



**National Environment Commission
Royal Government of Bhutan**



BHUTAN BIODIVERSITY USER LIST

Bhutan Biodiversity User List



NATIONAL ENVIRONMENT COMMISSION
ROYAL GOVERNMENT OF BHUTAN

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White-bellied Heron (*Ardea insignis*)
Photo by: Phub Dorji

Introduction

The National Environment Commission Secretariat (NECS) is an independent authority and the highest decision making body on all matters relating to the environment and its management in the country. Among many of its functions; the NECS is mandated to develop and publish environmental information aimed at increasing public awareness for fostering compliance.

The NECS is also the National Focal Agency to the United Nation Convention on Biological Diversity and as such plays a critical role in providing an overarching guidance and information on biological diversity as well as strengthening the roles of implementing agencies for the Convention's protocols and other obligations.

There are several national and international regulations and notifications that are aimed at protecting and conserving the biodiversity by enforcing trade and transfer ban, highlighting the status of the species and regulating them.

The objective of this Biodiversity User List is to bring together all the available information on the country's important biodiversity to raise awareness and to enhance service delivery by providing the regulating agencies a concerted list for monitoring and evaluation purposes. The document also lists the native and indigenous livestock to highlight the importance of conserving the native species. Currently, there is no official system to collect and maintain records on indigenous breeds and this document highlights the need to record and maintain such information.

The same list is also available online gearing towards the reforms of digitization and to reach a wider audience to add on to the concerted efforts in achieving the common objective of conservation and sustainable management of biodiversity. It is available on the NECS website www.nec.gov.bt

The list has been compiled by the NECS in consultation with all relevant agencies.



Blue sheep (*Ovis ammon hodgsonii*)
Photo by: Yeshi Jamyang

List of Wild Species Protected by National Legislation, CITES Listing and IUCN Status



Asian Elephant (*Elephas maximus*)
Photo by: Kuenley Tenzin

Protected Species by National Legislation, CITES Listing and IUCN Red List Status

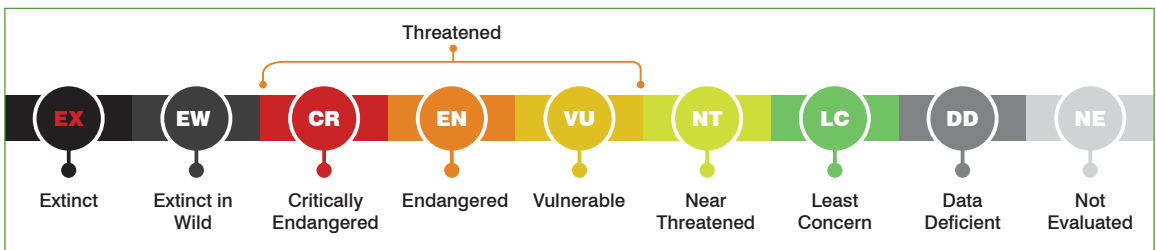
A. Schedule I of FNCA and It's Regulation

The species protected in Bhutan by the Forest and Nature Conservation Act (FNCA) 1995 and Forest and Nature Conservation Rules and Regulation (FNCRR) 2017 are provided according to taxonomic classifications. All the protected species under Schedule I of the FNCA are also protected under the FNCRR. Subsequently; FNCRR has a list of additional protected species and a separate schedule of birds which have also been compiled in this document. There are a total of 68 species protected under the national legislations.

B. International Union for Conservation of Nature's (IUCN) Red List of Threatened Species

The IUCN determines a species conservation status (likelihood of becoming extinct) based on numerous factors such as rate of decline, population size, area of geographic distribution and degree of population fragmentation. The IUCN Red List is a critical indicator of the health of the world's biodiversity. The list is a powerful tool to inform and catalyze action for biodiversity conservation and policy change, critical to protecting the natural resources we need to survive.

The IUCN Redlist of threatened species has evolved to become the world's most comprehensive information source on the global extinction risk status of animal, fungus and plant species as species in these categories are those requiring the protection and conservation efforts. The IUCN Red List classifies species into nine specified categories as shown in the figure below.



In the IUCN Redlist, the three categories of *Critically Endangered*, *Endangered* and *Vulnerable* are collectively referred to as **'Threatened'** with global extinction.

The three threatened categories have been defined as;

VU

Vulnerable: Species facing high risk of extinction in the wild with number of mature individuals less than 10,000 and its geographic range extent of occurrence and occupancy is less than 20,000km² and 2000km² respectively.

EN

Endangered: Species facing very high risk of extinction in the wild with number of mature individuals less than 2500 and its geographic range extent of occurrence and occupancy is less than 5000km² and 500km² respectively.

CR

Critically Endangered: Species facing extremely high risk of extinction in the wild with number of mature individuals less than 250 and its geographic range extent of occurrence and occupancy is less than 100km² and 10km² respectively.

The IUCN Redlist of threatened species in Bhutan is provided in this list. The list has also identified the IUCN categories for the species that are not in the IUCN “threatened” category but are protected by FNCA and CITES.

C. Species listed in Convention on International Trade of Endangered Species (CITES) Appendices

CITES is an international agreement between governments aimed at ensuring that international trade in specimens of wild animals and plants does not threaten the survival of the species. Bhutan as a Party to CITES has developed its CITES Listing. The species covered by CITES are listed in three Appendices, according to the degree of protection they need as follows;

- i. **Appendix I:** Includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances.
- ii. **Appendix II:** Includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.
- iii. **Appendix III:** Includes species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.

The following list of species is a compilation of protected species based on the **FNCA** and **FNCR**, species listed in the **Appendices of CITES** and **IUCN Red List of Threatened Species**.

