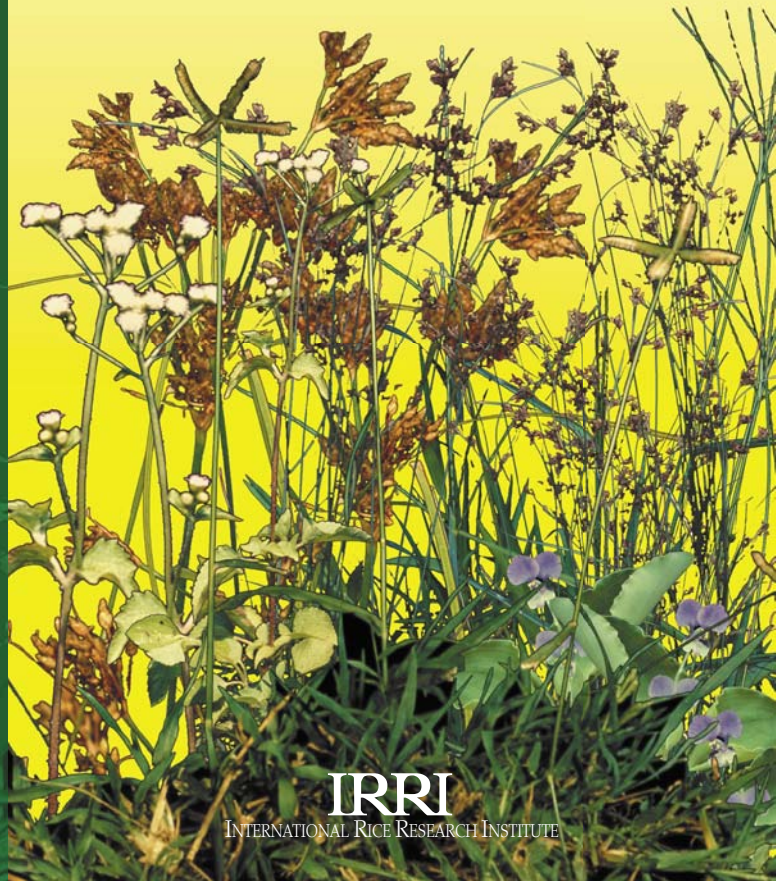


A Practical Field Guide to

Weeds of Rice in Asia

B.P. Caton, M. Mortimer, and J.E. Hill



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2004

IRRI

INTERNATIONAL RICE RESEARCH INSTITUTE
Los Baños, Laguna, Philippines

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Preface

Weed infestations are a never-ending concern for every farmer. Depending on the type of rice production practiced, rice farmers across Asia, from Korea to Nepal to Indonesia, often must contend with the same or similar weed species. That group of species is relatively small, but of great importance, and includes many of the “world’s worst weeds.”

In this guide, we have tried to collect practical information about some of the most common weeds of rice in Asia. The guide contains useful information about the botany, ecology, and cultural control of these species in a short text that should be easy to use in the field. In addition, it includes pictures to aid in early and accurate species identification.

Our goal was to give farmers, extension agents, researchers, and others a practical in-field means of assessing weed control problems and, where possible, to provide strategies for improving integrated weed management in rice systems. We especially hope that the guide will help farmers better understand the relationships among land preparation, rice establishment methods, and early season water management practices that often strongly influence the particular weed species that infest their rice fields.

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Terms and definitions

Apical (bud) dominance—growth of lateral buds is inhibited until the terminal bud stops growing

Creeping—a plant that often spreads horizontally using stolons or rhizomes

Erect—stems or branches growing vertically

Hypocotyl—the part of the stem below the first true leaf or leaves (seed leaf)

Inflorescence—a structure with flowers

Leaf blade—the extended portion of the leaf

Node—a place on the stem that may bear leaves

Propagule—a reproductive structure, for example, a seed or tuber

Rhizome—underground stem

Runner—a long, aboveground stem that roots at nodes to form new plants; longer than stolons

Sheath—basal part of leaf extending around stem

Stolon—a short, aboveground stem that roots at nodes to form new plants

Tuber—underground food-storing organ from which stems and roots may grow

Tufted—growing in clumps

Key to species listings

Common name(s)

Scientific name: Genus and species.

Bayer code, cotyledon number, family name.

Found in: upland or lowland fields.

Establishment method: methods of rice establishment after which species may commonly occur. DS = dry-seeded, WS = wet-seeded, TP = transplanted. ">" indicates more than and ">>" much more than, e.g., DS > TP means that the species is likely to occur more in direct-seeded than transplanted rice.

Growth habit: general appearance of growing plant.

Moisture: range of soil moisture, from dry to moist to wet (saturated) to flooded. The first listed is preferred.

Emergence time: approximate time of emergence, usually relative to germination rather than rice planting.

Competitiveness: potential of a species to reduce rice yields at high weed densities; low = 20% or less yield loss, moderate = 20% to 50% loss, high = greater than 50% loss, very high = up to 100% loss.

Seed contaminant: either reported or the possibility of contamination of rice seeds.

Cultural control: nonchemical methods that may help control a species.

Reported resistance (to herbicides): reported cases world-wide by herbicide type. AUS = Australia, BRA = Brazil, BUL = Bulgaria, COL = Colombia, COS = Costa Rica, FRA = France, JAP = Japan, POL = Poland, USA = United States of America, and see other Asian nations below.

Life cycle: A = annual, lives for only one season; P = perennial, may live for two or more seasons.

Seed wt: measured or reported seed mass or weight (wt), in mg.

Method(s) of reproduction: main types of propagules produced by the species.

Flowering/maturity time: days till flowering begins or maturity is reached.

Dormancy: whether propagules can germinate immediately after shedding or not. If so, seed banks are likely to be transient.

Flower: general description.

Elevation: maximum reported elevation.

Light: preference for radiation intensity.

Notes: other information that may be of interest.

Reported in: countries where the species has been found.

BAN = Bangladesh, BHU = Bhutan, CAM = Cambodia, CHN = China, IDO = Indonesia, IND = India, KOR = Korean peninsula, LAO = Lao PDR, MAL = Malaysia, MYA = Myanmar, NEP = Nepal, PAK = Pakistan, PHI = Philippines, SRI = Sri Lanka, THA = Thailand, VIE = Vietnam.

Note: all times approximate. The absence of a listing indicates that no information was found.

BROADLEAF WEEDS

SOLA PITH PLANT

Aeschynomene aspera L.

AESAS, dicot, Fabaceae

Found in: lowland rice

Establishment method: DS > WS

Growth habit: floating or erect, much-branched; up to 2 m

Moisture: aquatic, moist to wet

Competitiveness: unreported

Seed contaminant: unknown

Cultural control: tillage, split applications of fertilizer

Reported resistance: none

Life cycle: P **Seed wt:** 36

Method(s) of reproduction: seeds

Dormancy: short

Flower: pale yellow to yellow; small

Elevation: up to 1,500 m

Light: sunny

Notes: C₃ plant; often larger than *A. indica*; prefers fertile soils; pith is used as insulation in several products in India; useful as green manure or cover crop

Reported in: BAN, CAM, IDO, IND, MYA, NEP, PHI, SRI, THA, VIE



1



2

(1) Seedling, (2) young plant



3



4



5

INDIAN JOINT-VETCH

Aeschynomene indica L.

AESIN, dicot, Fabaceae

Found in: lowland, upland

Establishment method: DS > WS

Growth habit: floating and erect, much-branched; up to 2 m

Moisture: moist to wet

Competitiveness: moderate

Seed contaminant: yes

Cultural control: high fertility; early removal or cultivation

Reported resistance: none

Life cycle: P **Seed wt:** 7.3

Method(s) of reproduction: seeds

Dormancy: yes, pronounced

Flower: yellow

Elevation: 1,000 m

Light: sunny

Notes: seedpod is distinctive of leguminous plants; red light inhibits germination; fodder

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(3) Flower, (4) pod, (5) mature plant

TROPIC AGERATUM; GOAT WEED

Ageratum conyzoides L.

AGECO, dicot, Asteraceae

Found in: upland

Establishment method: DS

Growth habit: erect, often-branched herb; up to 1.2 m

Moisture: moist to dry

Competitiveness: moderate

Seed contaminant: unknown

Cultural control: early cutting and shallow cultivation

Reported resistance: none

Life cycle: A **Seed wt:** 0.1

Method(s) of reproduction: seeds

Maturity time: quick flowering and short-lived, as little as 2 mo

Dormancy: half can germinate immediately; light required for germination

Flower: white to pale purple

Elevation: 3,000 m

Light: shade-tolerant

Notes: very plastic growth habit; may emerge throughout the entire season; responds to fertilizer; prefers higher elevations; toxic to livestock

Reported in: BAN, BHU, CHN, IDO, IND, LAO, MAL, MYA, NEP, PHI, SRI, THA, VIE



6



7



8

(6) Seedling, (7) flower, (8) mature plant



9



10



11

SESSILE JOYWEED

Alternanthera sessilis (L.) R. Br. ex DC.

ALRSE, dicot, Amaranthaceae

Found in: lowland, upland

Establishment method: DS > WS

Growth habit: creeping and floating; many suberect branches, up to 1 m

Moisture: wet to moist; more terrestrial than aquatic

Competitiveness: moderate

Seed contaminant: unknown

Cultural control: flooding

Reported resistance: None

Life cycle: P **Seed wt:** 0.5

Method(s) of reproduction: seeds, stolons

Dormancy: unknown

Flower: white or pinkish, very small

Elevation: up to 2,650 m

Light: sunny

Notes: C₃ plant; sometimes consumed by humans

Reported in: BAN, BHU, CAM, CHN, IDO, IND, LAO, MAL, MYA, NEP, PHI, SRI, THA, VIE

(9) Seedling, (10) flower, (11) mature plant

SPINY AMARANTH

Amaranthus spinosus

AMASP, dicot, Amaranthaceae

Found in: upland

Establishment method: DS

Growth habit: erect, much-branched; thorns; up to 1 m

Moisture: moist

Competitiveness: moderate to high

Seed contaminant: unknown

Cultural control: early removal (before thorns grow) or cultivation; saturation and flooding suppress growth

Reported resistance: none

Life cycle: A **Seed wt:** 0.2

Method(s) of reproduction: seeds

Dormancy: variable, none to 4 mo; long viability; no light requirement for germination

Flower: yellowish

Elevation: up to 1,800 m

Light: sunny; shade-sensitive

Notes: one of the world's worst weeds; C₄ plant; prefers fertile soils and higher temperatures; sometimes consumed by humans; young plants poisonous to livestock

Reported in: BAN, BHU, CHN, IDO, IND, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



12



13

(12) Mature plant, (13) mature plant



14



15

TROPICAL SPIDERWORT

Commelina benghalensis L.

