoff, W.V.A.; Freitas, L.M.M. de. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 832-835.

□ Presents results of a 7-year study conducted in Brazil to compare winter vs summer applications of 200 kg N/ha applied annually, with particular reference to weight gain of steers, pasture carrying capacity and economic advantages.

Lib. code: P-F00-50167

0508 Productivity of Guinea grass (*Panicum maximum*). Richards, J.A. *Proceedings of the IX International Grassland Congress*, 1965, (En), pp. 1033-1035.

□ Presents results of a nitrogen (N) fertilizer trial at four levels on old Guinea grass inadequately irrigated, with particular reference to yield response to increased N, and financial returns resulting from N application.

Lib. code: P-F00-50169

0509 Response of grasses to fertilizers in Southern Rhodesia: A review. Weinmann, H. *Department of Research and Specialist Services Bulletin (Zimbabwe)*, s.d., (En), no. 2, 13p.

□ Reviews fertilizer experiments carried out on natural and cultivated grasslands of Southern Rhodesia over a period of 35 years, describing the various effects of phosphate, nitrogen and potash fertilizer applications and trace elements on herbage yield, phosphorus, crude protein and mineral contents of grass, the root system as a whole, and liveweight gains of cattle grazing on these pastures; with particular reference to the analysis of soil types at different sites, the carrying capacity and the botanical composition of swards, and the different species of grass available.

Lib. code: MIC-F25-22852

0510 Short-term effects of fertilizer and stocking rates on the Bankenveld. 2. Animal production. Edwards, P.J.; Nel, S.P. *Proceedings of the Grassland Society of South Africa*, 1973, (En), v. 8, pp. 89-96, Summary (Af En).

□ Examines the short-term effects of veld fertilization in the Bankenveld of South Africa, with particular reference to the influence of nitrogenous, phosphatic and potassic fertilization and different stocking rates on beef, mutton and wool production; includes data on live mass, total digestible nutrient and mutton production, and duration of the grazing period during the first 3 years of grazing. Discusses economic aspects and the degree of herbage utilization.

Lib. code: P-F00-51608

0511 Short-term effects of fertilizer and stocking rates on the Bankenveld. 1. Vegetational changes. Edwards, P.J.; Nel, S.P. *Proceedings of the Grassland Society of South Africa*, 1973, (En), v. 8, pp. 83-88.

□ Discusses the effects of veld fertilization and stocking rate on the vegetation of the Bankenveld in South Africa, with particular reference to its influence on species composition of the sward during the first 3 years, and herbage production.

Lib. code: P-F00-50139

0512 Superphosphate and stocking rate effects on a native pasture oversown with *Stylosanthes humilis* in central coastal Queensland. 3. The balance of

native species in the pasture. Shaw, N.H.; Dale, M.B. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1978, (En), v. 18, pp. 808-816, Summary (En).

□ Reports studies conducted in Queensland, Australia, on the role of Townsville stylo (T.S.) in improving the productivity of native pastures dominated by black Spear grass, with particular reference to the percentage frequency of herbaceous species in a native pasture oversown with T.S. and receiving three levels of molybdenized superphosphate in factorial combination with four stocking rates and two sowing methods for T.S., i.e. ground sowing into spaced cultivated strips and aerial sowing.

Lib. code: P-F00-13433

0513 Superphosphate and stocking rate effects on a native pasture oversown with *Stylosanthes humilis* in central coastal Queensland. 1. Pasture production. Shaw, N.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1978, (En), v. 18, pp. 788-799.

□ Reports studies conducted in Queensland, Australia, on the role of Townsville stylo (T.S.) in improving the productivity of native pastures dominated by black Spear grass, with particular reference to changes in black Spear grass dominant pasture when oversown with T.S., comparative reliability of ground and aerial sowing in the establishment of T.S., and response to fertilizers and stocking rates.

Lib. code: P-F00-13433

0514 Superphosphate and stocking rate effects on a native pasture oversown with *Stylosanthes humilis* in central coastal Queensland. 2. Animal production. Shaw, N.H. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1978, (En), v. 18, pp. 800-807.

□ Reports studies conducted in Queensland, Australia, on the role of Townsville stylo (T.S.) in improving the productivity of native pastures dominated by black Spear grass, with particular reference to liveweight changes of beef cattle grazing a native black Spear grass dominant pasture oversown with *S. humilis* and subjected to three levels of molybdenized superphosphate in factorial combination with four stocking rates and two sowing methods for T.S., i.e. ground sowing into strips and aerial sowing.

Lib. code: P-F00-13433

0515 Techniques for fertilizing, oversowing and sod seeding veld. Hyam, G.F.S.; Penderis, A.H.; Theron, E.P. *Proceedings of the Grassland Society of South Africa*, 1977, (En), v. 12, pp. 99-101, Summary (Af En).

□ Describes techniques used to increase production from the veld in the eastern high-rainfall areas of South Africa by fertilizing mainly with nitrogen and phosphorus, oversowing with a selected grass species, and fortifying with legumes; includes examples of the production obtained.

Lib. code: P-F27-50156

0516 The development of cultivated dryland grass pastures with special emphasis on the effect of nitrogen on beef production. Rodel, M.G.W. In: *Animal production results from veld, pasture and maize*; Grassland Research Station, Marandellas (Zimbabwe). Henderson Research Station, Harare (Zimbabwe). s.d., (En), pp. 59-71; Field Day on Livestock Production, Marandellas (Zimbabwe), 10 Mar 1976, Summary (En).

□ Discusses research on veld improvement in Zimbabwe, particularly to determine effect of fumigation, nitrogen application and/or grazing on herbage yield of grass, optimum grazing management and stocking rate, importance of supplementary feeding and incorporation of grasses in farming systems, and assesses economic viability of dryland pastures.

Lib. code: MIC-F00-23038

0517 The potential in Natal for the radical improvement of the veld and the fortification of established pastures. Theron, E.P.; Lesch, S.F.; Mappedoram,

B.D. *Proceedings of the Grassland Society of South Africa*, 1974, (En), v. 9, pp. 175-178, Summary (Af En).

□ Describes a field experiment conducted in South Africa to evaluate the performance of beef steers and financial returns from different degrees of radical veld improvement, particularly fertilizer application and reinforcing with clover.
Lib. code: P-F00-50178

0518 The retention of nitrogen in a soil-plant-animal system in Guinea grass (*Panicum maximum*) pastures in Brazil. Mott, G.O.; Quinn, L.R.; Bisschoff, W.V.A. *Proceedings of the XI International Grassland Congress*, 1970, (En), pp. 414-416, Summary (En).

□ Examines the long-term effect of nitrogen fertilizer in a soil-plant-animal system on the productive capacity of a colonial Guinea grass pasture; includes data on total digestible nutrients (TDN) per hectare consumed by grazing steers, and residual effect of nitrogen fertilizer on estimated TDN yield.
Lib. code: P-F00-50161

0519 Uso de fertilizantes em potreros de zacate Jaraguá (*Hyparrhenia rufa* (Nees) Stapf), en Panamá. (Use of fertilizers on Jaraguá grass (*Hyparrhenia rufa*) pastures in Panama). Noland, P.R.; Broce, E.; Vergara, I. *Turrialba (Costa Rica)*, 1959, (Es), v. 9(1), pp. 29-35.

□ Describes results of a trial conducted in Panama to compare the effects of several levels of fertilization of *Hyparrhenia rufa* on the growth of dairy heifers, with data on animal gains, estimated dry matter and protein yields of pasture.
Lib. code: P-F00-50162

0520 Utilização de 4 gramíneas tropicais na produção de carne, em um solo típico latossolo roxo. (Utilization of four tropical grasses in beef production on a typical red Latosol soil). Lima, F.P.; Sartini, H.J.; Martinelli, D.; Biondi, P.; Junior, M.F. *Boletim de Industria Animal (Brazil)*, 1969, (Pt), v. 26, pp. 199-214, Summary (Pt).

□ Describes results of various trials on four tropical grasses fertilized with nitrogen or non-fertilized, with data on stocking rate, gains of liveweight per ha and daily gains per head in São Paulo, Brazil.
Lib. code: P-F00-50159

STOCKING RATE

0521 A note on the performance of crossbred steers at different stocking rates in Uganda.

Stobbs, T.H.; Whitting, J.B. *East African Agricultural and Forestry Journal (Kenya)*, 1970, (En), pp. 234-236, Summary (En).

□ Describes a grazing trial conducted in Uganda in which animal production was measured, as liveweight gain per animal per acre, from the progeny of East African Zebu cows crossed with Hereford, Aberdeen Angus and Boran bulls, with each crossbred group grazing at three stocking rates.
Lib. code: P-L30-05466

0522 A stocking rate trial on rough grazing in Buganda. Part III. Liveweight gains in the last two years. Thornton, D.D. *East African Agricultural and Forestry Journal (Kenya)*, 1970, (En), v. 35(4), pp. 331-335, ISSN 0012-8325.