Mammals



Golden Langur (*Trachypithecus geei*)
Photo by: Sherab Jamtsho

Species	National Legislation	CITES Listing	IUCN Status
Arunachal Macaque (<i>Macaca munzala</i>)		II	Endangered
Asian Elephant (<i>Elephas maximus</i>)	FNCA & FNCRR	I	Endangered
Asian Golden Cat (<i>Catopuma temminckii</i>)		I	Near Threatened
Asian small-clawed Otter (<i>Lutra lutra</i>)		I	Vulnerable
Asiatic Black Bear (<i>Ursus thibetanus</i>)		I	Vulnerable
Binturong or Bearcat (<i>Arctictis binturong</i>)		III	Vulnerable
Black musk deer (<i>Moschus fuscus</i>)		I/II	Endangered
Blue sheep (<i>Ovis ammon hodgsonii</i>)	FNCRR	I	Least Concern
Brown Bear (<i>Ursus arctos</i>)		I/II	Least Concern
Capped Langur (<i>Trachypithecus pileatus</i>)		I	Vulnerable
Clouded Leopard (<i>Neofelis nebulosa</i>)	FNCA & FNCRR	I	Vulnerable
Dhole (<i>Cuon alpinus</i>)		II	Endangered
Flying squirrel (<i>Hylopetes alboniger</i>)	FNCRR		Least Concern
Gaur (<i>Bos gaurus</i>)	FNCA & FNCRR	I	Vulnerable
Golden Langur (<i>Trachypithecus geei</i>)	FNCA & FNCRR	I	Endangered
Goral (<i>Naemorhedus goral</i>)		I	Near Threatened
Grey Langur (<i>Semnopithecus hector</i>)		I	Near Threatened
Grey Wolf (<i>Canis lupus</i>)		I/II	Least Concern
Himalayan Black Bear (<i>Selenarctos thibetanus</i>)	FNCA & FNCRR	I	Vulnerable
Hispid hare (<i>Caprolagus hispidus</i>)	FNCRR		Endangered
Hog Deer (<i>Axis porcinus</i>)		III	Endangered
Leopard (<i>Panthera pardus</i>)	FNCA & FNCRR	I	Vulnerable
Leopard Cat (<i>Prionailurus bengalensis</i>)	FNCA & FNCRR	II	Least Concern
Marbled cat (<i>Pardofelis marmorata</i>)		I	Near Threatened



Red Panda (*Ailurus fulgens*)
Photo by: Yejay

Musk Deer (<i>Moschus leucogaster</i>)	FNCA & FNCRR	I/II	Endangered
Pangolin (<i>Manis pentadactyla</i>)	FNCA & FNCRR	I	Critically Endangered
Pigmy Hog (<i>Sus sylvanicus</i>)	FNCA & FNCRR	I	Critically Endangered
Red Panda (<i>Ailurus fulgens</i>)	FNCA & FNCRR	I	Endangered
Rhino (<i>Rhinoceros unicornis</i>)	FNCRR	I	Vulnerable
Sambar (<i>Rusa unicolor</i>)	FNCRR		Vulnerable
Serow (<i>Capricornis sumatraensis</i>)	FNCA & FNCRR	I	Vulnerable
Sloth Bear (<i>Melursus ursinus</i>)		I	Vulnerable
Slow loris (<i>Nycticebus bengalensis</i>)	FNCRR	I	Vulnerable
Smooth-coated Otter (<i>Lutrogale perspicillata</i>)		II	Vulnerable
Snow Leopard (<i>Panthera uncia</i>)	FNCA & FNCRR	I	Vulnerable
Spotted deer (Cheetal) (<i>Axis axis</i>)	FNCA & FNCRR		Least Concern
Swamp deer (<i>Rucervus duvaucelii</i>)		I	Vulnerable
Takin (<i>Budorcas taxicolor</i>)	FNCA & FNCRR	II	Vulnerable
Tiger (<i>Panthera tigris</i>)	FNCA & FNCRR	I	Endangered
Wild Buffalo (<i>Bubalus arnee</i>)	FNCA & FNCRR	III	Endangered



Rhino (*Rhinoceros unicornis*)
Photo by: Dorji Phutsho

Birds



Blyth's Tragopan (*Tragopan blythii*)
Photo by: Tshering Dorji

Species	National Legislation	CITES Listing	IUCN Status
Baer's Pochard (<i>Aythya baeri</i>)	FNCRR		Critically Endangered
Beautiful Nuthatch (<i>Sitta formosa</i>)	FNCRR		Vulnerable
Black Necked Crane (<i>Grus nigricollis</i>)	FNCA & FNCRR	I	Near Threatened
Black-necked Stork (<i>Ephippiorhynchus asiaticus</i>)	FNCRR		Near Threatened
Blyth's Kingfisher (<i>Alcedo Hercules</i>)	FNCRR		Near Threatened
Blyth's Tragopan (<i>Tragopan blythii</i>)	FNCRR	I	Vulnerable
Chestnut-breasted Partridge (<i>Arborophila mandellii</i>)	FNCRR		Vulnerable
Cinereous Vulture (<i>Aegypius monachus</i>)	FNCRR	II	Near Threatened
Dark-rumped Swift (<i>Apus acuticauda</i>)	FNCRR		Vulnerable
Eurasian Curlew (<i>Numenius arquata</i>)	FNCRR		Near Threatened
Ferruginous Duck (<i>Aythya nyroca</i>)	FNCRR		Near Threatened
Great Hornbill (<i>Buceros bicornis</i>)	FNCRR	I	Vulnerable
Great Slaty Woodpecker (<i>Mulleripicus pulverulentus</i>)	FNCRR		Vulnerable
Greater Spotted Eagle (<i>Clanga clanga</i>)	FNCRR		Vulnerable
Grey-crowned Prinia (<i>Prinia cinereocapilla</i>)	FNCRR		Vulnerable
Himalayan Monal (<i>Lophophorus impejanus</i>)		I	Least Concern
Hodgson's Bushchat (<i>Saxicola insignis</i>)	FNCRR		Vulnerable
Eastern Imperial Eagle (<i>Aquila heliaca</i>)	FNCRR	I	Vulnerable
Japanese Quail (<i>Coturnix japonica</i>)	FNCRR		Near Threatened
Lesser Fish Eagle (<i>Ichthyophaga humilis</i>)	FNCRR		Near Threatened
Monal Pheasant (<i>Lophophorus impejanus</i>)	FNCA & FNCRR		Least Concern