COMBE, monocot, Commelinaceae

Found in: upland, lowland

Establishment method: DS >> WS

Growth habit: herb; creeping with erect stems; up to 1 m

Moisture: moist to wet; drier than *C. diffusa*

Emergence time: 10 to 12 d

Seed contaminant: unknown

Competitiveness: moderate

Cultural control: flooding; hand and mechanical weeding difficult because pieces may re-root

Reported resistance: none

Life cycle: P **Seed wt:** 2.0

Method(s) of reproduction: seeds, stolons

Maturity time: aerial flowers in 35 d; rhizomes with under-ground flowers in 42 d

Dormancy: yes, innate

Flower: purple or blue

Elevation: up to 2,000 m

Light: sunny to slightly shaded

Notes: germinates best in full light; somewhat tolerant of herbicides; annual in temperate zones; prefers high fertility; single plant can cover a large area; useful forage and human food

Reported in: BAN, BHU, IDO, IND, KOR, MYA, NEP, PAK, PHI, SRI, THA, VIE

(14) Seedling, (15) flower

SPREADING DAYFLOWER

Commelina diffusa Burm. f.

COMDI, monocot, Commelinaceae

Found in: upland

Establishment method: DS > WS

Growth habit: creeping and prostrate; up to 1 m

Moisture: wet, not flooded

Competitiveness: at least moderate

Seed contaminant: yes

Cultural control: early continuous flooding; hand and mechanical weeding difficult because pieces may re-root

Reported resistance: synthetic auxins (USA)

Life cycle: P **Seed wt:** 11.5

Method(s) of reproduction: stolons

Flowering time: earlier than rice

Dormancy: innate and induced by high temperatures

Flower: blue

Elevation: up to 2,000 m

Light: shaded

Notes: more common than *C. benghalensis*; somewhat tolerant of herbicides; very persistent in fields

Reported in: BAN, BHU, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PHI, SRI, THA, VIE



16



17



18

(16) Young plant, (17) flower, (18) mature plant



19



20



21

FALSE DAISY

Eclipta prostrata L.

ECLAL, dicot, Asteraceae

Found in: lowland, upland

Establishment method: DS > WS

Growth habit: herb; prostrate or semierect, much-branched;
up to 0.9 m

Moisture: wet to moist

Competitiveness: low to moderate

Seed contaminant: yes

Cultural control: early removal or cutting; high fertility

Reported resistance: none

Life cycle: A **Seed wt:** 0.4

Method(s) of reproduction: seeds

Maturity time: 42 d

Dormancy: none; light required for germination

Flower: white

Elevation: up to 2,000 m

Light: sunny

Notes: no emergence from depth; C₃ plant; saline-tolerant;
often in field margins; somewhat tolerant of butachlor

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO,
MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(19) Young plant, (20) flower, (21) mature plant

WATER HYACINTH

Eichhornia crassipes (Hart.) Solms

EICCR, monocot, Pontederiaceae

Found in: lowland

Establishment method: TP > WS

Growth habit: floating, rooted in shallow water; up to 0.3 m

Moisture: aquatic—flooded to wet

Competitiveness: low to moderate; greater early, and greater than many other aquatics

Seed contaminant: unknown

Cultural control: drainage and physical removal useful for small infestations

Reported resistance: none

Life cycle: P **Seed wt:** 0.1

Method(s) of reproduction: stolons, plant fragments > seeds

Dormancy: variable—none to many years

Flower: blue or purple with yellow patches

Elevation: up to 1,600 m

Light: sunny

Notes: one of the world's worst weeds; seeds viable for up to 15 years; causes increased water loss through evapotranspiration

Reported in: BAN, BHU, CAM, CHN, IDO, IND, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



22



23

(22) Vegetative growth, (23) flower



24

WATER SPINACH, SWAMP MORNINGGLORY

Ipomoea aquatica Forsk.

IPOAQ, dicot, Convolvulaceae

Found in: lowland

Establishment method: TP > WS

Growth habit: vine, widely spreading and much-branched;
prostrate unless climbing

Moisture: aquatic—flooded to wet

Competitiveness: low; greater early

Seed contaminant: yes

Cultural control: physical removal if all nodes are gotten

Reported resistance: none

Life cycle: P **Seed wt:** 36

Method(s) of reproduction: seeds, runners

Flowering time: 45–60 d

Dormancy: yes; may require seed coat to be broken

Flower: white with pink centers

Elevation: 1,200 m

Light: sunny

Notes: consumed by humans; known widely in many South-east Asian nations as kangkong

Reported in: BAN, CAM, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(24) Mature plant

CREeping WATER PRIMROSE

Ludwigia adscendens (L.) Hara

LUDAC, dicot, Onagraceae

Found in: lowland

Establishment method: TP > WS

Growth habit: herb; floating or rooted and creeping; up to 0.5 m

Moisture: aquatic—flooded or wet

Competitiveness: low

Seed contaminant: unknown

Cultural control: unknown

Reported resistance: none

Life cycle: P

Method(s) of reproduction: seeds, plant fragments, stolons

Dormancy: unknown

Flower: white to yellow

Elevation: up to 1,600 m

Light: unknown

Notes: restricts waterways; reduces oxygen content in water; dangerous to cattle

Reported in: BAN, CAM, CHN, IDO, IND, LAO, MAL, MYA, NEP, PHI, SRI, THA, VIE



25



26



27



28

(25–27) Roots and shoots, (28) flower



29



30

LONGFRUITED PRIMROSE-WILLOW

Ludwigia octovalvis (Jacq.) Raven

LUDOC, dicot, Onagraceae

Found in: lowland

Establishment method: WS, TP

Growth habit: herb; erect, much-branched; up to 2 m

Moisture: wet to damp; drier than *L. adscendens*

Competitiveness: high

Seed contaminant: yes

Cultural control: early flooding can be very effective

Reported resistance: none

Life cycle: P

Method(s) of reproduction: runners and rhizomes, plant fragments, seeds

Dormancy: low or none; light requirement for germination

Flower: white to yellow

Elevation: up to 1,450 m

Light: unknown

Notes: responsive to fertilizers; red hypocotyl, entire seedling often reddish

Reported in: BAN, CAM, IDO, IND, LAO, MAL, MYA, NEP, PHI, SRI, THA, VIE

(29) Flower, (30) mature plant

WATER CLOVER

Marsilea minuta L.

MARMI, monocot, Marsiliaceae

Found in: lowland

Establishment method: WS, TP

Growth habit: fern; creeping, erect or leaves floating

Moisture: aquatic—flooded to wet

Emergence time: first 10 days after transplanting

Competitiveness: moderate, but can be severe early; strong competitor for nutrients

Seed contaminant: unlikely

Cultural control: minimize wet tillage; dry tillage after harvest to desiccate rhizomes

Reported resistance: none

Life cycle: P **Seed wt:** tiny

Method(s) of reproduction: spores, rhizomes, and fragments of rhizomes

Light: probably sunny

Notes: four-leaf clover appearance is distinctive; rhizomes establish best from surface; height responds plastically to water depth

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, PAK, PHI, SRI, THA, VIE



31



32

(31) Shoots, (32) mature plant



33



34

GIANT SENSITIVE PLANT

Mimosa diplotricha C. Wright

MIMIN, dicot, Fabaceae

Found in: upland

Establishment method: DS

Growth habit: erect, many-branched shrub; up to 2 m

Moisture: dry to wet

Competitiveness: moderate

Seed contaminant: unknown

Cultural control: probably early flooding

Reported resistance: none

Life cycle: P **Seed wt:** 6

Method(s) of reproduction: seeds

Dormancy: yes, long; also long viability because of hard seeds

Flower: purple

Elevation: up to 2,000 m

Light: sunny to partly shaded

Notes: improves soil fertility (legume); high early growth rate; a single plant can cover a large area; dangerous to cattle

Reported in: CAM, CHN, IDO, IND, LAO, MAL, MYA, PHI, SRI, THA, VIE

(33) Seedling, (34) mature plant

MONOCHORIA

Monochoria vaginalis (Burm. f.) C. Presl ex Kunth
MOOVA, monocot, Pontederiaceae

Found in: lowland

Establishment method: TP > WS

Growth habit: herb; suberect; up to 0.5 m

Moisture: aquatic—wet to flooded

Competitiveness: moderate with great densities early

Seed contaminant: yes

Cultural control: stale seedbed with wet tillage

Reported resistance: ALS inhibitors (KOR)

Life cycle: P **Seed wt:** 0.07

Method(s) of reproduction: seeds, perhaps stolons

Flowering time: within 60 d

Dormancy: may need long anaerobic period to germinate

Flower: pale to dark blue

Elevation: up to 1,550 m

Light: sunny

Notes: germinates best in full light; often an annual in rice; consumed by humans

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



35



36



37

(35) Seedling, (36) flower, (37) mature plant



38

WATERLETTUCE

Pistia stratiotes L.

PIIST, monocot, Araceae

Found in: lowland

Establishment method: TP > WS

Growth habit: floating, sometimes rooting; about 0.1 m

Moisture: aquatic—flooded to moist

Competitiveness: probably low

Seed contaminant: unlikely

Cultural control: drainage; physical removal

Reported resistance: none

Life cycle: P

Method(s) of reproduction: stolons >> seeds

Maturity time: stolons by 5- to 6-leaf stage; maturity at 120 d

Dormancy: yes, seems to require long submergence period

Elevation: up to 1,000 m

Light: sunny

Notes: seeds germinate while submerged; survives extended periods in unflooded conditions; cold-sensitive, so not usually found in temperate regions

Reported in: BAN, CAM, CHN, IDO, IND, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(38) Mature plant

MARSH-PEPPER SMARTWEED, WATER PEPPER

Polygonum hydropiper L.