□ Describes trials on liveweight gains of Shorthorn Zebu steers under free and restricted grazing; with discussion of results in relation to changes in flora composition of the grass sward.
Lib. code: L30-15009

0523 A stocking rate trial on rough grazing in Buganda. Harker, K.W. *East African Agricultural and Forestry Journal (Kenya)*, 1963, (En), v. 29, pp. 63-66.

□ Investigates cattle/grass relationship in the long grass area at Nakyesasa in Uganda, comparing weight gains of animals under different systems of grazing, viz. one beast per 2 acres, one beast per acre and one beast per half acre.
Lib. code: P-F00-14964

0524 Desempenho de novilhões mestiços (Holandês-Zebu) em pastagens natural e melhorada estabelecidas em latossolo vermelho escuro (Fase Cerrado). (Performance of crossbred Holstein-Zebu steers on range and improved pastures). Vilela, H.; Oliveira, S. de; Pires, J.A.A.; Possato, R. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1978, (Pt), v. 30(3), pp. 317-324, Summary (En Pt).

□ Describes a grazing trial conducted during the dry and rainy seasons to compare the performance of crossbred Holstein-Zebu steers on range and improved pastures, with particular reference to liveweight gains, stocking rate, total digestible nutrients per kg weight gain, and botanical and chemical composition of the pastures.
Lib. code: P-F00-51220

0525 Efeito da lotação no desempenho animal em pastagens de *Brachiaria decumbens* Stapf. (Effect of the stocking rate on animal performance in pastures of *Brachiaria decumbens* Stapf.). Lourenco, A.J.; Escuder, C.J.; Rodriguez, N.M. *Boletim de Industria Animal (Brazil)*, 1979, (Pt), v. 36(2), pp. 193-199.

□ Presents results of a study carried out to examine the effect of stocking rates on the liveweight gains of crossbred Zebu steers grazing pastures of *Brachiaria decumbens* Stapf. allocated in a completely randomized design with a different number of replications for each treatment.
Lib. code: P-L30-51578

0526 Effect of grazing systems and stocking rate on beef fattening on Pangola grass. Delgado,

A.; Alfonso, F. *Cuban Journal of Agricultural Science*, 1974, (En), v. 8, pp. 129-135.

□ Discusses the effect of stocking rate and grazing systems on daily weight gain of bulls grazing Pangola grass.
Lib. code: L30-00324

0527 Effect of grazing systems and stocking rate on beef fattening in tropical areas. Delgado,

A.; Alfonso, F. *Proceedings of the XII International Grassland Congress*, 1974, (En), v. 3(pt. 1), pp. 111-119, Summary (En).

□ Studies the influence of stocking rate and grazing system on growth performance of bulls grazing Pangola grass without irrigation in tropical areas.
Lib. code: L30-14749

0528 Effect of stocking rate and grazing frequency on a Siratro (*Macroptilium atropurpureum*)/

Setaria anceps cv. Nandi pasture. Jones, R.M. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1979, (En), v. 19, pp. 318-324.

□ Presents details of an experiment carried out at Samford, Australia, to examine the response of a Siratro/*Setaria anceps* cv. Nandi pasture to five stocking rates, ranging from 0.8 to 2.8 animals per hectare, and three grazing frequencies; includes data on the effects of the treatments on yield, botanical composition, Siratro density, flowering, seed reserves in the soil and on residual effects of grazing treatments.
Lib. code: P-F00-15067

0529 Effect of stocking rate and grazing method on bull fattening with non-irrigated Coastcross

no. 1 Bermuda grass. Valdes, G.; Molina, A.; Elias, A. *Cuban Journal of Agricultural Science*, 1981, (En), v. 15, pp. 269-279.

□ Compares two grazing systems and three stocking rates, using 42 yearlings grazing non-irrigated, nitrogen-fertilized Coastcross 1 Bermuda grass, with particular reference to liveweight gain of animals, and the effects of treatments on dry matter availability, crude protein content, botanical composition and pasture height.
Lib. code: P-L30-51583

- 0530 Effect of stocking rate on tropical pastures.** Roberts, C.R. *Tropical Grasslands (Australia)*, Nov 1980, (En), v. 14(3), pp. 225-231, ISSN 0049-4763.
 □ Compares botanical composition and liveweight gain data from grazing trials using three or more stocking rates in order to illustrate trends in the botanical composition of various types of tropical pastures as stocking rate is increased or decreased.
 Lib. code: MIC-F00-26845
- 0531 Effect of stocking rate, breed, grain supplementation, nitrogen fertilizer level and anthelmintic treatment on growth rate of dairy weaners grazing irrigated Pangola grass.** Deans, H.D.; Chopping, G.D.; Sibbick, R.; Thurbon, P.N.; Copeman, D.B.; Stokoe, J. *Proceedings of the Australian Society of Animal Production*, 1976, (En), v. 11, pp. 449-452, ISSN 0067-2149.
 □ Presents trial results showing influence of stocking rate, animal breed, grain supplementation, nitrogen fertilizer level and anthelmintic treatment on liveweight gain of dairy weaner heifers and bulls grazing Pangola grass pasture in tropical North Queensland, Australia.
 Lib. code: L30-13338
- 0532 Effects of fertilizer and stocking rate on pasture and beef production from sown pastures in northern Cape York Peninsula. 1. Botanical and chemical composition of the pastures.** Winter, W.H.; Edye, L.A.; Megarrity, R.G.; Williams, W.T. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1977, (En), v. 17, pp. 66-74.
 □ Presents results of a grazing experiment carried out in Australia to examine the seasonal changes in the yield, botanical composition and nitrogen, phosphorus and sulphur composition of pasture plants, using *Brachiaria decumbens* with basilisk or *Panicum maximum* with a common legume mixture, three annual maintenance rates of phosphorus fertilizer, four stocking rates of continuous grazing and two rates of phosphorus directly fed to the cattle.
 Lib. code: P-L36-09269
- 0533 Effects of phosphorus and stocking rate on pasture and animal production from a Guinea grass-legume pasture in Johore, Malaysia. 1. Dry matter yields, botanical and chemical composition.** Eng, P.K.; Kerridge, P.C.; t'Mannetje, L. *Tropical Grasslands (Australia)*, 1978, (En), v. 12(3), pp. 188-197.
 □ Presents results of a study conducted to measure change in yield, botanical composition, species frequency and chemical composition in a continuously grazed Guinea grass-legume pasture under a factorial combination of three stocking rates and four annual maintenance rates of phosphorus comprising three rates of rock phosphate and one of superphosphate.
 Lib. code: P-F00-51261
- 0534 Ensaio de pastejo em capim-Colônião (*Panicum maximum* Jacq.) consorciado com quatro leguminosas tropicais.** (Grazing trial on Coloniao grass (*Panicum maximum* Jacq.) mixed with four tropical legumes). Lourenco, A.J.; Sartini, H.J.; Abramides, P.L.G.; Camargo, J.C. de M. *Boletim de Industria Animal (Brazil)*, 1980, (Pt), v. 37(2), pp. 257-278.
 □ Describes an experiment carried out to evaluate the effects of three increasing levels of phosphorus and four stocking rates on the liveweight gains of beef cattle grazing on Coloniao grass pastures mixed with tropical legumes.
 Lib. code: P-L30-51292
- 0535 Estimates of animal production from pastures on brigalow land in the Fitzroy Basin, Queensland.** Coaldrake, J.E.; Smith, C.A. *Journal of the Australian Institute of Agricultural Science*, 1967, (En), v. 33, pp. 52-54.
 □ Reports findings of a trial carried out at Fitzroy Basin, Queensland, Australia, to measure performance of cattle rotationally grazed on land which had already carried a sown pasture of Green panic and *Sorghum alnum* for 3 summers and was sown with a mixture of *S. alnum*, Green panic, lucerne and Siratro; includes data on stocking rates and dressed weight of meat/year.
 Lib. code: P-F00-50213
- 0536 Estimates of carrying capacity and production from herbage yields and grazing days.** Edwards, P.J. *Proceedings of the Grassland Society of South Africa*, 1974, (En), v. 9, pp. 139-145, Summary (Af En).
 □ Examines the possibility of predicting carrying capacity of pastures from herbage yields, presenting results of a trial comprising of 27 treatment combinations of fertilization and stocking rate under two systems of grazing.
 Lib. code: P-F00-50138
- 0537 Estimativas da capacidade de suporte de capins consorciados com leguminosas.** (Stocking rate estimates of grasses associated with legumes). Pedreira, J.V.S.; Mattos, H.B. de; Melo, L. *Boletim de Industria Animal (C:azil)*, 1975, (Pt), pp. 281-292, Summary (En Es).
 □ Describes trials carried out to evaluate the stocking rate of 24 associations of grasses with a simple mixture of legumes consisting of seven varieties of *Pennisetum purpureum*, eight species of prostrate grasses and nine species of tussock grasses. Includes botanical analysis showing the ability of the grasses to associate with the legumes.
 Lib. code: P-F00-51221
- 0538 Forage yield, stocking rate and beef gains on pasture.** Hart, R.H. *Herbage Abstracts (UK)*, 1972, (En), v. 42(4), pp. 345-353.
 □ Examines mo lols for the relationship between forage yield, stocking rate and beef production, discussing the calculation of a regression model from published data; outlines the need for further research
 Lib. code: P-L30-51282
- 0539 Grazing pressure and the measurement of pasture production.** Mott, G.O. *Purdue University Agricultural Experiment Station Journal*, 1960, (En), no. 1575, 6p., Summary (De En Es).
 □ Presents generalized curves and equations expressing the relationship between grazing pressure and the units of measure reported in a grazing trial; discusses the consequences of undergrazing and grazing pressure as a source of bias.
 Lib. code: P-F00-51228
- 0540 Grazing rate and system trial over five years in a medium-height grassland of northern Tanzania.** O'Rourke, J.T. In: *Proceedings of the first international rangeland congress*; Hyder, D.N. (ed.). Dec 1978, (En), pp. 563-566, ISSN 0163-173X; 1. International Rangeland Congress, Denver (USA), 14-18 Aug 1978, Summary (En).
 □ Presents results of a grazing rate and system trial carried out in northern Tanzania to relate the influence of the intensities of various systems on animal and plant productivity in terms of cattle weight gains or losses, forage production and total plant, litter and bare soil estimates.
 Lib. code: L30-18292
- 0541 Grazing studies on the Guadalcanal Plains, Solomon Islands. 2. Effects of pasture mixtures and stocking rate on animal production and pasture components.** Watson, S.E.; Whiteman, P.C. *Journal of Agricultural Science (UK)*, 1981, (En), v. 97, pp. 353-364.
 □ Compares animal production on *Brachiaria mutica*, *B. decumbens* and *Panicum maximum* pastures at four stocking rates on the Guadalcanal Plains, Solomon Islands, with particular reference to optimum stocking rate, beef production potential of each pasture, changes in pasture yield, botanical composition, sward structure and chemical components.
 Lib. code: P-F00-51270