Great Hornbill (*Buceros bicornis*)
Photo by: Krishna Prasad Dhimal

Pallas's Fish Eagle (<i>Haliaeetus leucorhynchus</i>)	FNCRR		Endangered
Peacock Pheasant (<i>Polyplectron bicalcaratum</i>)	FNCA & FNCRR		Least Concern
Peregrine Falcon (<i>Falco peregrinus</i>)		I	Least Concern
Raven (<i>Corvus corax</i>)	FNCA & FNCRR		Least Concern
Red-headed Vulture (<i>Sarcogyps calvus</i>)	FNCRR		Critically Endangered
River Lapwing (<i>Vanellus duvaucelii</i>)	FNCRR		Near Threatened
River Tern (<i>Sterna aurantia</i>)	FNCRR		Vulnerable
Rufous-Necked Hornbill (<i>Aceros nipalensis</i>)	FNCA & FNCRR	I	Vulnerable
Rufous-throated Wren Babbler (<i>Spelaeornis caudatus</i>)	FNCRR		Near Threatened
Tibetan snowcock (<i>Tetraogallus tibetanus</i>)		I	Least Concern
Ward's Trogon (<i>Harpactes wardi</i>)	FNCRR		Near Threatened
Wedge-billed Wren Babbler (<i>Sphenocichla humei</i>)	FNCRR		Near Threatened
White-bellied Heron (<i>Ardea insignis</i>)	FNCRR		Critically Endangered
White-rumped Vulture (<i>Gyps bengalensis</i>)	FNCRR		Critically Endangered
White-tailed eagle (<i>Haliaeetus albicilla</i>)		I	Least Concern
Wood Snipe (<i>Gallinago nemoricola</i>)	FNCRR		Vulnerable
Yellow-rumped Honeyguide (<i>Indicator xanthonotus</i>)	FNCRR		Near Threatened

Fishes



Golden Mahseer (*Tor putitora*)
Photo by: Deo Kumar Gurung

Species	National Legislation	CITES Listing	IUCN Status
<i>Aborichthys garoensis</i>			Vulnerable
<i>Cirrhinus cirrhosis</i>			Vulnerable
<i>Cyprinion semiplotum</i>			Vulnerable
<i>Cyprinus carpio</i>			Vulnerable
<i>Devario assamensis</i>			Vulnerable
<i>Pseudecheneis sirenica</i>			Vulnerable
<i>Schistura inglisi</i>			Vulnerable
<i>Schizothorax richardsonii</i>			Vulnerable
Golden Mahseer (<i>Tor putitora</i>)	FNCA & FNCRR		Endangered
<i>Pterocryptis barakensis</i>			Endangered
<i>Clarias magur</i>			Endangered

Butterfly



Bhutan Swallowtail (*Bhutanitis ludlowi*)
Photo by: Tshering Dendup

Species	National Legislation	CITES Listing	IUCN Status
Bhutan Swallowtail (<i>Bhutanitis ludlowi</i>)	FNCRR	II	Endangered

Fungi



Caterpillar fungus (*Ophiocordyceps sinensis*)

Species	National Legislation	CITES Listing	IUCN Status
<i>Ophiocordyceps sinensis</i>	FNCA & FNCRR		Vulnerable

Amphibians and Reptiles



Keeled box turtle (*Cuora mouhotii*)
Photo by: Nima Gyeltshen

Species	National Legislation	CITES Listing	IUCN Status
<i>Chitra indica</i>			Endangered
<i>Cuora amboinensis</i>			Vulnerable
<i>Cuora mouhotii</i>			Endangered
<i>Gavialis gangeticus</i>		I	Critically Endangered
<i>Geoclemys hamiltonii</i>			Vulnerable
<i>Hardella thurjii</i>			Vulnerable
<i>Indotestudo elongate</i>		II	Endangered
<i>Kachuga dhongoka</i>			Endangered
<i>Kachuga kachuga</i>			Critically Endangered
<i>Melanochelys tricarinata</i>		I	Vulnerable
<i>Morenia petersi</i>			Vulnerable
<i>Nilssonina hurum</i>			Vulnerable
<i>Oligodon juglandifer</i>			Vulnerable
<i>Ophiophagus hannah</i>		II	Vulnerable
<i>Pangshura sylhetensis</i>			Endangered
<i>Python bivittatus</i>			Vulnerable
<i>Python molurus</i>			Vulnerable
<i>Xenophrys cf. nankiangensis</i>			Vulnerable
<i>Varanus bengalensis</i>		I	Least Concern