POLHY, dicot, Polygonaceae

Found in: lowland

Establishment method: DS, WS, TP

Growth habit: herb; creeping, erect, or ascending; branched; up to 0.8 m

Moisture: flooded to damp; may require saturation for establishment

Competitiveness: probably low

Seed contaminant: unknown

Cultural control: completely uproot or bury early, as cut stems may resprout; control before flowering

Reported resistance: photosystem II inhibitor (FRA)

Life cycle: A

Method(s) of reproduction: seeds, sometimes rooted stems

Maturity time: flowering at 90 d

Dormancy: variable, but usually an after-ripening period; light requirement for germination

Flower: greenish

Light: unknown

Notes: acid-tolerant

Reported in: BAN, BHU, CHN, IDO, IND, KOR, MAL, NEP, THA



39



40

(39) Flower, (40) mature plant



41



42



43

PURSLANE

Portulaca oleracea L.

POROL, dicot, Portulacaceae

Found in: upland

Establishment method: DS >> WS

Growth habit: erect and semierect branches; up to 0.5 m

Moisture: dry to moist

Competitiveness: low to moderate

Seed contaminant: unknown

Cultural control: flooding; perhaps mulches or cover crops; hoeing often not very effective

Reported resistance: multiple to photosystem II inhibitor + ureas/amides (USA)

Life cycle: A **Seed wt:** 0.07

Method(s) of reproduction: seeds > stem fragments

Maturity time: flowers in 1 mo, maturity in 2 to 4 mo

Dormancy: low or none

Elevation: up to 2,700 m

Light: sunny to partly shaded

Notes: one of the world's worst weeds; prefers fertile soils; growth is slow until about 14 d; pig fodder and consumed by humans

Reported in: BAN, BHU, CHN, IDO, IND, KOR, MAL, MYA, PAK, PHI, THA, VIE

(41) Seedling, (42) flower, (43) mature plant

GOOSEWEED

Sphenoclea zeylanica Gaertn.

SPDZE, dicot, Campanulaceae

Found in: lowland

Establishment method: DS, WS > TP

Growth habit: erect, branched herb with hollow stems; up to 1.5 m

Moisture: aquatic—flooded to wet; prefers stagnant water

Competitiveness: moderate

Seed contaminant: unknown

Cultural control: narrow rows and good stand establishment to reduce weed densities

Reported resistance: synthetic auxins (PHI, MAL)

Life cycle: A **Seed wt:** 0.01

Method(s) of reproduction: seeds

Dormancy: yes; light requirement for germination

Flower: small and white

Elevation: 300 m

Light: unknown

Notes: height is very plastic; usually not a weed of other crops

Reported in: BAN, CAM, IDO, IND, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



44

(44) Mature plant



45



46



47

HORSE PURSLANE, GIANT PIGWEED

Trianthema portulacastrum L.

TRTPO, dicot, Aizoaceae

Found in: lowland, upland

Establishment method: DS > WS

Growth habit: prostrate with fleshy leaves, branched at base; up to 0.5 m

Moisture: dry to moist

Emergence time: with rice

Competitiveness: moderate

Seed contaminant: unknown

Cultural control: flooding; tillage often ineffective because of stem regrowth; do not allow to mature; remove fruiting plants from field to stop shedding

Reported resistance: none

Life cycle: A **Seed wt:** 1.3

Method(s) of reproduction: seeds

Maturity time: flowers in 20–30 d; maturity about 20 d after pollination

Dormancy: secondary; long viability because of hard seed

Flower: pink or white

Elevation: up to 800 m

Light: partial shade

Notes: green (most competitive) and red (most reproductive) biotypes in India; solar-tracking leaves; may produce 3 to 4 flushes in one season

Reported in: CAM, IDO, IND, LAO, MYA, NEP, PAK, PHI, SRI, THA, VIE

(45) Seedling, (46) flower, (47) mature plant

GRASS WEEDS

BERMUDA GRASS

Cynodon dactylon (L.) Pers.

CYNDA, monocot, Poaceae

Found in: upland, lowland

Establishment method: DS

Growth habit: creeping; branches and culms ascendant; up to 0.4 m

Moisture: dry to moist, drained

Emergence time: 14 d

Competitiveness: moderate

Seed contaminant: unknown

Cultural control: stale seedbed; tillage and removal; dry tillage to desiccate rhizomes; soil solarization; perhaps mulching or cover crops

Reported resistance: none

Life cycle: P **Seed wt:** 0.3

Method(s) of reproduction: rhizomes and stolons >> seeds

Maturity time: tillers at 25 to 30 d; maturity at 120 d

Dormancy: no; seeds survive 50 d of submergence

Flower: white or pinkish, very small

Elevation: up to 2,300 m

Light: sunny, partial shade

Notes: one of the world's worst weeds; C₄ plant; alkaline- and acid-tolerant; flood- and drought-tolerant; numerous biotypes

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



48



49

(48) Young plant, (49) mature plant



50



51

CROWFOOT GRASS

Dactyloctenium aegyptium (L.) Richt.

DTTAE, monocot, Poaceae

Found in: upland, lowland

Establishment method: DS

Growth habit: creeping with ascendant culms; up to 1 m

Moisture: moist

Emergence time: shortly after rainfall

Competitiveness: moderate to high

Seed contaminant: yes

Cultural control: stale seedbed; flooding; early removal; do not allow to mature

Reported resistance: none

Life cycle: A **Seed wt:** 0.3

Method(s) of reproduction: seeds > stolons

Maturity time: 21 to 28 d; senescence in 4 mo

Dormancy: unknown

Elevation: up to 1,000 m

Light: sunny, partial shade

Notes: C₄ plant; seed viability is long; fodder, but some reports of poor nutrition, and may be toxic to livestock during hot weather

Reported in: BAN, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(50) Seedling, (51) mature plant

CRAB GRASS

Digitaria ciliaris (Retz.) Koel.

DIGSP, monocot, Poaceae

Found in: upland

Establishment method: DS

Growth habit: creeping, tufted with prostrate to erect culms;
up to 0.6 m

Moisture: dry to moist

Competitiveness: moderate to high

Seed contaminant: yes

Cultural control: flooding, early removal

Reported resistance: none

Life cycle: A **Seed wt:** 0.6

Method(s) of reproduction: seeds and rooted parts

Dormancy: variable, up to 7 mo

Elevation: up to 2,000 m

Light: sunny; shade-sensitive

Notes: tolerates defoliation; very responsive to nutrients;
C₄ plant; useful forage

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO,
MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



52



53

(52) Seedling, (53) mature plant

JUNGLE-RICE

Echinochloa colona (L.) Link

ECHCO, monocot, Poaceae

Found in: lowland, upland

Establishment method: DS > WS

Growth habit: tufted and erect; up to 0.9 m

Moisture: dry to wet

Competitiveness: high

Seed contaminant: yes

Cultural control: clean seed; early cultivation; early continuous flooding; rotation

Reported resistance: ACCase inhibitors (COS), ureas and amides (COL, COS)

Life cycle: P **Seed wt:** 1.0

Method(s) of reproduction: seeds, stolons

Flowering time: 30 to 45 d

Dormancy: low or none; light requirement for germination

Elevation: below 2,000 m

Light: sunny, partial shade

Notes: one of the world's worst weeds; soil saturation strongly reduces emergence of buried seeds; responsive to nutrients; profuse root production; good forage; C₄ plant

Reported in: BAN, CAM, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



54



55



56

(54) Seedling, (55) flower, (56) mature plant



57



58

BARNYARDGRASS

Echinochloa crus-galli (L.) P. Beauv.

ECHCG, monocot, Poaceae

Found in: lowland, upland

Establishment method: DS > WS > TP

Growth habit: erect, up to 2 m

Moisture: wet to moist

Competitiveness: very high

Seed contaminant: yes

Cultural control: ensure clean seed or seedlings; early, deep flooding; rotation

Reported resistance: ACCase inhibitors (THA), chloroacetamides (CHN, THA), dinitroanilines (BUL), photosystem II inhibitors (several), synthetic auxins (USA, BRA), thiocarbamates (CHN), ureas and amides (several)

Life cycle: A **Seed wt:** 3

Method(s) of reproduction: seeds

Flowering time: 42 to 64 d

Dormancy: variable, up to 4 mo

Elevation: up to 2,500 m

Light: sunny; shade-sensitive

Notes: one of the world's worst weeds; C₄ plant; phenotypically variable; responds to nitrogen, potassium, and phosphorus, in that order

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(57) Flower, (58) mature plant

[NONE]

***Echinochloa glabrescens* Munro ex Hook. f.**

ECHGL, monocot, Poaceae

Found in: lowland

Establishment method: DS, WS, TP

Growth habit: tufted, erect; up to 1 m

Moisture: wet

Competitiveness: high

Emergence time: within 7 d

Seed contaminant: yes

Cultural control: ensure clean seed or seedlings; continuous flooding

Reported resistance: none

Life cycle: A **Seed wt:** 2

Method(s) of reproduction: seeds

Flowering time: 30 to 35 d

Dormancy: unknown

Elevation: unknown

Light: probably sunny

Notes: emerges from depth relatively well (better than *I. rugosum*)

Reported in: BAN, BHU, CAM, IDO, IND, KOR, LAO, MAL, NEP, PAK, PHI, SRI, THA, VIE



59

(59) Mature plants



60



61

GOOSEGRASS

Eleusine indica (L.) Gaertn.