- 0542 Improvement of Nadi blue grass (*Dichanthum caricosum*) pastures on hill land in Fiji with superphosphate and Siratro: Effects of stocking rate on beef production and botanical composition.** Partridge, I.J. *Tropical Grasslands (Australia)*, 1979, (En), v. 13(3), pp. 157-164.
 □ Describes experiments undertaken to measure animal production from unimproved and improved Nadi blue grass pasture, following the addition of Siratro and superphosphate, and to observe the stability and persistence of Siratro under grazing.
 Lib. code: P-L30-51281
- 0543 Influence of two levels of supplementary feeding and three stocking rates on the life-time performance of beef cows.** Bembridge, T.J. *Rhodesia Agricultural Journal*, Nov-Dec 1970, (En), v. 67 (Bull. 2563), pp. 139-143, ISSN 0035-4686.
 □ Presents results of a trial conducted over seven calving seasons to assess economically the effects of low levels of supplementary protein feeding at stocking rates of one livestock equivalent unit per 11, 14, and 17 acres, on calving rate, weaning weights and total weaner production; with particular reference to herbage yield and veld conditions.
 Lib. code: MIC-L30-22825
- 0544 Intensive cattle feeding under different grazing systems.** Cubillos, G.; Vohnout, K.; Jimenez, C. CIAT, Cali (Colombia). Aug 1975, (En), pp. 131-147; Seminar on the Potential to Increase Beef Production in Tropical America, Cali (Colombia), 18-21 Feb 1974.
 □ Discusses intensive cattle feeding, analysing the influence of stocking rate and banana consumption on the weight gain of grazing cattle.
 Lib. code: L30-01767
- 0545 Nitrogen response and stocking rate of *Penisetum clandestinum* pastures. I. Pasture nitrogen requirement and concentration, distribution of dry matter and botanical composition.** Mears, P.T.; Humphreys, L.R. *Journal of Agricultural Science (UK)*, 1974, (En), v. 83(pt. 3), pp. 451-467, ISSN 0021-8596, Summary (En).
 □ Studies the influence of annual ammonium nitrate application level and stocking rate on the seasonal herbage on offer, on the distribution of dry matter and nitrogen in the various plant organs; and on the botanical composition of Kikuyu swards in a humid subtropical environment in northeastern New South Wales, Australia.
 Lib. code: F25-19037
- 0546 Potencial anual del zacate Guinea, fertilizado y bajo pastoreo rotacional en clima Am. (Annual potential of Guinea grass when fertilized and rotationally grazed in climate Am).** Garza, R.T. *Tecnica Pecuaria en Mexico*, s.d., (Es), v. 21, p. 26.
 □ Presents results on weight and carcass gains of steers grazing Guinea grass at two stocking rates and two levels of nitrogen fertilizer in the tropical gulf coast area of Mexico.
 Lib. code: P-L30-50147
- 0547 Quelques enseignements d'un essai de charge mène à la Station de Recherches Agronomiques du lac Alaotra.** (Some results from a test on the stocking rate at the Lake Alaotra Agricultural Research Station). Delhay, R.-E. *Agronomie Tropicale (France)*, 1967, (Fr), no. 5, pp. 487-495.
 □ Discusses ways of improving pasture management in Madagascar for utilization by valuable cattle such as milk cows and draught oxen.
 Lib. code: P-F00-51285
- 0548 Rangeland productivity in Botswana.** Mckay, A.D. *East African Agricultural and Forestry Journal (Kenya)*, Oct 1968, (En), v. 34(2), pp. 178-193, ISSN 0012-8325.
 □ Examines the level of beef production from indigenous pasture under different grazing systems and the effect of stocking rate and precipitation on yield and floristic composition of vegetation at Morale Pasture Research Station in Botswana; with slaughter data and weight gain performance of Africander, Hereford and Africander crosses and Tswana cattle.
 Lib. code: L30-02118
- 0549 Recent pasture research at Henderson Research Station.** Rodel, M.G.W.; Boulwood, J.N. *Rhodesia Agricultural Journal*, 1967, (En), v. 64, pp. 1-6.
 □ Summarizes findings of various experiments carried out in Rhodesia to study the effect of stocking rates and grass species on the liveweight gains of yearling steers and effect of level of nitrogen on pastures; to compare the productivity of old and new pastures; and to examine the value of feeding maize supplements to steers on pasture.
 Lib. code: P-F00-22842
- 0550 Seasonal relations between animal gain, pasture production and stocking rate on two tropical grass-legume pastures.** Edey, L.A.; Williams, W.T.; Winter, W.H. *Australian Journal of Agricultural Research*, Jan 1978, (En), v. 29(1), pp. 103-113, ISSN 0004-9409.
 □ Studies the seasonal relationships between stocking rate, pasture production and liveweight change per animal on continuously grazed pastures.
 Lib. code: L30-19338
- 0551 Stocking rate and the productivity of Rhodes grass pastures on the Llongwe Plain, Malawi.** Addy, B.L.; Thomas, D. *Tropical Animal Health and Production (UK)*, 1978, (En), v. 10, pp. 11-17.
 □ Describes findings of an experiment undertaken over three wet seasons in Malawi to investigate the effects of varying stocking rates on animal performance from fertilized Rhodes grass pastures, examining the relationships between stocking rate and pasture productivity, animal gain and number of grazing days; discusses the practical significance of the result.
 Lib. code: P-F00-51279
- 0552 Stocking rate as a factor determining profitability of beef production.** Carew, G.W. *Rhodesia Agricultural Journal*, 1976, (En), v. 73(5), pp. 111-115, ISSN 0035-4686.
 □ Studies economic consequences of stocking at various rates using results of trials conducted in Zimbabwe under heavily fertilized Star grass pastures and under two different systems of veld management, i.e. one herd to four paddocks with and without supplementary feeding and three herds to four paddocks with supplementary feeding; includes data on carcass and live-mass gains of steers under the various treatments.
 Lib. code: MIC-L30-22790
- 0553 Stocking rate trials in Ankole, Uganda. II. Botanical analysis and oesophageal fistula sampling of pastures grazed at different stocking rates.** Harrington, G.N.; Pratchett, D. *Journal of Agricultural Science (UK)*, Jun 1974, (En), v. 82(pt. 3), pp. 507-516, ISSN 0021-8596.
 □ Presents botanical analysis and oesophageal fistula sampling of grazed pastures showing the relationship between stocking rate and weight gain under different grazing systems at Ankole, Uganda.
 Lib. code: L30-19066
- 0554 Stocking rate trials in Ankole, Uganda. I. Weight gain of Ankole steers at intermediate and heavy stocking rates under different managements.** Harrington, G.N.; Pratchett, D. *Journal of Agricultural Science (UK)*, 1974, (En), v. 82(pt. 3), pp. 497-506.
 □ Summarizes a series of stocking rate trials carried out in Uganda to examine the weight gains of Ankole steers grazed at 2.4, 1.2, 0.8 and 0.6 ha/300 kg animal on *Cymbopogon*,