Himalayan blue poppy (*Meconopsis bhutanica*)
Photo by: Ngawang Dorji



Paphiopedilum venustum
Photo by: Pem Zam

Species	National Legislation	CITES Listing	IUCN Status
<i>Aglaia perviridis</i>			Vulnerable
<i>Androsace hemisphaerica</i>			Endangered
<i>Aquilaria malaccensis</i>	FNCA & FNCRR	II	Critically Endangered
<i>Astragalus paroensis</i>			Critically Endangered
<i>Bambusa clavate</i>			Vulnerable
<i>Bistorta griersonii</i>			Endangered
<i>Buddleja bhutanica</i>			Vulnerable
<i>Bulbophyllum leopardinum</i> var. <i>tuberculatum</i>		II	Critically Endangered
<i>Bulleyia yunnanensis</i>			Endangered
<i>Carex nigra</i> subsp. <i>drukyulensis</i>			Endangered
<i>Ceropegia bhutanica</i>			Endangered
<i>Ceropegia dorjei</i>			Critically Endangered
<i>Cheirostylis sherriffii</i>			Critically Endangered
<i>Corallodiscus cooperi</i>			Vulnerable
<i>Cupressus macrocarpa</i>			Vulnerable
<i>Cycas pectinate</i>		II	Vulnerable
<i>Cymbopogon bhutanicus</i>			Vulnerable
<i>Cypripedium cordigerum</i>		II	Vulnerable
<i>Cypripedium elegans</i>		II	Endangered
<i>Cypripedium himalaicum</i>		II	Endangered
<i>Drepanostachyum annulatum</i>			Vulnerable
<i>Gentiana crassuloides</i>	FNCA & FNCRR		
<i>Hoya bhutanica</i>			Endangered
<i>Hypericum sherriffii</i>			Endangered
<i>Ilex venulose</i>			Endangered
<i>Illicium griffithii</i>			Endangered
<i>Isodon atroruber</i>			Endangered
<i>Jacaranda mimosifolia</i>			Vulnerable
<i>Lloydia yunnanensis</i>	FNCA & FNCRR		

<i>Malaxis muscifera</i>			Vulnerable
<i>Meconopsis bhutanica</i>			Critically Endangered
<i>Meconopsis grandis</i>	FNCA & FNCRR		
<i>Meconopsis superba</i>			Endangered
<i>Nardostachys jatamansi</i>			Critically Endangered
<i>Neopicrorhiza minima</i>			Endangered
<i>Onosma griersonii</i>			Critically Endangered
<i>Ophiorrhiza longii</i>			Critically Endangered
<i>Oreorchis sanguinea</i>			Critically Endangered
<i>Panax pseudo-ginseng</i>	FNCA & FNCRR		
<i>Paphiopedilum fairrieianum</i>		I	Critically Endangered
<i>Paphiopedilum spicerianum</i>			Endangered
<i>Paphiopedilum venustum</i>		I	Endangered
<i>Pedicularis griniformis</i>			Vulnerable
<i>Pedicularis sanguilimbata</i>			Endangered
<i>Picea brachytyla</i>			Vulnerable
<i>Rhododendron dalhousiae</i> var. <i>rhabdotum</i>			Vulnerable
<i>Saurauia punduana</i>			Critically Endangered
<i>Saxifraga vacillans</i>			Vulnerable
<i>Sorbus lingshiensis</i>			Critically Endangered
<i>Sorbus rinzenii</i>			Endangered
<i>Strobilanthes accrescens</i> subsp. <i>Accrescens</i>			Endangered
<i>Taxus baccata</i>	FNCA & FNCRR		Least Concern
<i>Taxus wallichiana</i>		II	Endangered

List of Invasive Species Recorded from Bhutan

Invasive Species



Begger's trick (*Bidens pilosa*)
Photo by: Dorji Phuntsho

Invasive Species Recorded from Bhutan

The species introduced outside their natural habitats as a result of human interventions are known as alien, exotic, foreign species. For a species to become invasive, it must successfully out-compete native organisms, spread through its new environment, increase in population density and harm ecosystems colonizing their new habitats. To summarize, for a species to become invasive, it must arrive, survive and thrive. Invasive species occurs in all taxonomic groups, including animals, plants, fungi and microorganisms, and can affect all types of ecosystems. The invasive species may be alien or native to the particular country.

Invasive alien species (IAS) are species whose introduction and/or spread outside their natural past or present distribution threaten biological diversity. A species introduction is usually vectored either deliberately for agriculture, horticulture, agro-forestry purposes or accidental through travel, trade, transport and tourism. The list below is a compiled list of invasive species from other published sources in the country and the Global Invasive Species Database.

It is widely recognized that invasive species cause human health hazards, economic losses and ecological disturbances. They out-compete native species for resources (food, space, water or habitat) and displace them. They cause change in overall native species composition and ecosystem. The impact of invasive species is expected to accelerate under changing climate scenarios. There has been no systematic and comprehensive inventory of invasive species in Bhutan, apart from few scattered studies.

Scientific Name	Common/Local Name	Taxonomic Group	Biostatus
<i>Acacia melanoxylon</i>	Blackwood	Plant	Alien
<i>Acanthospermum hispidum</i>	Hispid starburr	Plant	Alien
<i>Acmella uliginosa</i>	Marsh para cress	Plant	Alien
<i>Ageratina adenophora</i>	Crofton weed	Plant	Alien
<i>Albizia julibrissin</i>	Silk tree	Plant	Native
<i>Alternanthera pungens</i>	Khaki weed	Plant	Alien
<i>Argemone mexicana</i>	Mexican poppy	Plant	Alien
<i>Axonopus compressus</i>	Carpet grass	Plant	Alien
<i>Amaranthus spinosus</i>	Prickly amaranth	Plant	Alien
<i>Alternanthera sessilis</i>	Sessile joyweed	Plant	Native