ELEIN, monocot, Poaceae

Found in: upland

Establishment method: DS

Growth habit: stems ascending or prostrate, branched; up to 0.6 m

Moisture: moist to wet

Competitiveness: high

Seed contaminant: unknown

Cultural control: early continuous flooding; cultivation before roots get large; manually control on levees; soil solarization

Reported resistance: ALS inhibitor (COS), dinitroanilines (USA), multiple: ACCase inhibitor + glycines (MAL)

Life cycle: A **Seed wt:** 0.4

Method(s) of reproduction: seeds

Maturity time: flowering in 30 d; maturity in 4 to 6 mo

Dormancy: some, but usually short

Elevation: up to 2,000 m

Light: sunny; shade-sensitive

Notes: one of the world's worst weeds; C₄ plant; multiple generations in one season; does not emerge well from depths of 0.08 m or more

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(60) Mature plant, (61) flower

COGON GRASS

Imperata cylindrica (L.) Raeuschel

IMPCY, monocot, Poaceae

Found in: upland

Establishment method: DS

Growth habit: erect, tufted, and unbranched; creeping rhizomes; up to 2 m

Moisture: moist to dry; well-drained

Competitiveness: high

Seed contaminant: unknown

Cultural control: legume cover crops; tillage to desiccate rhizomes; flooding; rotation

Reported resistance: none

Life cycle: P **Seed wt:** 1

Method(s) of reproduction: seeds, rhizomes

Maturity time: rhizomes after 28 d

Dormancy: none in seeds, but lateral buds are dormant; seeds viable for up to 1 year

Elevation: up to 3,000 m

Light: sunny; shade-sensitive

Notes: one of the world's worst weeds; C₄ plant; acid- and alkaline-tolerant; prefers light-textured soils; many infested fields are abandoned; burning does not injure rhizomes

Reported in: BAN, BHU, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



62



63



64

(62) Shoots, (63) flower, (64) mature plant



65



66

WRINKLED GRASS, SARAMOLLAGRASS

Ischaemum rugosum Salisb.

ISCRU, monocot, Poaceae

Found in: lowland, upland

Establishment method: DS >> WS, TP

Growth habit: tufted, erect, creeping, and much-branched;
up to 1.2 m

Emergence time: within 7 d

Moisture: aquatic—flooded to wet

Competitiveness: high

Seed contaminant: unknown

Cultural control: early continuous flooding; early removal

Reported resistance: bipyridiliums (MAL)

Life cycle: P **Seed wt:** 4

Method(s) of reproduction: seeds, rhizomes, stolons

Maturity time: 130 d

Dormancy: yes; light required for germination

Elevation: up to 2,400 m

Light: sunny; shade-tolerant

Notes: red leaf sheaths at the base; new cohorts emerge after drainage, from up to 5-cm soil depth; responsive to fertilizer; acid-tolerant; good forage if young; germinates on surface of saturated soil; C₄ plant

Reported in: BAN, CAM, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(65) Young plant, (66) mature plant

SOUTHERN CUTGRASS

Leersia hexandra Sw.

LERHE, monocot, Poaceae

Found in: lowland

Establishment method: WS, TP > DS

Growth habit: creeping, tufted, and erect; up to 1.2 m

Moisture: aquatic—flooded to wet

Competitiveness: moderate to high

Seed contaminant: yes

Cultural control: stale seedbed; drainage

Reported resistance: none

Life cycle: P **Seed wt:** 0.8

Method(s) of reproduction: rhizomes, stolons >> seeds

Dormancy: unknown

Elevation: up to 2,200 m

Light: unknown

Notes: stem fragments will root at nodes

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



67

(67) Mature plants



68



69

CHINESE SPRANGLETOP, RED SPRANGLETOP

Leptochloa chinensis (L.) Nees

LEFCH, monocot, Poaceae

Found in: lowland

Establishment method: DS > WS > TP

Growth habit: tufted, erect, and slender; sometimes with reclining stems; up to 1.2 m

Moisture: aquatic—wet to flooded

Competitiveness: high

Seed contaminant: yes

Cultural control: stale seedbed in DS or puddling in TP; permanent flood within 1 week

Reported resistance: none

Life cycle: P **Seed wt:** 0.1

Method(s) of reproduction: seeds, plant fragments

Dormancy: low or none

Elevation: up to 1,400 m

Light: probably sunny

Notes: C₄ plant; good fodder

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, PAK, PHI, SRI, THA, VIE

(68) Seedling, (69) mature plant

TORPEDO GRASS

Panicum repens L.

PANRE, monocot, Poaceae

Found in: lowland

Establishment method: DS

Growth habit: creeping; erect and branching stems; up to 0.9 m

Moisture: dry to moist; drought-tolerant

Competitiveness: perhaps moderate

Seed contaminant: yes

Cultural control: continuous flooding; shallow tillage

Reported resistance: none

Life cycle: P **Seed wt:** 0.67

Method(s) of reproduction: rhizomes

Maturity time: rhizomes in 30 d; flowers in 50 to 60 d

Dormancy: unknown

Elevation: up to 2,000 m

Light: sunny; shade-tolerant

Notes: prefers sandy soils; acid- and salt-tolerant; deep plowing increases rate of spread; after establishment can survive moderate drought; fodder

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



70



71

(70–71) Mature plants



72



73

KNOTGRASS

Paspalum distichum L.

PASDS, monocot, Poaceae

Found in: lowland, upland

Establishment method: DS > WS, TP

Growth habit: creeping, erect stems; up to 0.6 m

Moisture: moist to wet

Competitiveness: high

Seed contaminant: yes

Cultural control: frequent tillage early; continuous flooding; tillage during dry season may desiccate rhizomes

Reported resistance: none

Life cycle: P

Method(s) of reproduction: stolons > seeds and rhizomes

Maturity time: 82 d

Dormancy: yes, perhaps requires cold to germinate; apical and bud dominance in new stems

Elevation: up to 1,500 m

Light: sunny; shade-sensitive

Notes: detached stolons easily regenerate; increases under zero tillage; somewhat herbicide-tolerant; similar to *Panicum repens* but more slender

Reported in: BAN, BHU, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(72) Flower, (73) mature plant

KODO MILLET

Paspalum scrobiculatum L.

PASSC, monocot, Poaceae

Found in: lowland, upland

Establishment method: DS > WS

Growth habit: erect, tufted, and creeping with rooting at nodes; up to 1 m

Moisture: flooded to moist

Competitiveness: low

Seed contaminant: yes

Cultural control: early tillage (perhaps more effective than for *P. distichum*); deep flooding

Reported resistance: none

Life cycle: P

Method(s) of reproduction: seeds >> stolons

Maturity time: 90 d

Dormancy: undetected

Elevation: up to 3,000 m

Light: sunny; shade-sensitive

Notes: very responsive to nutrients; very heterogeneous; good forage; grown as cereal grain in some places, but also reported toxic in some cases

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



74



75

(74) Young shoot, (75) mature plants



76



77



78

ITCHGRASS

Rottboellia cochinchinensis (Lour.) W. Clayton

ROOEX, monocot, Poaceae

Found in: upland

Establishment method: DS

Growth habit: tufted, erect, and branching; rooting at nodes; up to 3 m

Moisture: dry to moist; well-drained

Competitiveness: very high

Seed contaminant: yes

Cultural control: clean seed and implements; flooding; rotate to broadleaf crops; control in nearby areas

Reported resistance: ACCase inhibitors (USA)

Life cycle: A **Seed wt:** 15

Method(s) of reproduction: seeds

Dormancy: 1 to 4 mo; after-ripening requirement

Elevation: up to 1,500 m

Light: sunny; shade-sensitive

Notes: one of the world's worst weeds; emerges from up to 0.15-m depth, but relatively low seed viability

Reported in: CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(76) Seedling, (77) hairs on stem, (78) mature plant

SEDGE AND SEDGE-LIKE WEEDS

SMALLFLOWER UMBRELLA SEDGE

Cyperus difformis L.

CYPDI, monocot, Cyperaceae

Found in: lowland

Establishment method: WS > TP > DS

Growth habit: tufted and erect; up to 0.9 m

Moisture: wet to moist

Emergence time: within 7 d; continual throughout season

Competitiveness: moderate

Seed contaminant: yes

Cultural control: early, deep, continuous flooding

Reported resistance: ALS inhibitors (USA)

Life cycle: A **Seed wt:** 0.01

Method(s) of reproduction: seeds

Maturity time: as little as 30 d

Dormancy: none

Elevation: up to 1,400 m

Light: sunny

Notes: germinates best in full light

Reported in: BAN, BHU, CAM, CHN, IDO, IND, LAO, KOR, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



79



80

(79) Flower, (80) mature plant



81



82

RICE FLAT SEDGE

Cyperus iria L.

CYPIR, monocot, Cyperaceae

Found in: lowland, upland

Establishment method: DS, WS >> TP

Growth habit: erect; up to 0.8 m

Emergence time: within 7 d

Moisture: moist to wet

Competitiveness: moderate

Seed contaminant: yes

Cultural control: deep flooding

Reported resistance: none

Life cycle: A **Seed wt:** 0.1

Method(s) of reproduction: seeds

Maturity time: as little as 30 d

Dormancy: yes; can germinate about 75 d after shedding

Elevation: up to 1,200 m

Light: sunny

Notes: germinates best in full light; C₄ plant; may have multiple generations in one season; prefers lower elevations; used as forage and in mat-making

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(81) Flower, (82) mature plant

PURPLE NUTSEDGE

Cyperus rotundus L.