Hypparrhenia and *Themeda* pastures; compares gain under rotational and continuous grazing and discusses practical implication of results obtained.
Lib. code: P-F00-19065

0555 **Studies on the *Hypparrhenia* veld of Zambia. VII. The effects of cattle grazing veld and dambo at different stocking rates.** Smith, C.A. *Journal of Agricultural Science (UK)*, Feb 1966, (En), v. 66(pt. 1), pp. 49-56, ISSN 0021-8596.
□ Measures the effect of different stocking rates on the weight gains of oxen, during the dry and rainy seasons, grazing *Hypparrhenia* veld and dambo.
Lib. code: L30-26046

0556 **Studies on the Northern Rhodesia *Hypparrhenia* veld. V. The yield of veld compared with giant Rhodes grass (*Chloris gayana*).** Smith, C.A. *Journal of Agricultural Science (UK)*, 1964, (En), v. 63, pp. 75-79.
□ Describes a plot trial wherein the herbage yields of *Hypparrhenia* veld and giant Rhodes grass were compared after cutting at grazing and hay stages of growth and at four levels of nitrogen fertilizer; also compares milk yield of cows on the two grasses at low and high stocking rates with and without nitrogen fertilizer.
Lib. code: P-F00-51562

0557 **Studies on the Northern Rhodesia *Hypparrhenia* veld. Part I. The grazing behaviour of indigenous cattle grazed at light and heavy stocking rates.** Smith, C.A. *Journal of Agricultural Science (UK)*, 1959, (En), v. 52, pp. 369-375.
□ Studies the normal pattern of grazing behaviour of free-range indigenous cattle under conditions of lenient stocking and overstocking in Rhodesia, with data on liveweight changes and water consumption.
Lib. code: P-L30-51601

0558 **Studies on the use of *Sabi panicum* for forage.** Barnes, D.L. *Rhodesia Agricultural Journal*, Nov-Dec 1966, (En), v. 63, pp. 144-154, ISSN 0035-4686.
□ Describes small plot factorial and field-scale experiments carried out at the Grasslands Research Station during the period 1958-1963, to study the effects of certain management and grazing practices during the preceding growing season on yield and quality of *Sabi panicum* forage. Assesses the main and interactive effects of feeding supplements of green oats and maize meal at two stocking rates on weight changes of Afri-cander steers, with particular reference to crude protein content of forage, leaf and stem components and effects of cutting and nitrogen fertilizing.
Lib. code: MFC-F00-22849

0559 **The effect of different stocking rates on the weight gains of Arkole steers on natural grassland in western Uganda.** Thornton, D.D.; Harrington, G.N. *Journal of Agricultural Science (UK)*, 1971, (En), v. 76, pp. 97-106.
□ Reports results of trials undertaken in Uganda to examine the effects of stocking rates of 3,6 and 9 acres per 2 to 3-year old steers on *Acacia-Cymbopogon/Themeda* complex pasture, with particular reference to pasture productivity as measured through individual liveweight gains; compares per capita liveweight gains under a 1 herd/2 paddock system with continuous grazing.
Lib. code: P-F00-19199

0560 **The effect of grazing management upon productivity in Uganda. 1. Stocking rate.** Stobbs, T.H. *Tropical Agriculture (Trinidad & Tobago)*, Jul 1969, (En), v. 46(3), pp. 187-194, ISSN 0041-3216.
□ Investigates the effects of four fixed intensities and one variable stocking rate treatment upon pasture composition and animal performance in a 3-year study using East African Zebu steers, with particular reference to effects of heavy or

low stocking on liveweight gain per acre, and of continuous heavy grazing on *Hypparrhenia rufa* and *Stylosanthes gracilis*; discusses the practical application of the results.
Lib. code: MFC-F00-20421

0561 **The herbage intake, eating behaviour and calf production of beef cows grazing improved pastures on the Northern Tablelands of New South Wales.** Hennessy, D.W.; Robinson, G.G. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1979, (En), v. 19, pp. 261-268, Summary (En).
□ Describes results from 2 years' study on the effects of grazing pressure, imposed by three stocking rates, on the performance of Hereford cows on improved pastures on the Northern Tablelands of New South Wales, Australia, with particular reference to liveweight of cows and calves, dry matter yield of pasture, feed intake, intensity of grazing and faeces organic matter.
Lib. code: P-L30-15062

0562 **The relation between animal gain and stocking rate. Derivation of the relation from the results of grazing trials.** Jones, R.L.; Sandland, R.L. *Journal of Agricultural Science (UK)*, 1974, (En), v. 83, pp. 335-342.
□ Examines the relationship between gain per animal and stocking rate, using results from an experiment in which tropical pasture species were grazed continuously by beef cattle at different stocking rates.
Lib. code: P-L30-51283

0563 **The use of liveweight gain trials for pasture evaluation in the tropics. 3. The measurement of large pasture differences.** Stobbs, T.H. *Journal of the British Grassland Society*, 1969, (En), v. 24, pp. 177-183.
□ Describes a 21-acre grazing trial conducted continuously for 3 years to evaluate tropical grass/legume pasture with and without inorganic fertilizers, with particular reference to liveweight gains and nutrient requirements of animals, and carrying capacities of pastures.
Lib. code: P-F00-50177

0564 **The use of liveweight gain trials for pasture evaluation in the tropics. 6. A fixed stocking rate design.** Stobbs, T.H. *Journal of the British Grassland Society*, 1970, (En), v. 25, pp. 73-77.
□ Discusses problems of designing, conducting and interpreting results of grazing trials to evaluate tropical pasture mixtures, relating the discussion to an experiment which measured the effect of three fixed stocking rates on two grass/legume pastures.
Lib. code: P-F00-51226

0565 **The use of liveweight-gain trials for pasture evaluation in the tropics. 2. Variable stocking rate designs.** Stobbs, T.H.; Joblin, A.D.H. *Journal of the British Grassland Society*, 1966, (En), v. 21, pp. 181-185.
□ Describes two ways of measuring the liveweight gain of cattle on sown pastures in the tropics using methods involving variation of stocking rate within and between pasture species for the first 12 months of grazing, and maintaining stocking rate at the same level between all pastures but varying it with the overall seasonal changes in grass availability for the remaining 21 months of grazing; discusses the relative merits of the two methods.
Lib. code: P-F00-51224

0566 **Utilization of *Panicum maximum* (Guinea grass) by cattle and carabaos.** Johnson, W.L.; Hardison, W.A.; Ordovery, A.L.; Castillo, L.S. *Philippine Journal of Animal Science*, Mar 1969, (En), v. 6(1), pp. 61-68.
□ Presents results of studies on the nutritive value of Guinea grass, mentioning effects of season and growth stage as well as differences between cattle in weight gain and efficiency of digestion. Includes calculations of theoretical stocking

capacities for a given harvest interval based on experimental data for forage yield and animal intake.
Lib. code: P-L30-51428

0567 Utilization of wet heath on the coastal lowlands of southeast Queensland, with beef steers grazing at three stocking rates of Pangola grass (*Digitaria decumbens*) with two rates of applied nitrogen fertilizer. 1. Animal and pasture production. Tierney, T.J.; Goward, E. *Tropical Grasslands (Australia)*, Dec 1983, (En), v. 17(4), pp. 132-138, ISSN 0049-4763.
□ Describes results of a study conducted in southeastern Queensland, Australia, to measure the effects of annual fertilizer rates of 288 and 480 kg nitrogen/hectare and stocking rates of 4.94, 7.41 and 9.9 steers per hectare on the dry matter yields of the pasture and the liveweight gain of animals.
Lib. code: F25-65242

0568 Utilization of wet heath on the coastal lowlands of southeast Queensland, with beef steers grazing at three stocking rates of Pangola grass (*Digitaria decumbens*) with two rates of applied nitrogen fertilizer. 2. Pasture chemical composition and soil changes. Tierney, T.J.; Goward, E. *Tropical Grasslands (Australia)*, Dec 1983, (En), v. 17(4), pp. 145-151, ISSN 0049-4763.
□ Examines the effects of annual nitrogen fertilizer rates of 288 and 480 kg/ha and stocking rates of 4.94, 7.41 and 9.90 steers per ha on the N, P, K, Ca and Mg concentrations in Pangola grass pastures, and on soil characteristics.
Lib. code: F25-65243

DEFERRED AND ROTATIONAL GRAZING AND

OTHER MANAGEMENT SYSTEMS

0569 An analysis of rotational grazing on veld. Barnes, D.L. *Rhodesia Agricultural Journal*, 1977, (En), v. 74(6), pp. 147-152, Summary (En).
□ Compares six rotational grazing procedures at two stocking rates on veld at Matopos Research Station in Zimbabwe, with respect to the relations between weight gain of animals and grazing intensity, and effects of the grazing procedures on botanical composition of pasture.
Lib. code: P-L30-22781