<i>Bacopa monnieri</i>	Water hyssop	Plant	Native
<i>Bidens pilosa</i>	Begger's trick	Plant	Alien
<i>Cassia tora</i>	Sickle senna	Plant	Alien
<i>Caesalpinia decapetala</i>	Shoofly	Plant	Native
<i>Cardamine flexuosa</i>	Bittercress	Plant	Alien
<i>Chenopodium odoratum</i>	White goosefoot	Plant	Alien
<i>Chromolaena odorata</i>	Siam weed	Plant	Alien
<i>Chromolaena odoratum</i>	Baby tea/Christmas bush	Plant	Alien
<i>Commelina benghalensis</i>	Spiderwort	Plant	Native
<i>Cosmos bipinnata</i>	Cosmos	Plant	Alien
<i>Crptomeria japonica</i>	Japanese cedar	Plant	Alien
<i>Datura stramonium</i>	Thron apple	Plant	Alien
<i>Dalbergia sissoo</i>	North Indian rosewood	Plant	Native
<i>Dioscorea bulbifera</i>	Air potato	Plant	Native
<i>Eichhornia crassipes</i>	Common water hyacinth	Plant	Alien
<i>Ficus microcarpus</i>	Chinese banyan	Plant	Native
<i>Houttuynia cordata</i>	Chameleon plant	Plant	Native
<i>Hygrophila polysperma</i>	Indian swampweed	Plant	Native
<i>Hyptis suaveolens</i>	Bush mint	Plant	Alien
<i>Imperata cylindrica</i>	Cogongrass	Plant	Alien
<i>Ipomoea hederifolia</i>	Scarlet creeper	Plant	Alien
<i>Ipomoea purpurea</i>	Morning glory	Plant	Alien
<i>Lantana camara</i>	Lantana/Sleeper weed	Plant	Alien
<i>Lespedeza cuneata</i>	Chinese bushclover	Plant	Native
<i>Leucaena leucocephala</i>	Wild tamarind	Plant	Alien
<i>Limnophila sessiliflora</i>	Ambulia	Plant	Native
<i>Lipidium virginicum</i>	Pepper weed	Plant	Alien
<i>Lotus corniculatus</i>	Bird's-foot trefoil	Plant	Native
<i>Lygodium japonicum</i>	Climbing fern.	Plant	Native
<i>Melilotus alba</i>	Honey clover	Plant	Native



Cosmos (*Cosmos bipinnata*)
Photo by: Durja Raj Rai

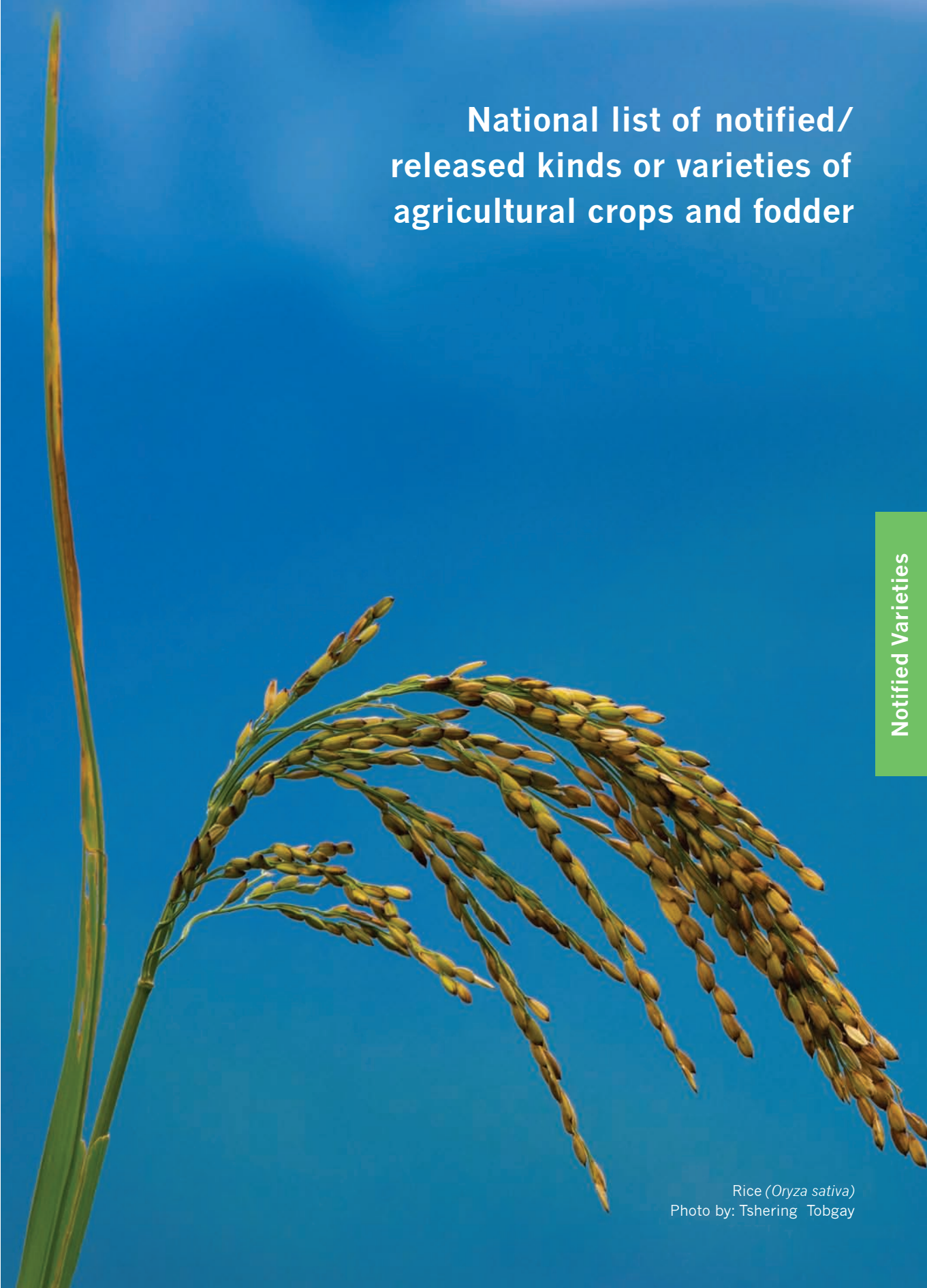
<i>Mikania micrantha</i>	Mile-a-minute weed/ Chinese creeper	Plant	Alien
<i>Mimosa pudica</i>	Touch-me-not-plant/ sensitive plant	Plant	Alien
<i>Neyraudia reynaudiana</i>	Burma reed	Plant	Native
<i>Nicandra physalodes</i>	Apple of Peru/Shoe-fly plant	Plant	Alien
<i>Opuntia vulgaris</i>	Prickly pear/ Jawairingpa Tsang	Plant	Alien
<i>Paederia foetida</i>	Skunkvine/ stinkvine	Plant	Native
<i>Parthenium hysterophorus</i>	Carrot weed/Congress grass	Plant	Alien
<i>Pennisetum clandestinum</i>	Kikuyu grass	Plant	Alien
<i>Robinia pseudoacacia</i>	Black locust tree	Plant	Alien
<i>Rubus niveus</i>	Ceylon raspberry	Plant	Native
<i>Scoparia dulcis</i>	Sweet broom weed	Plant	Alien
<i>Senegalia catechu</i>	Black catechu	Plant	Native
<i>Sida acuta</i>	Broom grass	Plant	Alien
<i>Stellaria media</i>	Chickweed	Plant	Alien
<i>Targets minuta</i>	Maxican marigold	Plant	Alien
<i>Targets patula</i>	French marigold	Plant	Alien
<i>Thuja orientalis</i>	Chinese Arbor-vitae	Plant	Alien
<i>Tithonia diversifolia</i>	Mexican sunflower/ tree marigold	Plant	Alien
<i>Trifolium repens L.</i>	White clover	Plant	Alien
<i>Verbascum Thapsus</i>	Common mullein	Plant	Native
<i>Columba livia</i>	Pigeons/Doves	Bird	Alien
<i>Corvus splendens</i>	House crow	Bird	Native
<i>Acridotheres tristis</i>	Common myna	Bird	Native
<i>Anas platyrhynchos</i>	Mallard/wild duck	Bird	Native
<i>Anser anser</i>	Domestic goose	Bird	Native
<i>Gallus gallus</i>	Red junglefowl	Bird	Native
<i>Porphyrio porphyrio</i>	Purple swamphen	Bird	Native
<i>Psittacula kramera</i>	Rose-ringed Parakeet	Bird	Native