CYPRO, monocot, Cyperaceae

Found in: upland

Establishment method: DS

Growth habit: erect; tubers in chains on rhizomes; up to 0.75 m

Emergence time: simultaneous with rice

Moisture: dry to moist

Competitiveness: moderate to low, but competitive early

Seed contaminant: yes

Cultural control: stale seedbed; narrow rows; high plant density; flooding suppresses growth but does not kill tubers; interrow cultivation; clean implements

Reported resistance: none

Life cycle: P **Seed wt:** 0.1

Method(s) of reproduction: tubers, rhizomes

Maturity time: from 21 to 56 d

Dormancy: yes, apical dominance in tubers

Elevation: up to 1,800 m

Light: sunny; shade-sensitive

Notes: the world's worst weed; C₄ plant; saline-sensitive; tubers may be viable for several years; tubers consumed by humans; forage

Reported in: BAN, BHU, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



83



84



85



86

(83) Mature plant, (84) young plant, (85) roots and tubers,
(86) flower



87



88

FORKED FRINGERUSH

Fimbristylis dichotoma (L.) Vahl

FIMDI, monocot, Cyperaceae

Found in: upland, lowland

Establishment method: DS, WS

Growth habit: erect; up to 0.75 m

Moisture: dry to wet

Competitiveness: moderate

Seed contaminant: yes

Cultural control: early, deep flooding

Reported resistance: none

Life cycle: P **Seed wt:** 0.1

Method(s) of reproduction: seeds, rhizomes

Dormancy: unknown

Elevation: up to 2,500 m

Light: sunny

Notes: very heterogeneous species; saline-tolerant; C₄ plant; better adapted to drier soils; useful for mat-making

Reported in: BAN, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(87) Seedling, (88) mature plant

GLOBE FRINGERUSH

Fimbristylis miliacea (L.) Vahl

FIMMI, monocot, Cyperaceae

Found in: lowland, upland

Establishment method: DS > WS > TP

Growth habit: erect and strongly tillering; up to 0.6 m

Moisture: moist to wet

Emergence time: within 7 d

Competitiveness: moderate; strong root competition

Seed contaminant: yes

Cultural control: ensure clean seed; early, continuous flooding

Reported resistance: ALS inhibitors (BRA); synthetic auxins (MAL)

Life cycle: P **Seed wt:** 0.02

Method(s) of reproduction: seeds

Flowering time: 30 d

Dormancy: none; light requirement for germination

Elevation: up to 1,000 m

Light: sunny

Notes: saline-tolerant; may emerge throughout season; may produce multiple generations in one season; C₄ plant; useful in mat-making

Reported in: BAN, BHU, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



89



90



91



92

(89) Seedling, (90) flower, (91–92) mature plants



93



94

BULRUSH

Scirpus juncooides Roxb.

SCPJO, monocot, Cyperaceae

Found in: lowland

Establishment method: TP

Growth habit: erect and strongly tillering; up to 0.75 m

Moisture: wet

Competitiveness: low to moderate

Seed contaminant: yes

Cultural control: wet or dry cultivation; early deep flooding; stop regrowth after rice harvest

Reported resistance: ALS inhibitors (JAP)

Life cycle: A **Seed wt:** 0.2

Method(s) of reproduction: seeds

Dormancy: 2 to 3 mo

Elevation: up to 2,000 m

Light: sunny

Notes: requires burial or submergence for optimal germination; germinates best at less than full light; fodder for cattle

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE

(93–94) Flowers

SALTMARSH BULRUSH

Scirpus maritimus L.

SCPMA, monocot, Cyperaceae

Found in: lowland

Establishment method: WS, TP > DS

Growth habit: erect and slender; up to 1.5 m

Moisture: wet to flooded

Emergence time: within 7 d of last tillage

Competitiveness: high

Seed contaminant: yes

Cultural control: rotation; deep tillage may bury tubers; alternately, long drainage periods and zero tillage

Reported resistance: none

Life cycle: P **Seed wt:** 5.6

Method(s) of reproduction: tubers > stolons > seeds

Dormancy: yes, in tubers

Elevation: up to 3,000 m

Light: sunny; shade-sensitive

Notes: saline-tolerant; seed production may increase with water depth, helping its persistence through wet/dry cycles

Reported in: BAN, CAM, CHN, IDO, IND, KOR, LAO, MAL, MYA, NEP, PAK, PHI, SRI, THA, VIE



(95) Mature plant showing roots and tubers

Appendix A. Weed species synonyms*

Weed	Synonym(s)
<i>Aeschynomene aspera</i>	<i>Hedysarum lagenarium</i>
<i>A. indica</i>	<i>A. virginica</i>
<i>Ageratum conyzoides</i>	<i>A. hirsutum</i>
<i>Alternanthera sessilis</i>	<i>A. repens</i> <i>A. triandra</i> <i>Gomphrena sessilis</i>
<i>Commelina benghalensis</i>	<i>C. prostrata</i>
<i>C. diffusa</i>	<i>C. agraria</i> <i>C. aquatica</i> <i>C. communis</i> <i>C. nodiflora</i> <i>C. arcuatus</i> <i>C. parvigulmis</i>
<i>Cynodon dactylon</i>	<i>C. odoratus</i> <i>C. tetrastachyos</i> <i>C. tuberosus</i>
<i>Cyperus rotundus</i>	<i>Schoenus tuberosus</i> <i>D. meridionale</i> <i>Cynosurus aegyptius</i> <i>Eleusine aegyptiaca</i> <i>E. mucronata</i>
<i>Dactyloctenium aegyptium</i>	<i>D. adscendens</i> <i>D. biformis</i> <i>D. marginata</i>
<i>Digitaria ciliaris</i>	<i>Panicum adscendens</i> <i>P. ciliare</i> <i>Syntherisma ciliaris</i>
<i>D. sanguinalis</i>	<i>D. digitata</i> <i>D. nuda</i> <i>Paspalum digitatum</i>
<i>Echinochloa colona</i>	<i>Panicum/Paspalum sanguinale</i> <i>E. colonum</i> <i>Panicum colonum</i>
<i>E. crus-galli</i>	<i>E. spiralis</i> <i>Panicum crus-galli</i>
<i>Eclipta prostrata</i>	<i>E. alba</i> <i>E. erecta</i> <i>E. cordifolia</i>
<i>Eichhornia crassipes</i>	<i>E. crassicaulis</i> <i>E. speciosa</i> <i>Eichhorniae azureae</i> <i>Pontederia crassipes</i>
<i>Eleusine indica</i>	<i>Cynodon indicus</i> <i>Cynosurus indicus</i> <i>Eleusine japonica</i>
<i>Fimbristylis dichotoma</i>	<i>F. annua</i> <i>F. communis</i>

continued on next page

Appendix A continued.

Weed	Synonym(s)
<i>F. miliacea</i>	<i>F. diphylla</i> <i>F. lara</i> <i>F. littoralis</i>
<i>Imperata cylindrica</i>	<i>I. allang</i> <i>I. arundinacea</i> <i>I. koenigii</i> <i>Lagurus cylindricus</i> <i>Saccharum cylindricum</i> <i>S. koenigii</i>
<i>Ipomoea aquatica</i>	<i>I. repens</i> <i>I. reptans</i> <i>I. subdentata</i> <i>Convolvulus reptans</i>
<i>Leersia hexandra</i>	<i>L. abyssinica</i> <i>L. capensis</i> <i>Homalocenchrus hexandrus</i>
<i>Leptochloa chinensis</i>	<i>Poa chinensis</i>
<i>Ludwigia adscendens</i>	<i>Jussiaea repens</i> <i>J. adscendens</i> <i>J. diffusa</i> <i>J. stolonifera</i> <i>Ludwigia natans</i>
<i>L. octovalvis</i>	<i>Jussiaea augustifolia</i> <i>J. octovalvis</i>
<i>Marsilea minuta</i>	<i>M. crenata</i> <i>M. diffusa</i> <i>M. crenulata</i>
<i>Mimosa diplotricha</i>	<i>M. invisia</i>
<i>Panicum repens</i>	<i>P. gouinii</i> <i>P. paspalodes</i>
<i>Paspalum distichum</i>	<i>Digitaria paspalodes</i> <i>P. commersonii</i> <i>P. orbiculare</i>
<i>P. scrobiculatum</i>	<i>P. polystachyum</i> <i>P. stratemoides</i> <i>Pistia stratiotes</i>
<i>Polygonum hydropiper</i>	<i>Persicaria hydropiper</i>
<i>Portulaca oleracea</i>	<i>P. sativa</i>
<i>Rottboellia cochinchinensis</i>	<i>R. exaltata</i>
<i>Scirpus spp.</i>	<i>Schoenoplectus spp.</i>
<i>S. juncoides</i>	<i>S. erectus</i> <i>S. junctiformus</i> <i>S. luzonensis</i>
<i>S. maritimus</i>	<i>S. scirpus var. elatior</i> <i>Eleocharis juncoides</i>
<i>Trianthema portulacastrum</i>	<i>Bolboschoenus maritimus</i> <i>T. monogyne</i>

*Largely based on International Seed Testing Association's "List of Stabilized Plant Names," 2001, at www.ars-grin.gov/~sbm/jw/istaintrod.htm.

Appendix B. Common names of weeds in Bangladesh

Weed	Common name(s)
<i>Ageratum conyzoides</i>	Fulkuri, ochunti, shialmuti
<i>Alternanthera sessilis</i>	Phul haicha, chanchi, malcha, sachi shak
<i>Amaranthus spinosus</i>	Katanata, kata notey
<i>Commelina benghalensis</i>	Dholpata, kanaibashi, kanchira
<i>C. diffusa</i>	Kanainala, manaina
<i>Cynodon dactylon</i>	Doorba (durba), dubla, durbaghas
<i>Cyperus difformis</i>	Behua, alighasha, matichaise, chotochaise, moishnoom
<i>C. iria</i>	Barachucha
<i>C. rotundus</i>	Badhail, bedalle, dila, motha, nagarmuta, sadakufi
<i>Dactyloctenium aegyptium</i>	Kachita ghas
<i>Digitaria sanguinalis</i>	Makunjali, belai lengur
<i>Echinochloa colona</i>	Alighasha, khudhey shayma, shymaghas
<i>E. crus-galli</i>	Barashymaghas, dalghas, gobra, jatghasha, shama
<i>E. glabrescens</i>	Shyma
<i>Eclipta prostrata</i>	Keshuti
<i>Eichhornia crassipes</i>	Kachuripana
<i>Eleusine indica</i>	Binna challa, chapra, gaicha, malangakuri, malankuri
<i>Fimbristylis dichotoma</i>	Joina chaise
<i>F. miliacea</i>	Bara javani, bara pukkeri, chatki ghash, joina, murighash
<i>Imperata cylindrica</i>	Ulu
<i>Ischaemum rugosum</i>	Mona, moraro
<i>Leersia hexandra</i>	Arali
<i>Leptochloa chinensis</i>	Fulka
<i>Ludwigia adscendens</i>	Hulmuri?
<i>L. octovalvis</i>	Maricha
<i>Marsilea minuta</i>	Sushni sak, angta ghash, hamai lotti
<i>Monochoria vaginalis</i>	Kosturi, kochoripana, panee kachu
<i>Panicum repens</i>	Baranda, chera
<i>Paspalum scrobiculatum</i>	Angta
<i>Pistia stratiotes</i>	Topapana, takapana, barapana, phena tokapana
<i>Polygonum hydropiper</i>	Bishkatali, pakurmal, panimarich
<i>Portulaca oleracea</i>	Bara laniya, bara nunia, ghee kalam, nunia
<i>Scirpus juncoides</i>	Chisra