0570 Aspects of defoliation during short-duration grazing of the Matopos sandveld of Zimbabwe. Gammon, D.M.; Roberts, B.R. *Zimbabwe Journal of Agricultural Research*, 1980, (En), v. 18, pp. 29-38.
□ Presents results of repeated measurements and observations of approximately 1500 marked tillers located in permanent belt transects randomly sited in three distinct veld types in order to determine the pattern of defoliation by cattle, especially in terms of tiller selection in relation to previous defoliation; discusses short-duration grazing recommendations in relation to the results.
Lib. code: P-F00-22932

0571 Beef cattle: Rotational rest periods and utilization of grazing. Edwards, P.J. Department of Agriculture and Fisheries, Pretoria (South Africa). *Farming in South Africa*, 1980, (En), C.1.2.3.3, 4p.
□ Outlines guidelines on factors that should be considered when attempting to maintain veld in its most productive stage or to improve it, with particular reference to the rotation of rest periods; duration and frequency of utilization, intensity of defoliation; and removal of surplus unpalatable herbage.
Lib. code: P-F00-51597

0572 Beef from Green panic-*Glycine* on Atherton tableland. Winks, L.; O'Grady, P.; Chambers, G. *Queensland Agricultural Journal (Australia)*, 1975, (En), v. 101(1), pp. 1-7.
□ Studies beef production potentials of Green panic-*Glycine* pasture mixtures in Australia's Atherton tableland, with particular reference to factors determining pasture growth

patterns, weight gains of steers at moderately high stocking rates, carrying capacity, and management strategies to overcome problems related to the use of rapid growth in summer, feed shortage in spring, and reduction of grazing pressure on the legume in spring.
Lib. code: P-F00-50209

0573 Characteristics of the herbage on offer during continuous and rotational grazing of the Matopos sandveld of Rhodesia. Gammon, D.M.; Roberts, B.R. *Rhodesian Journal of Agricultural Research*, 1978, (En), v. 16, pp. 3-22, Summary (En).
□ Presents results of monitoring herbage characteristics under continuous grazing and a simulated rotational grazing system in a paddock containing *Hyperthelia*, *Themeda* and *Sporobolus* veld types, in two seasons under equivalent stocking pressures; includes data on uninterrupted herbage production, dry matter on offer, leaf yield and percentage of leaf in the dry matter, crude protein content of leaf and stem, and on litter formation.
Lib. code: P-F00-51582

0574 Coastal Bermuda grass pastures for grazing calves and yearlings in Louisiana. Oliver, W.M. *Louisiana State University Agricultural Experiment Station Bulletin (USA)*, Oct 1972, (En), no. 667, 23p.
□ Presents results of trials conducted in Louisiana, USA, on Coastal Bermuda grass pastures to evaluate the grass as a forage plant for stocker calves, and to compare the weight gains and returns produced by continuous and rotational grazing; includes data on animal gains, changes in animal value, and financial returns.
Lib. code: P-L30-51566

0575 Desempenho de novilhos zebuínos em pastagens naturais e cultivadas sob rotação. (Performance of Zebu steers in range and improved pastures under rotational grazing). Vilela, H.; Campos, O.B. de; Simoes, R. *Arquivos da Escola de Veterinária, Universidade Federal de Minas Gerais (Brazil)*, 1977, (Pt), v. 29, pp. 293-300.
□ Presents results of a grazing trial with mixed-bred Zebu steers conducted during the dry and rainy seasons to compare a *Panicum maximum* pasture improved with a mixture of tropical legumes versus non-cultivated pasture of *Panicum maximum*; includes data on liveweight gains, stocking rate, total digestible nutrients required per kg gain, and on botanical and chemical composition of pastures.
Lib. code: P-F00-51240

0576 Effect of three grazing intervals on carrying capacity and weight gains produced by Star grass pastures. Vicente-Chandler, J.; Caro-Costas, R. *Journal of Agriculture of the University of Puerto Rico*, 1981, (En), v. 65(1), pp. 14-23.
□ Reports findings of a study on the effect of 14, 21, and 28 day grazing intervals over 3 consecutive years, on the productivity of intensively managed, well fertilized Star grass pastures on a steep Ultisol, particularly in terms of weight gains of grazing animals and carrying capacity of pasture.
Lib. code: P-F00-51223

0577 Effect of yarding cattle at night without supplementary feeding on the growth of Zebu heifers. Kyomo, M.L.; Hutchison, H.G.; Salche, I. *East African Agricultural and Forestry Journal (Kenya)*, 1972, (En), v. 37(4), pp. 279-285.
□ Describes findings of a trial carried out to examine the effect on growth rate of Zebu heifers kraaled without supplementary feeding at night during both the rainy and dry seasons.
Lib. code: P-L30-51599

0578 Effects of shade on rate of growth and fattening of beef steers. McCormick, W.C.; Givens, R.L.; Southwell, B.L. *Georgia University Agricultural Experiment Stations Technical Bulletin (USA)*, Feb 1963, (En), N.S. 27, 13p.

- Describes trials carried out to examine the performance of Hereford steers grazed on Coastal Bermuda grass pastures or fattened in drylots or pastures, with particular reference to the effects of artificial shades made from either straw or aluminium on weight gains by the animals.
Lib. code: P-L30-51568
- 0579 Grazing behaviour of cattle during continuous and rotational grazing of the Matopos sandveld of Zimbabwe.** Gammon, D.M.; Roberts, B.R. *Zimbabwe Journal of Agricultural Research*, 1980, (En), v. 18, pp. 13-27.
□ Discusses results of a study on the grazing behaviour of cattle in a paddock containing *Hypertelia*, *Themeda* and *Parobolus* veld types under continuous grazing and under a simulated six-paddock rotational grazing system with grazing periods of 6 to 12 days; includes data on commencement and cessation of day-grazing spells, drinking and supplementary feeding; total day-grazing time; grazing time per veld type; walking distance; browsing; and pattern of visiting and grazing small preferred areas.
Lib. code: P-L30-22931
- 0580 Grazing natural grassland in western Kenya.** Bogdan, A.V.; Kidner, E.M. *East African Agricultural and Forestry Journal (Kenya)*, Jul 1967, (En), v. 33(1), pp. 31-34, ISSN 0012-8325.
□ Presents trial results showing the effect of rotation grazing and continuous grazing systems on liveweight gains of grazing animals and on percentage cover of natural grasslands.
Lib. code: L30-14903
- 0581 Grazing stocker cattle during the warm season.** Oliver, W.M. North Louisiana Hill Farm Experiment Station, Homer (USA). *Hill Farm Facts (USA)*, Oct 1972, (En), no. 14, 7p., Summary (En).
□ Presents results of studies carried out in Louisiana, USA, to examine the performance of steers grazing Coastal Bermuda grass, with particular reference to weight gains, animal value, and comparative performance on rotational and continuous grazing. Includes cost and return analysis.
Lib. code: P-L30-51482
- 0582 Pasture defoliation practice: A review.** Humphreys, L.R. *Journal of the Australian Institute of Agricultural Science*, 1966, (En), pp. 93-105.
□ Reviews conceptual bases for grazing and cutting practices aimed at meeting animal requirements and controlling pasture growth, development and botanical composition, emphasizing reports from tropical and subtropical regions.
Lib. code: P-F00-51222
- 0583 Patterns of defoliation during continuous and rotational grazing of the Matopos sandveld of Rhodesia. 3. Frequency of defoliation.** Gammon, D.M.; Roberts, B.R. *Rhodesian Journal of Agricultural Research*, 1978, (En), v. 16, pp. 147-164, Summary (En).
□ Studies the frequencies of defoliation of tillers in an area containing three closely associated veld types under continuous grazing and under a simulated six-paddock rotational grazing system with grazing periods of 6 days initially and 12 days subsequently.
Lib. code: P-F00-22942
- 0584 Patterns of defoliation during continuous and rotational grazing of the Matopos sandveld of Rhodesia. 2. Severity of grazing.** Gammon, D.M.; Roberts, B.R. *Rhodesian Journal of Agricultural Research*, 1978, (En), v. 16, pp. 117-131.
□ Describes findings of studies carried out in Rhodesia to establish the severity of defoliation occurring in a common veld type under continuous grazing and under a simulated six-paddock rotational grazing system with grazing periods of 6 days initially and 12 days subsequently; includes data on height of grazing, noting differences between veld types, between species within veld types and between periods of the year.
Lib. code: P-F00-22941
- 0585 Patterns of defoliation during continuous and rotational grazing of the Matopos sandveld of Rhodesia. 1. Selectivity of defoliation.** Gammon, D.M.; Roberts, B.R. *Rhodesian Journal of Agricultural Research*, 1978, (En), v. 16, pp. 133-145.
□ Studies patterns of defoliation under continuous grazing and under a simulated six-paddock rotational grazing system with grazing periods of 6 days initially and 12 days subsequently in an area containing three closely associated veld types; with data on grazing selectivity for types, species within veld types; and for tillers of different types and heights within species.
Lib. code: P-F00-22940
- 0586 Performance of steers on Pensacola Bahia grass, Coastal Bermuda grass and Coastcross-1 Bermuda grass pastures and pellets.** Chapman, H.D.; Marchant, W.H.; Utley, P.R.; Hellwig, R.E.; Monson, W.G. *Journal of Animal Science (USA)*, 1972, (En), v. 34(3), pp. 373-378.
□ Describes findings of a study designed to compare Pensacola Bahia grass, Coastal Bermuda grass and Coastcross-1 Bermuda grass for producing liveweight gains of beef steers, by letting animals graze the grasses during the summer and feeding them as pelleted forage in the fall and winter. Examines variations in liveweight gain in relation to age at harvesting, stocking rate and grass variety.
Lib. code: P-L30-51487
- 0587 Producción de carne con forrajes en el valle del Cauca.** (Production of meat with forages in the valley of Cauca). Ramirez, A.P.; Escobar, G.L.; Pieri, A.M. de; Gomez, J.S. Instituto Colombiano Agropecuario, Centro Nacional de Investigaciones Agropecuarias Palmira. *ICA Boletín Técnico (Colombia)*, 1971, (Es), no. 15, 81p.
□ Gives results of various trials carried out in the Cauca Valley of Colombia, using different tropical grasses under continuous and rotational grazing and different levels of fertilization.
Lib. code: L30-51588
- 0588 Some effects of varying the duration, frequency and intensity of grazing on the growth of steers on veld.** Denny, R.P.; Barnes, D.L.; Franklin, M.F. *Proceedings of the Grassland Society of South Africa*, 1974, (En), v. 9, pp. 133-137, Summary (Af En).
□ Presents results of a grazing trial undertaken on open granite sandveld near Bulawayo, Rhodesia, wherein 5, 10, and 20 days in a paddock were combined with four and eight paddock units to give a range of grazing procedures, tests each procedure at two stocking rates, with particular reference to steer live-mass gains.
Lib. code: P-F00 51229
- 0589 Steer gains under six systems of Coastal Bermuda grass utilization.** Hart, R.H.; Marchant, W.H.; Butter, J.L.; Hellwig, R.E.; McCormick, W.C.; Southwell, B.L.; Burton, G.W. *Journal of Range Management (USA)*, 1976, (En), v. 29(5), pp. 372-375, Summary (En).
□ Summarizes results of a trial conducted to examine the response of steers to six methods of feeding Coastal Bermuda grass, viz. continuous, weekly rotation or daily strip grazing, or green chop, dehydrated hay, or intake, weight gains and seasonal variation in average daily gain.
Lib. code: P-L30-51484
- 0590 Studies of Napier grass. III. Grazing management.** Takahashi, M.; Moomaw, J.C.; Ripper-ton, J.C. Hawaii Univ., Honolulu (USA). Hawaii Agricultural Experiment Station. *Hawaii Agricultural Experiment Station Bulletin (USA)*, 1966, (En), no. 128, 47p.
□ Presents results of a study on systems of grazing management of Napier grass pasture, viz. grazing at the immature stage of growth for a short duration and grazing at the mature stage of growth either for a short or a long duration, referring to effects on carrying capacity, daily gains and beef production per acre