<i>Pycnonotus jocosus</i>	Red-whiskered bulbul	Bird	Native
<i>Streptopelia decaocto</i>	Eurasian Collared-Dove	Bird	Native
<i>Catla catla</i>	South asian carp/ Bhakura.	Fish	Alien
<i>Cirrhinus cirrhosis</i>	Mrigal carp	Fish	Alien
<i>Clarias gariepinus</i>	African sharptooth catfish	Fish	Alien
<i>Clarias magur</i>	Walking catfish	Fish	Alien
<i>Ctenopharyngodon idella</i>	Grass carp	Fish	Alien
<i>Cyprinus carpio</i>	Common carp	Fish	Alien
<i>Hypophthalmichthys molitrix</i>	Silver carp	Fish	Alien
<i>Hypophthalmichthys nobilis</i>	Bighead carp	Fish	Alien
<i>Labeo rohita</i>	Rohu	Fish	Alien
<i>Onchorhynchus mykiss</i>	Rainbow trout	Fish	Alien
<i>Oreochromis mossam bica</i>	Mozambique mouthbrooder	Fish	Alien
<i>Salmo trutta</i>	Brown trout	Fish	Alien
<i>Vibrio cholerae</i>		Microorgan- ism	Alien
<i>Achatina fulica</i>	Giant African land snail	Mollusca	Alien
<i>Hemidactylus frenatus</i>	Common house gecko	Reptiles	Not defined
<i>Hemitragus jemlahicus</i>	Himalayan tahr	Mammal	Native
<i>Macaca mulatta</i>	Rhesus Monkey	Mammal	Native
<i>Rusa unicolor</i>	Sambar	Mammal	Native
<i>Suncus murinus</i>	Asian House Shrew	Mammal	Native
<i>Viverricula indica</i>	Small Indian Civet	Mammal	Native

National list of notified/ released kinds or varieties of agricultural crops and fodder

Notified Varieties

Rice (*Oryza sativa*)
Photo by: Tshering Tobgay



Notified/released kinds or varieties of agricultural crops and fodder

Bhutan Agriculture and Food Regulatory Authority (BAFRA) is mandated to regulate the import of plant varieties based on the list provided by the Variety Release Committee (VRC). The VRC is chaired by the Director of Department of Agriculture with members represented from relevant agencies under the Ministry of Agriculture and Forests. The VRC will assess the new varieties of plants for release and recommend notification of the varieties. The VRC in coordination with BAFRA will enlist and update the notified/released varieties in the country to regulate the import and inspect the permitted varieties in the country. The following table presents the permitted list of plant varieties in the country for import as approved and verified by the VRC. The list contains permitted agriculture and horticulture varieties such as field crop, tea, fruits and vegetables varieties. The list also includes feed/fodder varieties and the permitted ornamental plants varieties.