Appendix C. Common names of weeds in Cambodia*

Weed	Common name(s)
<i>Alternanthera sessilis</i>	Chaeung bang kang
<i>Amaranthus spinosus</i>	Phti banla
<i>Cynodon dactylon</i>	Smao anchien
<i>Cyperus iria</i>	Kak kangkep
<i>C. rotundus</i>	Smao kravanh chrouk
<i>Eichhornia crassipes</i>	Kam-plauk
<i>Eleusine indica</i>	Smao choeung tukke
<i>Imperata cylindrica</i>	Sbauv
<i>Ipomoea aquatica</i>	Trakuon
<i>Ischaemum rugosum</i>	Smao srauv
<i>Mimosa invisa</i>	Banla saet (saet)
<i>M. diplotricha</i>	Banla saet
<i>Monochoria vaginalis</i>	Chrach
<i>Panicum repens</i>	Chhlong
<i>Pistia stratiotes</i>	Chak thom
<i>Portulaca oleracea</i>	Kbet choun

Appendix D. Common names of weeds in China*

Weed	Common name(s)
<i>Aeschynomene indica</i>	田皂角, 合萌
<i>Ageratum conyzoides</i>	胜红蓟, 鱼香蓟
<i>Alternanthera sessilis</i>	莲子草, 虾蛄草
<i>Amaranthus spinosus</i>	刺草
<i>Commelina diffusa</i>	竹节菜
<i>Cynodon dactylon</i>	狗芽根, 绊根草
<i>Cyperus difformis</i>	异型莎草
<i>C. iria</i>	碎米莎草
<i>C. rotundus</i>	香附子, 莎草
<i>Digitaria ciliaris</i>	毛马唐
<i>D. sanguinalis</i>	马唐
<i>Echinochloa colona</i>	芒稷
<i>E. crus-galli</i>	长芒野稗
<i>Eclipta prostrata</i>	鳢肠, 旱莲草, 墨草
<i>Eichhornia crassipes</i>	凤眼莲
<i>Eleusine indica</i>	牛筋草
<i>Fimbristylis dichotoma</i>	两歧飘拂草
<i>F. miliacea</i>	水虱草, 日照飘拂草
<i>Imperata cylindrica</i>	白茅, 茅草
<i>Leersia hexandra</i>	李氏禾, 游草
<i>Leptochloa chinensis</i>	千金子
<i>Ludwigia adscendens</i>	水龙, 过江藤
<i>Marsilea minuta</i>	蘋, 四叶蘋, 田字草
<i>Monochoria vaginalis</i>	鸭舌草
<i>Paspalum distichum</i>	双穗雀草
<i>P. scrobiculatum</i>	皱稃雀稗, 鸭也母草
<i>Pistia stratiotes</i>	大漂, 水浮莲
<i>Polygonum hydropiper</i>	水蓼, 辣蓼
<i>Portulaca oleracea</i>	马齿苋, 马齿菜
<i>Sagittaria sagittifolia</i>	慈姑
<i>Scirpus juncoides</i>	萤蔺

*Weeds present were listed in Wang (1990).

Appendix E. Common names of weeds in India*

Weed	Common name(s)
<i>Aeschynomene aspera</i>	Sola
<i>Ageratum conyzoides</i>	Bhubhurwa, gundhaubon, mahakua
<i>Amaranthus spinosus</i>	Bajra, chauli, katemath, kantili chaulai
<i>Commelina benghalensis</i>	Kanchura, kanasiri, kanchara, kankaua, kena
<i>Cynodon dactylon</i>	Dub, hariyali
<i>Cyperus spp.</i>	Motha
<i>C. iria</i>	Morphula
<i>Dactyloctenium aegyptium</i>	Madana, makra, makara, makari
<i>Digitaria ciliaris</i>	Nargorwa, suruwari, takri
<i>Echinochloa colona</i>	Sanwa
<i>E. crus-galli</i>	Kayada, sanwak
<i>Eclipta prostrata</i>	Bhangra, bhringraj, ghuzi
<i>Eichhornia crassipes</i>	Falkhumbi, jalkhumbi, kulavali
<i>Eleusine indica</i>	Jangali marua, jhingari, kodai
<i>Imperata cylindrica</i>	Dab, siru, chero, dharba, modewa gaddi
<i>Ipomoea aquatica</i>	Kalmua, kalmi, kalmi sag, patuasag
<i>Ludwigia adscendens</i>	Keshandam, keshara
<i>Mimosa diplotricha</i>	Anathottavadi
<i>Panicum repens</i>	Injipilla, karigaddi
<i>Paspalum scrobiculatum</i>	Kodo, kodra
<i>Pistia stratiotes</i>	Jalakumbi, kumbi, takapana
<i>Polygonum hydropiper</i>	Bishkatal, packurmul
<i>Portulaca oleracea</i>	Ghol, jangali palak, jowar, kufa, kulfa
<i>Rottboellia cochinchinensis</i>	Barsali, bura, swooate, dholu, konda panookoo
<i>Trianthema portulacastrum</i>	Patharchatta

Appendix F. Common names of weeds in Indonesia*

Weed	Common name(s)
<i>Aeschynomene indica</i>	Dinding, Gédèyân, Kâtisân, Lorotis (Jav.)
<i>Ageratum conyzoides</i>	<i>Bândotân, berokan</i>
<i>Alternanthera sessilis</i>	Krêmâh, tolod
<i>Amaranthus spinosus</i>	Bâyâm duri, bayam eri, bayam cikron, senggang cucuk
<i>Commelina</i> spp.	Brâmbângân, gèwor
<i>Cynodon dactylon</i>	Grintingân
<i>Cyperus difformis</i>	Jëungân, Jukut pendul, Râmon brëndêlân (Jav.)
<i>C. iria</i>	Rumput mëndêrong, Dekeng wangin, Djekeng, Nyur-nyuran, Rumput jekeng kunyit, Umbung
<i>C. rotundus</i>	Têki, Têki berumbi
<i>Dactyloctenium aegyptium</i>	Sukêt dringoân, Sukêt kâtêlân, Sukêt kârtut (Jav.), Sapabang babi
<i>Digitaria ciliaris</i>	Jâlâmpârân, Sukêt cåkârâyâm
<i>Echinochloa colona</i>	Rumput kusâ-kusâ
<i>E. crus-galli</i>	Pâdi burung
<i>Eclipta prostrata</i>	Orâng-âring, Urâng-âring
<i>Eichhornia crassipes</i>	Ècêng
<i>Eleusine indica</i>	Rumput bêlulâng
<i>Fimbristylis dichotoma</i>	Bulu (jukut) mâta munding (Sund.)
<i>F. miliacea</i>	Âdâs-âdâsân, Riwit, Sunduk wêlut, Tumbârân (Jav.)
<i>Imperata cylindrica</i>	Âlâng-âlâng
<i>Ischaemum rugosum</i>	Blêmbêm (Jav.)
<i>Leersia hexandra</i>	Bêntâ
<i>Leptochloa chinensis</i>	Timunân (Jav.)
<i>Ludwigia adscendens</i>	Pângèor
<i>L. octovalvis</i>	Lâkum âir
<i>Mimosa diplotricha</i>	Pis koetjing, Rêmbêtê (Jav.)
<i>Monochoria vaginalis</i>	Ècêng pâdi
<i>Panicum repens</i>	Kêrunong pâdi, Lâmpuyângân, Rumput jâê-jâê
<i>Paspalum distichum</i>	Âsinân
<i>P. scrobiculatum</i>	Jâringân, Rumput kêtih bêlâlâng
<i>Pistia stratiotes</i>	Kiâmbâng, Âpu-âpu
<i>Portulaca oleracea</i>	Gelâng, Krokot
<i>Rottboellia cochinchinensis</i>	Brânjângân, Bludru bâyung (Jav.)
<i>Scirpus juncoides</i>	Kâmba mâncik
<i>Sphenoclea zeylanica</i>	Gundâ
<i>Trianthema portulacastrum</i>	Subang-subang

*Most weeds present were listed in Soerjani et al (1986). Pronunciation as in that text. Except where noted, only common names for the Indonesian language are given. Jav. = Javanese; Sund. = Sundanese. Some names were from Galinato et al (1999).

Appendix G. Common names of weeds in Korea

Weed	Common name(s)
<i>Cyperus difformis</i>	Albang dong sani
<i>C. iria</i>	Chambang-donsani
<i>Fimbristylis miliacea</i>	Barambaneulgiji
<i>Monochoria vaginalis</i>	Mooldalgebi

Appendix H. Common names of weeds in Laos

Weed	Common name(s)
<i>Ageratum conyzoides</i>	Nya khiu
<i>Alternanthera sessilis</i>	Nea kon ta sarng
<i>Amaranthus spi nosus</i>	Pak hom nahm
<i>Commelina benghalensis</i>	Nya kabpi hyai
<i>C. diffusa</i>	Nya kabpi noy
<i>Cynodon dactylon</i>	Nya pong
<i>Cyperus iria</i>	Nya khompao
<i>C. rotundus</i>	Nya heomu
<i>Dactyloctenium aegyptium</i>	Nya pak kuei
<i>Digitaria ciliaris</i>	Nya tinnok
<i>Echinochloa spp.</i>	Nya khao nõk
<i>Eclipta prostrata</i>	Nya hom keo
<i>Eleusine indica</i>	Nya phak koie
<i>Fimbristylis dichotoma</i>	Nya nuet meo
<i>F. miliacea</i>	Nya khai khiad
<i>Imperata cylindrica</i>	Nya kha
<i>Ipomoea aquatica</i>	Phak bung
<i>Ischaemum rugosum</i>	Nya kabthoon
<i>Leptochloa chinensis</i>	Nya dok khao
<i>Portulaca oleracea</i>	Nya en eyan, nya tha kong