per year; includes an assessment of the effects of molasses and soybean oil meal supplementation.
Lib. code: P-L30-51469

0591 Studies on the Northern Rhodesia *Hyparrhenia* veld. III. The effect on the growth and grazing behaviour of indigenous cattle of restricting their daily grazing time by night kraaling. Smith, C.A. *Journal of Agricultural Science (UK)*, 1961, (En), v. 56, pp. 243-248, ISSN 0021-8596.

□ Reports results of trials undertaken on the Zambia *Hyparrhenia* veld to study the effects of grazing restrictions imposed by kraaling treatments on the grazing behaviour, liveweight and growth of indigenous cattle, comparing three cattle management treatments, i.e. free range, moderate and severe kraaling (11 and 7 hour grazing days respectively) during seasonal periods of low cattle weight gains, large cattle weight gains and large cattle weight losses.
Lib. code: MIC-L30-22650

0592 Studies with beef steers on the Kongwa Plain, central Tanzania. Owen, M.A. *Tropical Agriculture (Trinidad & Tobago)*, 1968, (En), v. 45, pp. 159-171.

□ Reviews and discusses a series of trials with beef cattle undertaken in Tanzania to compare the liveweight performance and water intake of Boran and Angus-Boran cross steers; to study the effect of providing night grazing facilities on daily gain; and to assess the influence of various supplements on the weight gain of beef steers.
Lib. code: P-L30-51406

0593 The development of multi-camp systems on a farm in the southern Orange Free State. Howell, L.N. *Proceedings of the Grassland Society of South Africa*, 1976, (En), v. 11, pp. 53-57, Summary (Af En).

□ Describes the evolution of multi-camp systems from non-selective grazing to short-duration grazing management on the "Hillside" Farm in the False Karoo in the southern Orange Free State, South Africa; discusses the return of rare and unknown grasses and bushes.
Lib. code: P-F00-51582

0594 The effect of grazing cycle duration on live-weight output and chemical composition of Pangola grass (*Digitaria decumbens* Stent.) in Jamaica. Creek, M.J.; Nestel, B.L. *Proceedings of the IX International Grassland Congress*, 1965, (En), pp. 1614-1618, Summary (En Es).

□ Presents results of a triple reversal grazing experiment using 2-year-old beef steers and 67 acres of grass to examine the effect of a 32-day and a 40-day grazing cycle on liveweight production and dry matter and protein content of Pangola grass.
Lib. code: P-L30-51584

0595 The effect of grazing management upon pasture productivity in Uganda. III. Rotational and continuous grazing. Stobbs, T.H. *Tropical Agriculture (Trinidad & Tobago)*, 1969, (En), v. 46(4), pp. 293-301.

□ Presents results of a trial carried out in Uganda to compare two systems of rotational grazing management (three- and six-paddock grazing) with continuous grazing at a stocking rate of two beasts per acre, includes data on liveweight gain of animals and changes in botanical composition of pasture due to grazing management.
Lib. code: P-L30-04252

0596 The effect of grazing management upon pasture production in Uganda. II. Grazing frequency. Stobbs, T.H. *Tropical Agriculture (Trinidad & Tobago)*, 1969, (En), v. 46(3), pp. 195-200, Summary (En).

□ Describes a grazing experiment carried out in Uganda to examine the effect of 35-day and 17 1/2 day grazing cycles on the liveweight gain of Small East African Zebu heifers on two plots sown with either *Hyparrhenia rufa* and *Stylosanthes gracilis* or *Hyparrhenia rufa* and *Centrosema pubescens*.
Lib. code: P-L30-20422

0597 The use of liveweight-gain trials for pasture evaluation in the tropics. 1. An "animal" Latin-square design. Stobbs, T.H.; Joblin, A.D.H. *Journal of the British Grassland Society*, 1966, (En), v. 21, pp. 49-55.

□ Describes an experiment in which the liveweight gain of cattle grazing different pasture species were measured when grazing sequences were arranged in the form of a Latin square; discusses the problems of conducting and interpreting similar trials in relation to the need for data on the economic value of pasture species in the tropics.
Lib. code: P-F00-51559

0598 Trials of multi-paddock grazing system on veld. 3. A comparison of six grazing procedures at two stocking rates. Denny, R.P.; Barnes, D.L. *Rhodesian Journal of Agricultural Research*, 1977, (En), v. 15, pp. 129-142.

□ Presents results of a veld grazing trial on sandy granite-derived soils designed to measure the effects of varying the duration, intensity and frequency of grazing in rotational systems on the growth of steers and on the botanical composition and condition of veld.
Lib. code: P-L30-22953

0599 Trials of multi-paddock grazing system on veld. 2. A comparison of a 16-paddocks-to-one-herd system with a four-paddocks-to-one-herd system using breeding cows. Denny, R.P.; Steyn, J.S.H. *Rhodesian Journal of Agricultural Research*, 1977, (En), v. 15, pp. 119-127.

□ Presents results of a trial conducted to assess the effects of stocking veld at high densities for short periods on botanical composition and animal performance, by comparing a 16-paddocks-to-one-herd intensive rotational grazing system and a four-paddocks-to-one-herd rotational resting system.
Lib. code: P-L30-22951

0600 Trials of multi-paddock grazing system on veld. 1. An exploratory trial of systems involving twelve paddocks and one herd. Denny, R.P.; Barnes, D.L.; Kennan, T.C.D. *Rhodesian Journal of Agricultural Research*, 1977, (En), v. 15, pp. 11-23.