Field Crops and Tea Varieties	Fruits and Nuts Varieties	Vegetables Varieties	Feed/Fodder
1. RICE: <i>Oryza sativa</i>	1. ARECA-NUT: <i>Areca catechu</i>	1. ASPARAGUS: <i>Asparagus officinalis</i>	1. <i>Paspalum Atratum</i> Var.CIAT 26986
1.1.IR 64	1.1. Bhur selection	1.1. Merry Washington	2. Palisade Grass
1.2. No. 11	2. ALMOND: <i>Prunus dulcis</i>	1.2. UC-157	3. Lucerne Var. Eureka
1.3.BR 153	2.1. Texas	2. BEANS: <i>Phaseolus vulgaris</i>	4. Swede Var. Ostega
1.4.IR 20913	2.2. Drake	2.1. Borloto	5. Oat (FOB)
1.5. Khangma Maap	2.3. Dhebhar Badhan	2.2. Pusa parvati	6. Oat (Naked)
1.6. Bajo Maap 1	2.4. Kagzi	2.3. Top Crop	7. Oat (Sampede)
1.7. Bajo Maap 2	3. APPLE: <i>Malus domestica</i>	2.4. Rajma	8. Fodder Beet (Alba)
1.8. Bajo Kaap 1	3.1. Red Delicious	2.5. Green arrow	9. Gautemala Grass
1.9. Bajo Kaap 2	3.2. Royal Delicious	2.6. Lingmethang Mung 1	10. White Clover Var. Ladino
1.10. Khangma Ray Kaap 2	3.3. Golden Delicious	2.7. Lingmethang Mung 2	11. Italian Rye grass Var. Lipo

1.11. Yusi Ray Maap	3.4. Jonathan	2.8. White No. 1	12. Cocks foot., Var Amba
1.12. Yusi Ray Kaap	3.5. Rich Red	2.9. Selection 9	13. Tall Fescue Var. Barcel
1.13. Wengkharr Ray Kaap 6	3.6. Lobo	2.10. Wengkharr Semchu 1	14. Willow (Fodder tree)
1.14. Jakar Ray Naap	3.7. Red Chief	2.11. Bajo Semchum 1-P	15. Molases grass
1.15. Yusi Ray Kaap 2	3.8. Red Free	3. BEETROOT: <i>Beta vulgaris</i>	16. Ruzi grass
1.16. Yusi Ray Maap 2	3.9. Bajo Apple	3.1. DDR	17. Sugarcane
1.17. Wengkharr Ray Kaap10	3.10. Fuji	4. BOTTLE GOURD: <i>Lagenaria siceraria</i>	18. Fig (Fodder tree)
1.18. Bhur Ray Kaap 1	3.11. Mutsu	4.1. Mindapur round	19. Fodder peanut
1.19. Bhur Ray Kaap 2	3.12. MM 9 (Rootstock)	5. BRINJAL: <i>Solanum melongena</i>	20. Stylo Var. CIAT 184
1.20. Bhur Kambja 1	3.13. MM 111 (Rootstock)	5.1. Paro Local	21. Kikiyu grass
1.21. Bhur Kambja 2	3.14. MM 106 (Rootstock)	5.2. Big Round	22. Napier grass
1.22. Wengkharr Kambja 1	3.15. Shekhaichi (Rootstock)	5.3. Pusa Purple Long	23. Greenleaf desomodium
1.23. Wengkharr Kambja 2	4. APRICOT: <i>Prunus armeniaca</i>	6. BROCCOLI: <i>Brassica oleracea</i>	24. Guinea grass
1.24. Sokha Rey 1	4.1. Bajo Khamchung 1	6.1. Dessico	25. <i>Splenda Setaria sphacelata</i> Var.
1.25. Yusirey Kaap 3	4.2. Shakapara	7. BULB ONION: <i>Allium cepa</i>	26. Gamba grass Var. Gayanus
1.26. Yusirey Kathra-Mathra Rey	4.3. Bajokham-2	7.1. Senshu Red	27. Hairy vetch <i>Vicia villosa</i> Var. Indian
2. MAIZE: <i>Zea mays</i>	5. AVOCADO: <i>Persea americana</i>	7.2. White Creole	28. Silverleaf <i>Desmodium uncinatum</i> Var.
2.1. Yangtsipa	5.1. Bajo-Gule-1	7.3. Bombay Red	29. Centro Centrosema pubescens Var.
		7.4. Bajo Gop 1	

2.2. Chaskharpa	5.2. Bajo-Gule-2	7.5. Pune Red
2.3. Shaphangma	6. BANANA: <i>Musa spp.</i>	8. BUNCHING ONION: <i>Allium fistulosum</i>
2.4. Bhur Ashom 1	6.1. Jaji	8.1. No. 21
2.5. Wengkharr HTM 1	6.2. Gheukola	8.2. No. 22
3. WHEAT: <i>Triticum aestivum</i>	6.3. Chinichampa	9. CABBAGE: <i>Brassica oleracea (capitata)</i>
3.1. Gumasokha Kaa	6.4. Samtenling Ngangla	9.1. Copenhagen Market
3.2. Bajosokha Kaa	7. CARDAMOM: <i>Amomum subulatum</i>	9.2. Golden Acre
3.3. Bumthang Kaa Drukchu	7.1. Bharlangey	9.3. Green Coronate
4. FINGER MILLET: <i>Eleusine coracana</i>	7.2. Golsey	9.4. Gianty
4.1. Lingmethang Kongpu 1	8. CHERRY: <i>Prunus avium</i>	9.5. T1-163
4.2. Limethang Kongpu 2	8.1. Seneca	9.6. Bonday Cross
4.3. Membja – 1	8.2. Royal Ann	9.7. Lucky Ball
5. MUNGBEAN: <i>Vigna radiata</i>	8.3. Jabouney	9.8. Asha
5.1. Limithang Mung 1	8.4. Seokham Drukchu	9.9. Bengal King
5.2. Limithang Mung 2	9. DRAGON FRUIT: <i>Hylocereus undatus</i>	10. CAPSICUM: <i>Capsicum annuum</i>
6. MUSTARD: <i>Brassica campestris</i>	9.1. Gearingpa 1	10.1 California Wonder
6.1. M 27	10. GOOSEBERRY: <i>Ribesua crispa</i>	11. CHILLI: <i>Capsicum annuum</i>
6.2. Bajo Peka 1	10.1. Bajo Amla	11.1. Sha Ema
6.3. Bajo Peka 2	11. GRAPES: <i>Vitis vinifera</i>	11.2. Super Solo