Appendix I. Common names of weeds in Malaysia

Weed	Common name(s)
<i>Ageratum conyzoides</i>	Rumput tahi-ayum, tombok jantan, sianggit
<i>Alternanthera sessilis</i>	Keremak, akar rumput, bayam pasir, bayam tana, kelama hijau, kerak-kerak paya, kerumak bukit paya
<i>Amaranthus spinosus</i>	Bayam duri
<i>Commelina diffusa</i>	Rumput aur, Pulau aur, Rumput kukupu, tapak eti
<i>Cynodon dactylon</i>	Rumput minyak, crinting
<i>Cyperus iria</i>	Rumput menderong
<i>C. rotundus</i>	Rumput haliya hitan, Rumput cina lari
<i>Digitaria ciliaris</i>	Rumput jejari berbulu, cakar ayam
<i>Echinochloa colona</i>	Padi burung, Rumput kusa-kusa
<i>E. crus-galli</i>	Rumput sambau
<i>Eclipta prostrata</i>	Aring-arang
<i>Eichhornia crassipes</i>	Keladi bunting, bunga jamban
<i>Eleusine indica</i>	Rumput kekuasa, godong ula, rumput sambari
<i>Fimbristylis miliacea</i>	Rumput kuran, rumput tahi kerabau, rumput keladi
<i>Imperata cylindrica</i>	Lalang
<i>Ipomoea aquatica</i>	Kangkong
<i>Ischaemum rugosum</i>	Rumput ekor cawi, Rumput colok chine, Rumput kemarau
<i>Leersia hexandra</i>	Rumput lidah rimau, Rumput benta
<i>Leptochloa chinensis</i>	Rumput ekor tebu
<i>Ludwigia adscendens</i>	Tinggir bangan, tinggir bangau, inai pasir, katang-katang, telinga bangan
<i>Marsilea minuta</i>	Tapak itek, semanggi
<i>Monochoria vaginalis</i>	Rumput air, kelayar, chacha layar, keladi agas, encheng padi
<i>Panicum repens</i>	Kerunung padi, telur ikan, Rumput kerbau
<i>Paspalum scrobiculatum</i>	Rumput tulang sentadok, Rumput hijau, Rumput patah siku
<i>Pistia stratiotes</i>	Kiambang besar
<i>Portulaca oleracea</i>	Gelang pasir, segan
<i>Scirpus juncooides</i>	Kambantjik, rumput bulat, rumput purun tikus
<i>Sphenoclea zeylanica</i>	Cempedak air

Appendix J. Common names of weeds in Myanmar*

Weed	Common name(s)
<i>Ageratum conyzoides</i>	ခွေးသားပန်း၊ ကရင်ပန်း
<i>Alternanthera sessilis</i>	ပုခွန်စာ
<i>Amaranthus spinosus</i>	ဟင်းနုနွယ်ဆွေပေါက်
<i>Commelina benghalensis</i>	တက်ကွတ်
<i>C. diffusa</i>	ဖျော့ဖြူ
<i>Cynodon dactylon</i>	မြေခဲမြက်၊ မြေခဲမြက်
<i>Cyperus difformis</i>	မြက်ပုံညှင်းအစိမ်း
<i>C. iria</i>	မြက်ပုံညှင်းအဝါ
<i>C. rotundus</i>	မြက်ပုံညှင်းညို
<i>Dactyloctenium aegyptium</i>	လေဆွဲမြက်၊ ယိုတော်မိုး၊ ယိုတော်ညို
<i>Digitaria ciliaris</i>	အင်တိုင်မြက်ခဲ၊ လက်သံခွဲမြက်
<i>D. sanguinalis</i>	လက်သံခွဲမြက်
<i>Echinochloa colona</i>	ဝမ်းဘဲစွဲမြက်
<i>E. crus-galli</i>	ဘဲစွဲမြက်၊ မြက်ဘဲ၊ မြက်ပျို
<i>Eclipta prostrata</i>	ကြိုင်နုနု
<i>Eichhornia crassipes</i>	ခေဇီ
<i>Eleusine indica</i>	ဆင်ငိုမြက်
<i>Fimbristylis dichotoma</i>	မြက်ကွမ်းခါးကြီး
<i>F. miliacea</i>	မြက်ကွမ်းခါးလေး
<i>Imperata cylindrica</i>	ဘက်ကယ်
<i>Ipomoea aquatica</i>	ကျောနံနံ
<i>Leersia hexandra</i>	ဘမ်းမြက်
<i>Leptochloa chinensis</i>	ခေါင်းဖြူပျံ
<i>Ludwigia adscendens</i>	ကျောညှတ်
<i>Marsilea minuta</i>	မိုးတို
<i>Mimosa diplotricha</i>	တိက်ကန်ကြီး
<i>Monochoria vaginalis</i>	ဆတ်
<i>Panicum repens</i>	မြက်ကြိမ်
<i>Pistia stratiotes</i>	ရေဆလပ်
<i>Portulaca oleracea</i>	ဘဲနုရစ်၊ မြေပုရစ်၊ မြေ
<i>R. cochinchinensis</i>	မြက်ပုသားယယ်
<i>Scirpus juncoides</i>	မြက်ကလုံး၊ တာလုံးခေါင်း
<i>Sphenoclea zeylanica</i>	လယ်ပု
<i>T. portulacastrum</i>	လိပ်ငှက်ဘတ်

*Weeds present were listed in Morris and Waterhouse (2001) or Myanmar Agriculture Service (1996).

Appendix K. Common names of weeds in Nepal

Weed	Common name(s)
<i>Aeschynomene indica</i>	armale, Sola, shola, ရောလာ
<i>Ageratum conyzoides</i>	ganne, elamey
<i>Alternanthera sessilis</i>	Bhirungi, ဖိပု-ဂေါ
<i>Amaranthus spinosus</i>	luday jhar kadey
<i>Commelina spp.</i>	Kane, kane jhar, ကဲ
<i>Cynodon dactylon</i>	dubo
<i>Cyperus spp.</i>	chhatre, Motha, မိုထာ, Chow, Guchen, Ochumani, chittrey banso
<i>Digitaria ciliaris</i>	
<i>Echinochloa colona</i>	Saamaa ghans, ဟာမာ ဂဟ်
<i>E. crus-galli</i>	Tunde saamaa, တုင်း ဟာမာ
<i>Eclipta prostrata</i>	Bhangraiyo
<i>Eichhornia crassipes</i>	Jal kumbhi, ချလ ကုမ္မီ
<i>Eleusine indica</i>	Kode banso, ကိုဒေ ဟ်-ဟို
<i>Fimbristylis miliacea</i>	Zhiruwa, ခိုရုဝ
<i>Imperata cylindrica</i>	kharr, sirru
<i>Ipomoea aquatica</i>	Karaiya, ကရီယ
<i>Ischaemum rugosum</i>	mandilo
<i>Monochoria vaginalis</i>	milo jaluke, pirulay, မိလို့ ချလုကွေ
<i>Paspalum dilatum</i>	Banso, ဟ်-ဟို
<i>P. distichum</i>	Ghunde banso, ဂွင်း ဟ်-ဟို
<i>P. scrobiculatum</i>	kodu, kondo, ကိုဒု
<i>Pistia stratiotes</i>	Khumbhika, ကုမ္မီက
<i>Polygonum hydropiper</i>	Pire, ပါရေ
<i>Portulaca oleracea</i>	phagpa jakpo
<i>Sagittaria sagittifolia</i>	Laph, လာဖ
<i>Scirpus juncoides</i>	swirey

Appendix L. Common names of weeds in Pakistan

Weed	Common name(s)
<i>Cynodon dactylon</i>	Khabbal, talla
<i>Cyperus iria</i>	Khana
<i>C. rotundus</i>	Notha
<i>Eichhornia crassipes</i>	gulbakauli, kalali
<i>Panicum repens</i>	Chimacara, surpurrcharella
<i>Portulaca oleracea</i>	kulfa, lunak

Appendix M. Common names of weeds in the Philippines*

Weed	Common name(s)
<i>Aeschynomene indica</i>	Makahiyang lalaki
<i>Ageratum conyzoides</i>	Bulak-manok, damong mabaho, damong-pallas
<i>Alternanthera sessilis</i>	Bonga-bonga, tagtagu
<i>Amaranthus spinosus</i>	Bayambang, kulitis, oray, uray
<i>Commelina benghalensis</i>	Alikbangon, likbangan, ulikbangon
<i>C. diffusa</i>	Tari-tari
<i>Cynodon dactylon</i>	Kawad-kawad, kawad-kawaran, kotati, malit
<i>Cyperus difformis</i>	Ballayang, ubod-ubod
<i>C. iria</i>	Payung-payung, taga-tagataga
<i>C. rotundus</i>	Mutha
<i>Dactyloctenium aegyptium</i>	Damong balang, krus-krusan
<i>Digitaria ciliaris</i>	Baludgangan, halos
<i>Echinochloa colona</i>	Bulang, gutad, pulang-pwet, tiribuhan
<i>E. crus-galli</i>	Bayakibok
<i>E. glabrescens</i>	Daua, daua-dauahan
<i>Eclipta prostrata</i>	Higis-manok
<i>Eleusine indica</i>	Bakis-bakisan, kabit-kabit, parag-is, sambali
<i>Fimbristylis dichotoma</i>	Tikog-tikog (Vis)
<i>F. miliacea</i>	Gumi, taulat
<i>Imperata cylindrica</i>	Kogon
<i>Ipomoea aquatica</i>	Kangkong
<i>Ischaemum rugosum</i>	Tiritrigo, trigo-trigohan
<i>Leersia hexandra</i>	Barit
<i>Leptochloa chinensis</i>	Palay-maya
<i>Ludwigia adscendens</i>	Kangkong dapa
<i>L. octovalvis</i>	Balakbak, malapako
<i>Marsilea minuta</i>	Kaya-kayapuan
<i>Mimosa diplotricha</i>	Aroma, kamit-kabag, makahiya
<i>Monochoria vaginalis</i>	Biga-bigaan, gabing-uwak, kalabuwa
<i>Panicum repens</i>	Luya-luyahan
<i>Paspalum distichum</i>	Luya-luyang dagat, malit-kalabaw, pagetpet
<i>P. scrobiculatum</i>	Sabung-sabungan
<i>Pistia stratiotes</i>	Kiapo
<i>Portulaca oleracea</i>	Olasiman
<i>Rottboellia cochinchinensis</i>	Agriṅgay
<i>Sagittaria sagittifolia</i>	Gauai-gauai (Vis)
<i>Scirpus juncoides</i>	Bitubituinan
<i>S. maritimus</i>	Apulid
<i>Sphenoclea zeylanica</i>	Dilang-butiki, silisilihan
<i>Trianthema portulacastrum</i>	Toston

*Weeds present were listed in Moody et al (1984). Only Filipino (Tagalog) names were given, except as noted. Vis = Visayas.