□ Presents results of a multi-paddock grazing trial with steers conducted over three seasons in order to assess the effect of stocking at high densities for short periods on the botanical composition of veld, by comparing two intensive rotational grazing systems involving 12-paddocks-to-one herd with a four-paddock-to-three-herds rotational resting system in which three of the four paddocks were grazed continuously and the fourth rested and burned in rotation.
Lib. code: P-F00-22952

THE USE OF GROWTH-PROMOTING SUBSTANCES, VITAMINS etc.

0601 A note on the performance of fattening steers implanted with zeranol under grazing and feedlot conditions in Botswana. Shorrocks, C.; Capper, B.S.; Light, D.; Mlambo, M.M.J. *Animal Production (UK)*, Apr 1978, (En), v. 26(pt. 2), pp. 221-224, ISSN 0003-3561, Summary (En).

□ Describes trial results showing effect of zeranol on performance of fattening steers under feedlot and semi-arid grazing conditions in Botswana.
Lib. code: L30-12631

0602 Efecto de implantaciones de estilbestrol sobre ceba de bovinos en pasto Parí (*Panicum purpurascens*, Raddi). (Effect of stilbestrol implantation on cattle in Para grass pastures). Carrera, C.; Soikes, R.C. *Turrialba (Costa Rica)*, 1958, (Es), v. 8, pp. 96-103.

□ Presents results of a trial carried out to examine the weight gain response of beef cattle on Para grass pasture to stilbestrol implants, comparing response of cattle with and without concentrate supplements.
Lib. code: P-L30-51545

- 0603 Efecto de una lactona del ácido resorcílico (RAL) en el aumento de peso de novillos en pastoreo.** (Effect of an anabolic compound (RAL) on the weight gain of young steers in pasture). Rubio, E.C. In: *Séptimo Congreso Panamericano de Medicina Veterinaria y Zootecnia, Bogotá, Julio 1973*; (Es), 9p.
 □ Examines the effect of an anabolic compound (RAL) on the average weight and body conformation of Zebu steers in a rotational pasture system with free access to salt and mineral supplements.
 Lib. code: P-L30-51546
- 0604 Efeito da administração de vitamina A, D e E nos bovinos em fase de aleitamento.** (Effect of vitamin A, D, E administration to suckling beef cattle). Silva, D.J. da; Cunha, P.G. da; Siqueira, C.M.F.; Roverso, E.A. *Boletim de Industria Animal (Brazil)*, 1974, (Pt), v. 31(2), pp. 205-212.
 □ Examines the response of suckling calves to the administration of a vitamin ADE complex, with particular reference to weight changes and the effects of sex and age on the response to the treatment.
 Lib. code: P-L30-51538
- 0605 Efeito do dietilstilbestrol sobre o comportamento de novillos da raça Zebu, alimentados em pastagens.** (The effect of diethylstilbestrol upon the performance of pasture-fed Zebu steers). Quinn, L.R.; Mott, G.O.; Bisschoff, W.V.A.; Rocha, G.L. da. *Pesquisa Agropecuária Brasileira*, 1967, (Pt), v. 2, pp. 307-323.
 □ Reports results of 10 comparisons of stilbestrol-treated and untreated steers on pasture, with some of the animals receiving supplements including ground ear corn, molasses, molasses-urea and low-protein concentrates; with particular reference to the effects of the treatments on weight gain, growth rate and production costs.
 Lib. code: P-L30-51541
- 0606 Effect of hormone implantation on growth rate and carcass composition of cattle grazing *Paspalum*-dominant pasture.** Beames, R.M.; O'Bryan, M.S. *Queensland Journal of Agricultural Science (Australia)*, 1962, (En), v. 19(4), pp. 485-491.
 □ Describes an experiment wherein cattle were implanted with two types of hormone pellets, one containing progesterone and oestradiol benzoate, and the other containing additional cholesterol and hydrocortisone acetate, in order to examine the effects on body weight, dressing percentage, carcass composition and teat development.
 Lib. code: P-L30-51539
- 0607 Effect of monensin on gain and forage utilization by calves grazing Bermuda grass.** Rouquette, F.M. Jr.; Griffin, J.L.; Randel, R.D.; Carroll, L.H. *Journal of Animal Science (USA)*, Sep 1980, (En), v. 51(3), pp. 521-525, ISSN 0021-8812.
 □ Presents trial results showing liveweight gain and efficiency of forage utilization by calves grazing Bermuda grass with and without the addition of dietary monensin.
 Lib. code: L30-26622
- 0608 Effect of monensin on gains of steers grazed on Coastal Bermuda grass.** Oliver, W.M. *Journal of Animal Science (USA)*, 1975, (En), v. 4(4), pp. 999-1001.
 □ Reports a study carried out to evaluate the effect of various feeding treatments, viz. no corn, corn only, and corn plus different amounts of monensin, on weight gains of stocker steers grazed on well managed Coastal Bermuda grass pastures.
 Lib. code: P-L30-51398
- 0609 Effect of synthetic hormone implants on grazing steers in Queensland.** Mawson, W.F.; Beattie, A.W.; Sutherland, D.N. *Queensland Journal of Agricultural Science (Australia)*, 1962, (En), v. 19, pp. 467-484.
 □ Describes results of an experiment carried out in Australia to examine the effect of hexoestrol implants on the performance of grazing beef cattle, with particular reference to growth rate, liveweight changes, body conformation, dressing percentage, and carcass measurements.
 Lib. code: P-L30-51535
- 0610 Implantación hormonal en novillos a pastoreo en sabanas tropicales.** (Hormonal implantation in calves on tropical savanna pastures). Chicco, C.F.; Shultz, T.A.; Carnevali, A.; Gonzalez, R. *Agronomia Tropical (Venezuela)*, 1974, (Es), v. 24(6), pp. 471-476.
 □ Examines the weight response of Criollo x Brahman steers to implantation of resoreclic acid lactone under savanna grazing with or without supplements containing 32% crude protein.
 Lib. code: P-L30-51537
- 0611 Oral and implanted stilbestrol for beef cattle fattened on pasture and in drylot.** Chapman, H.L. Jr.; Palmer, A.Z.; Kidder, R.W.; Carpenter, J.W.; Haines, C.E. Florida Univ., Gainesville (USA). *Agricultural Experiment Stations*. Feb 1964, (En), 16p.
 □ Reports results of a series of five experiments designed to determine the value of stilbestrol in steer-feeding programmes by comparing the effect obtained on Roselawn St. Augustine grass pasture with results obtained in drylot, and by examining the influence of different levels of concentrate feed intake as well as oral administration and implantation of stilbestrol on the performance of animals. Includes data on weight gains, carcass values and feed intake under the different treatments.
 Lib. code: P-L30-51542
- 0612 Performance and carcass characteristics of steers, steers implanted with zeranol, and bull calves.** Utley, P.R. Georgia Univ., Tifton (USA). Coll. of Agriculture Experiment Stations. *Coastal Plain Station Research Report (USA)*, Mar 1976, (En), no. 221, 9p.
 □ Compares the performance of steers with and without zeranol implantation, and intact bulls, in terms of average daily weight, dressing percentage, carcass grade and economic aspects.
 Lib. code: P-L30-51544
- 0613 Seasonal fluctuations of hepatic vitamin A reserves in beef cattle grazing unimproved pastures.** Gartner, R.J.W.; Alexander, G.I.; Berg, W.P. *Queensland Journal of Agricultural and Animal Sciences (Australia)*, 1968, (En), v. 25, pp. 225-233.
 □ Presents results of experiments conducted to determine hepatic reserves of vitamin A in beef calves and cows grazing pastures throughout 2 years; with reference to influences of age and season, and the repeatability in the level of vitamin A.
 Lib. code: P-L50-51547
- 0614 Stilbestrol and its effect on pasture-fed Zebu steers.** Quinn, L.R.; Mott, G.O.; Bischoff, W.B.; McClung, A.C. *IBEC Research Institute Bulletin (USA)*, s.d., (En), no. 15, 19p.
 □ Presents results of research on the effect of stilbestrol implantation on the growth rate of Zebu steers on Coloniao grass pasture, examining the association between growth rate and age, the economic returns from the use of stilbestrol, and the safety of meat from stilbestrol-treated animals for human consumption.
 Lib. code: L30-51551
- 0615 The effect of castration and vasectomy on male Zebus which grazed veld under two systems of management.** Hale, D.H.; Oliver, J. *South African Journal of Animal Science*, 1972, (En), v. 2, pp. 27-31, Summary (Af En).
 □ Examines the performance of castrated and vasectomized bulls grazing veld of good or poor quality, with particular reference to body mass, behaviour, and carcass characteristics.
 Lib. code: P-L70-51543

- 0616 The effect of diethylstilbestrol upon the performance of pasture-fed Zebu steers.** Quinn, L.R.; Mott, G.O.; Bisschoff, W.V.A. *Pesquisa Agropecuaria Brasileira*, 1967, (En), v. 2, 47p., Summary (En).
 □ Presents results of grazing trials conducted on pastures typical of central Brazil containing Colonial Guinea grass or common Bahia-Jaragua grass, with particular reference to effects of stilbestrol implants on weight gain in different seasons.
 Lib. code: P-L30-51540
- 0617 The effect of drought feeding with whole cottonseed, and vitamin therapy, on the serum lipids and liveweight changes of beef cattle in north-western Australia.** O'Kelly, J.C.; Robinson, D.W. *Australian Journal of Agricultural Research*, 1968, (En), v. 19, pp. 657-664.
 □ Describes an experiment carried out in the Kimberley region of northwestern Australia to study the influence of drought feeding with cottonseed, and of vitamin therapy, on liveweight changes and blood lipid components, particularly total, free and esterified cholesterol, triglycerides and phospholipids during the dry season.
 Lib. code: P-L30-51528
- 0618 The effects of hormone implantations on the growth rates of European, Zebu and hybrid beef steers grazing in Jamaica.** Nestel, B.L.; Clay, D. *British Veterinary Journal*, 1961, (En), v. 117(10), pp. 455-456.
 □ Reports on experiments carried out in Jamaica to assess the value of implantation of hexoestrol and a progesterone-oestradiol compound given to Zebu, high-grade European and hybrid steers, with particular reference to optimum dose, effect of implantation on liveweight, dressing percentage and carcass quality correlation between breed type, body size, plane of nutrition and hormone response.
 Lib. code: P-L30-51549
- 0619 The influence of stilbestrol upon pasture-fed Zebu steers and male suckling calves.** Quinn, L.R.; Mott, G.O.; Bisschoff, W.V.A. *IBEC Research Institute Publication (USA)*, 1960, (En), no. 23, 34p.
 □ Presents trial results showing the effect of stilbestrol on the growth of Zebu steers grazed on fertilized and unfertilized *Panicum maximum*; on growth rate of two age groups of steers on inferior-type pasture during summer and winter; on winter responses of 4- and 5-year-old steers under extensive range conditions; and on growth rate of suckling calves; with data on carcass quality, carcass dressing percentages and economic aspects.
 Lib. code: L30-20098
- 0620 The use of hexoestrol for beef production from Zebu cattle under ranch conditions in Tanganyika.** Hutchison, H.G.; Robb, J.M. *Journal of Agricultural Science (UK)*, Nov 1962, (En), v. 59(pt. 3), pp. 327-241, ISSN 0021-8596.
 □ Studies the effect of hexoestrol implants on beef production from Zebu cattle, under ranch conditions in Tanzania, with reference to liveweight gain and effect of dosage rate on growth response and carcass quality.
 Lib. code: L50-26145
- 0621 Use of synthetic oestrogens for promoting weight gains in beef steers grazing on native pastures.** Burns, M.A.; Sutherland, D.N. *Queensland Journal of Agricultural Science (Australia)*, 1960, (En), v. 17, pp. 39-42.
 □ Presents results of a study carried out to determine the growth rate, weight gain and carcass value of cattle implanted with hexoestrol at two levels and dependent solely on unimproved pasture for grazing.
 Lib. code: P-L30-51534
- 0622 Uso de estilbestrol en engorde de novillos sobre pasto Jaragua.** (Stilbestrol implantation in young steers on Jaragua pasture). Rios, C.; Osegueda, F.L. *Turrialba (Costa Rica)*, 1967, (Es), v. 17(2), pp. 172-175.
 □ Describes a study carried out to determine the reponse of young steers on Jaragua pasture to implanted stilbestrol, particularly in terms of weight gain.
 Lib. code: P-L30-51550
- 0623 Valor de hormonas estrogénicas y progestérona en ceba de novillos.** (Value of oestrogens and progesterone to fattening cattle). Alba, J. de; Mallos, J. *Turrialba (Costa Rica)*, 1963, (Es), v. 13, pp. 28-30.
 □ Presents data on two experiments carried out at Turrialba, Costa Rica, on the effect of progesterone, estradiol or diethylstilbestrol implants on the rate of weight gain of steers grazing molasses grass; compares results with those of untreated animals and evaluates cost of treatment.
 Lib. code: P-L30-51536
- 0524 Vitamin A-D-E injection of pregnant beef cows on rested winter grazing.** Meaker, H.J. *South African Journal of Animal Science*, 1981, (En), v. 11(1), pp. 23-25.
 □ Discusses the effect of vitamin A on live-mass loss, retained placenta of pregnant beef cows given vitamin A-D-E injections during winter grazing, on birth weight, and weaning weight of calves.
 Lib. code: L30-27796

IRRIGATED PASTURES

- 0625 Animal production from annual pastures or irrigated ryegrass in the Burnett District of southeast Queensland.** Robbins, G.B.; Busby, G.J.; Faulkner, G.B. *Tropical Grasslands (Australia)*, 1980, (En), v. 14(1), pp. 40-43, Summary (En).
 □ Describes results of a trial conducted in Australia to measure milk production of dairy cows and liveweight gains of beef steers grazing autumn-sown, nitrogen-fertilized and irrigated ryegrass with stocking rates varying according to pasture growth.
 Lib. code: P-L30-51485
- 0626 Beef gains from irrigated pastures in the Burdekin Delta.** Allen, G.H.; Cowdry, W.A.R. *Queensland Agricultural Journal (Australia)*, 1961, (En), pp. 175-179.
 □ Examines the establishment and production of irrigated tropical grass and legume pasture mixtures, particularly Para grass and centro, Guinea grass and centro, Guinea grass and stylo, and Rhodes grass and stylo; includes data on rates of grazing and weight gain of beef cattle.
 Lib. code: P-F00-50208
- 0627 Beef production and carrying capacity of heavily fertilized, irrigated Guinea, Napier, and Pangola grass pastures on the semi-arid south coast of Puerto Rico.** Caro-Costas, R.; Vicente-Chandler, J.; Burleigh, C. *Journal of Agriculture of the University of Puerto Rico*, 1961, (En), v. 45(1), pp. 32-36, Summary (En Es).
 □ Describes trials conducted to examine the productivity of Guinea grass, Napier grass, and Pangola grass pastures under close to optimum conditions of heavy fertilization, irrigation and intensive grazing management on almost level land on the semi-arid south coast of Puerto Rico; with particular reference to carrying capacity and weight gains of animals.
 Lib. code: P-F00-50130

- 0628 Preliminary observations on the use of irrigated grass pastures for grazing by beef cattle.** Rodel, M.G.W.; Boultonwood, J.N.; Young, F.W. *Zimbabwe Agricultural Journal*, Jan 1981, (En), v. 78(1), pp. 3-4, ISSN 0035-4686.
 □ Examines the potential of irrigated pastures of Star grass, Paraguay *Paspalum* and Victoria Falls *Panicum* for beef cattle production, with data on stocking rate and body mass gains of steers and heifers grazing these pastures.
 Lib. code: L30-27288

0629 Production from steers grazing nitrogen-fertilized irrigated Pangola grass in the Ord Valley. Blunt, C.G. *Tropical Grasslands (Australia)*, 1978, (En), v. 12(2), pp. 90-96, Summary (En).

□ Presents results of trials conducted in Australia to study the effect on steer performance of stocking rate and nitrogen fertilizer level applied to irrigated Pangola grass, with particular emphasis on the effects of increasing stocking rates and nitrogen fertilizer levels on pasture yield and composition, as well as liveweight gain of animals.
Lib. code: P-F00-50126

0630 Production responses and economic returns from irrigated pasture programmes in the Middle Awash. Shankute Tessema. Institute of Agricultural Research, Addis Ababa (Ethiopia). 1975, (En), pp. 206-208; 5. Annual Research Seminar, Holetta (Ethiopia), 30 Oct 1974.

□ Investigates the profitability of animal production in the irrigated areas of the Middle Awash in Ethiopia, showing weight gains of Barca and Danakil cattle, and forage yield of lucerne and Rhodes grass mixture.
Lib. code: L00-07654

0631 Yield, nitrogen uptake, and liveweight gains from irrigated grass-legume pasture on a Queensland tropical highland. Miller, C.P.; List, J.T. van der. *Australian Journal of Experimental Agriculture and Animal Husbandry*, 1977, (En), v. 7, pp. 949-960, Summary (En).

□ Presents results of measurements made in Australia on the growth and nitrogen uptake of grazed, irrigated, mixed pastures based on 11 legumes and *Brachiaria mutica*; with data on dry matter yield, response to nitrogen fertilizers, nitrogen yield, and liveweight gain of animals on the pastures.
Lib. code: P-F00-51581

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Phosphorus nutrition of beef cattle. 4. The use of faecal and blood phosphorus for the estimation of phosphorus intake. **0154**

ACACIA

- The effect of different stocking rates on the weight gains of Ankole steers on natural grassland in western Uganda. **0559**

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- Pangola grass (*Digitaria decumbens* Stent) in the Caribbean. **0062**

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AGROSTOLOGY

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