Appendix N. Common names of weeds in Sri Lanka

Weed	Common name(s)
<i>Commelina benghalensis</i>	diya-meneriya
<i>Cynodon dactylon</i>	Aruham-pul, buha
<i>Cyperus rotundus</i>	Kalanthi, kalanduru
<i>Dactyloctenium aegyptium</i>	Putu tana
<i>Digitaria ciliaris</i>	Arisi pul, guru tana
<i>Echinochloa colona</i>	Adipul, gira-tana
<i>E. crus-galli</i>	Kutirai-val-pul, martu
<i>Eichhornia crassipes</i>	Diya manel, diya kehel, habara, habarala, sabara, yapura
<i>Fimbristylis miliacea</i>	muduhalpan
<i>Imperata cylindrica</i>	Iluk, inanka-pilu
<i>Ipomoea aquatica</i>	Kankun
<i>Ischaemum rugosum</i>	Kudukedu
<i>Panicum repens</i>	Etora

Appendix O. Common names of weeds in Thailand*

Weed	Common name(s)
<i>Aeschynomene aspera</i>	โสนคางคก
<i>A. indica</i>	โสนหางไก่
<i>Ageratum conyzoides</i>	สาบแรังสาบกา
<i>Alternanthera sessilis</i>	ผักโปเตนัว
<i>Amaranthus spinosus</i>	ผักโสมหนาม
<i>Commelina benghalensis</i>	ผักปราบ
<i>C. diffusa</i>	ผักปราบใบเขียว
<i>Cynodon dactylon</i>	หญ้าแพรง
<i>Cyperus difformis</i>	กกชานาก
<i>C. iria</i>	กกทราย
<i>C. rotundus</i>	แห้วหมู
<i>Dactyloctenium aegyptium</i>	หญ้าปากควาย
<i>Digitaria ciliaris</i>	หญ้าตีนนก
<i>Echinochloa colona</i>	หญ้าขี้เหล็กหมู
<i>E. crus-galli</i>	หญ้าข้าวหมก
<i>Echinochloa glabrescens</i>	หญ้าปล้องละมาน
<i>Eclipta prostrata</i>	กะเม็ง
<i>Eichhornia crassipes</i>	ผักตบชวา
<i>Eleusine indica</i>	หญ้าตีนกา
<i>Fimbristylis dichotoma</i>	หญ้าข้าวหนู
<i>F. miliacea</i>	หญ้าหนวดปลาคู
<i>Imperata cylindrica</i>	หญ้าคา
<i>Ipomoea aquatica</i>	ผักบุ้ง
<i>Ischaemum rugosum</i>	หญ้าแดง
<i>Leersia hexandra</i>	หญ้าไซ
<i>Leptochloa chinensis</i>	หญ้าดอกขาว
<i>Ludwigia adscendens</i>	เทียนน้ำ
<i>L. octovalvis</i>	เทียนน้ำ
<i>Marsilea spp.</i>	ผักแว่น
<i>Mimosa diplotricha</i>	ไมยราบเลื้อย
<i>Monochoria vaginalis</i>	ขาเขียด
<i>Panicum repens</i>	หญ้าชันกาด
<i>Paspalum distichum</i>	หญ้าชะกาดน้ำเค็ม
<i>P. scrobiculatum</i>	หญ้าปล้องหิน
<i>Pistia stratiotes</i>	จอก
<i>Polygonum hydropiper</i>	ผักไผ่
<i>Portulaca oleracea</i>	ผักเบี้ยใหญ่
<i>Rottboellia cochinchinensis</i>	หญ้าถอดปล้อง, หญ้าไธยง
<i>Sagittaria sagittifolia</i>	เต้าเกียด
<i>Scirpus juncooides</i>	แห้วทรงกระบอกเล็ก
<i>Sphenoclea zeylanica</i>	ผักปอดนา
<i>Trianthema portulacastrum</i>	ผักเบี้ยหิน

*Weeds present were listed in Radanachalee and Maxwell (1992).

Appendix P. Common names of weeds in Vietnam*

Weed	Common name(s)
<i>Aeschynomene aspera</i>	Điền ma nhám
<i>A. indica</i>	Điền ma án, Rút nước
<i>Ageratum conyzoides</i>	Cỏ cứt heo
<i>Alternanthera sessilis</i>	Diếp không cuống
<i>Amaranthus spinosus</i>	Đền gai
<i>Commelina benghalensis</i>	Đầu riều, Trai an
<i>C. diffusa</i>	Rau trai, Thài lài trắng
<i>Cynodon dactylon</i>	Cỏ chỉ, Cỏ ông, Cỏ gà
<i>Cyperus difformis</i>	Cỏ cháo, Cỏ tò ty
<i>C. iria</i>	Lác rận, Cú rận
<i>C. rotundus</i>	Cỏ cu, Hương phụ, Cỏ gau
<i>Dactyloctenium aegyptium</i>	Cỏ chân gà, Cỏ chân vịt
<i>Digitaria ciliaris</i>	Túc hình rìa, Túc hình nho, Túc hình leo
<i>Echinochloa colona</i>	Cỏ lồng vực cạn, Cỏ nước mặn
<i>E. crus-galli</i>	Cỏ lồng vực, Cỏ gạo, Cỏ mỳ, gai-hao-muong, lồng-vực
<i>Eclipta prostrata</i>	Cỏ mực
<i>Eichhornia crassipes</i>	Lục bình, Bèo tây
<i>Eleusine indica</i>	Mần trâu, Ngưu càn
<i>Fimbristylis dichotoma</i>	Mao thừ lưỡng phân, Cỏ quảng lông
<i>F. miliacea</i>	Cỏ chác, Cỏ tò te, Cỏ chat
<i>Imperata cylindrica</i>	Cỏ tranh, Bạch mao
<i>Ipomoea aquatica</i>	Rau muống
<i>Ischaemum rugosum</i>	Cỏ móm, Cỏ mo van
<i>Leersia hexandra</i>	Cỏ noi, Cỏ bạc
<i>Leptochloa chinensis</i>	Đuôi phụng, Mảnh hòa Trung quốc
<i>Ludwigia adscendens</i>	Rau dứa nước
<i>L. octovalvis</i>	Rau mướt đứng
<i>Marsilea minuta</i>	Rau bọ nhỏ
<i>Mimosa diplotricha</i>	Trinh nữ móc
<i>Monochoria vaginalis</i>	Rau mác bao, Cui dia, Rac mác lá thon
<i>Panicum repens</i>	Cỏ cua-ga, Cỏ ong
<i>Paspalum distichum</i>	San nước
<i>P. scrobiculatum</i>	Cỏ dang, san tron, trung ech
<i>Pistia stratiotes</i>	Bèo cái, Bèo tai tượng
<i>Polygonum hydropiper</i>	Nghệ rằm
<i>Portulaca oleracea</i>	Rau sam, Sam
<i>Rottboellia cochinchinensis</i>	Cỏ dây xanh, Cỏ mia, myet-yar
<i>Sagittaria sagittifolia</i>	Tứ cô
<i>Scirpus juncoides</i>	Hoan-thao hen
<i>Sphenoclea zeylanica</i>	Cỏ xà bông
<i>Trianthema portulacastrum</i>	Cỏ tam khôi

*Most weeds present were listed in Koo et al (2000).

Appendix Q. Weed species (by Bayer code) reported in Asian nations.

Bayer code	BAN	BHU	CAM	CHN	INDO	IND	KOR	LAO	MAL	MYA	NEP	PAK	PHI	SRI	THA	VIE	Sum
AESAS	•																10
AESIN	•																15
AGECO	•																14
ALRSE	•																14
AMASP	•																15
COMBE	•																13
COMDI	•																14
CYNDA	•																15
CYPDI	•																16
CYPIR	•																16
CYPRO	•																15
DITAE	•																12
DIGSP	•																16
DIGSA	•																11
ECHCO	•																15
ECHCG	•																16
ECHGL	•																13
ECLAL	•																16
EICCR	•																15
ELEIN	•																16
FIMDI	•																14
FIMMI	•																16

continued on next page

Bayer code	BAN	BHU	CAM	CHN	IDO	IND	KOR	LAO	MAL	MYA	NEP	PAK	PHI	SRI	THA	VIE	Sum
IMPCY	•				•	•		•	•	•	•	•	•	•	•	•	16
IPOAQ	•				•	•		•	•	•	•	•	•	•	•	•	13
ISCRU	•				•	•		•	•	•	•	•	•	•	•	•	13
LERHE	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
LEFCH	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
LUDAD	•		•		•	•		•	•	•	•	•	•	•	•	•	13
LUDOC	•		•		•	•		•	•	•	•	•	•	•	•	•	12
MARMI	•		•		•	•		•	•	•	•	•	•	•	•	•	13
MIMIN					•	•		•	•	•	•	•	•	•	•	•	7
MOOVA	•		•	•	•	•		•	•	•	•	•	•	•	•	•	16
PANRE	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
PASDS	•		•	•	•	•		•	•	•	•	•	•	•	•	•	12
PASSC	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
PIJST	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
POLHY	•		•	•	•	•		•	•	•	•	•	•	•	•	•	9
POROL	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
ROOEX	•		•	•	•	•		•	•	•	•	•	•	•	•	•	10
SAGSA	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
SCPJO	•		•	•	•	•		•	•	•	•	•	•	•	•	•	16
SCPMA	•		•	•	•	•		•	•	•	•	•	•	•	•	•	14
SPDZE	•		•	•	•	•		•	•	•	•	•	•	•	•	•	13
TRTPO	•		•	•	•	•		•	•	•	•	•	•	•	•	•	10

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