6.4. Yusi Peka 1	11.1. Muscate of Alexandria	11.3. Yangtse Ema
6.5. Yusi Peka 2	11.2. Perlette	11.4. Indian Chilli
7. SOYBEAN: <i>Glycine max</i>	12. GROUND APPLE: <i>Smallanthus sonchifolius</i>	12. CARROT: <i>Daucus carota</i>
7.1. One Daughter	12.1. Yacon	12.1. Early Nantes
7.2. Khangma Libi 2	13. GUAVA: <i>Psidium guajava</i>	12.2. Nisa
7.3. Brag	13.1. Bsebsew Shakha	12.3. Wengkhhar Lhaphu Maap
7.4. Khangma Libi 1	13.2. Bajo Bsebsew	12.4. New Khuruda
8. QUINOA: <i>Chenopodium quinoa</i>	14. KIWI: <i>Actinidia deliciosa</i>	12.5. All Seasons Cross
8.1. Ashi Heychum AM	14.1. Zhimpeykotong Sep	13. CAULIFLOWER: <i>Brassica oleracea</i>
8.2. Ashi Heychum AS	14.2. Zhimpeykotong Jangkha	13.1. White Top
8.3. Ashi Heychum Ivory	14.3. Zhimpeykotong Phosing	13.2. White Summer
8.4. Ashi Heychum TW	14.4. Enza Red	13.3. Wengkhhar Metokopi 1
1. Tea: <i>Camellia Sinensis</i>	14.5. Hayward	13.4. Wengkhhar Metokopi 2
1.1. Sam Ja 1	15. LIME: <i>Citrus latifolia</i>	13.5. White Express 50
1.2. Sam Ja 2	15.1. Bearnis	13.6. Pragati 40
	16. LITCHI: <i>Litchi chinensis</i>	13.7. Suhasini
	16.1. Bhur Selection 1	13.8. Candid Charm
	16.2. Shahi	14. CELERY: <i>Apium graveolens</i>
	16.3. Early Bedana	14.1. Cornel
	16.4. Bhur Litchi 1	15. CHINESE CABBAGE: <i>Brassica rapa subsp. Pekinensis</i>

	16.5. Bhur Litchi 2	15.1. Kyoto 1
	17. MANDARIN/ORANGE: <i>Citrus reticulata</i>	16. CUCUMBER: <i>Cucumis sativus</i>
	17.1 Dorokha Selection	16.1. Shabi Genchu
	17.2 Wengkhhar Tshelu 1	16.2. Bajo Genchu 1
	17.3 Wengkhhar Tshelu 2	16.3. Santon No 1
	17.4. Wengkhhar Tselu Drukchu	17. CORIANDER: <i>Coriandrum sativum</i>
	17.5. Wengkhhar Tshelu Ngarm	17.1. Local
	17.6. Rangpur Lime (Root-stock)	18. GARLIC: <i>Allium sativum</i>
	17.7. Wengkhhar Tshelu Rato 1 (Rootstock)	18.1. Local Selection
	17.8. Carrizo citrange (Root-stock)	19. JAPANESE GREEN: <i>Brassica spp.</i>
	17.9. Troyer citrange (Root-stock)	19.1. Taisai
	17.10. Cleopatra mandarin (Rootstock)	19.2. Mibuna
	18. MANGO: <i>Mangifera indica</i>	20. LADY FINGER: <i>Abelmoschus esculentus</i>
	18.1 Chausa	20.1. Kranti
	18.2 Bajo Aumchukuli 1	21. LETTUCE: <i>Lactuca sativa</i>
	18.3 Bajo Aumchukuli 2	21.1. Great Lake
	18.4 Bajo Aumchukuli 3	21.2. Hogay Petshey Leedo
	18.5 Samtenling Amchukuli-1	21.3. Hogay Petshey Thigthra

	18.6 Samtenling Amchukuli-2	21.4. Hogay Petshey Hyem
	18.7 Samtenling Amchukuli-1	21.5. Hogay Petshey Oro
	18.8 Samtenling Amchukuli-2	22. MUSTARD GREEN: <i>Brassica juncea</i>
	19. MUSKMELON: <i>Cucumis melo</i> 19.1. Honey Dew	22.1. Him Beauty
	20. PASSION FRUIT: <i>Passiflora edulis</i>	22.2. Takana Red
	20.1. Local	22.3. Taisai
	21. PEACH: <i>Prunus persica</i>	22.4. Neguna
	21.1. Bajokham 1	22.5. Wengkhar Petshey 1
	21.2. Nonomiwase	22.6. Wengkhar Petshey 2
	21.3. Bajokham 2	23. PARSLEY: <i>Petroselinum crispum</i>
	21.4. Bathpala Super	23.1. Paramount
	22. PECAN NUT: <i>Carya illinoensis</i>	24. PEA: <i>Pisum sativum</i>
	22.1. Bajo Thasa Taago-1	24.1. Arkel
	22.2. Bajo Thasa Taago-2	24.2. Usui
	23. PEAR: <i>Pyrus communis</i>	24.3. Mr Big
	23.1. Hosui	25. POTATO: <i>Solanum tuberosum</i>
	23.2. Kosui	25.1. Desiree
	23.3. Bajo Lhee 1	25.2. Khangma Kewa Kaap
	23.4. Zhey Lhee	25.3. Nasephey Kewa Kaap



Pumkin (*Cucurbita maxima*)
Photo by: Dorji Phuntsho

	23.5. Wengkhār Lhee 1	25.4. Yusi Maap
	23.6. Wengkhār Lhee 2	26. PUMPKIN: <i>Cucurbita maxima</i>
	23.7. Yusipang Lheei-1	26.1. Ramthang Brumsha
	23.8. Yusipang Lhee-2	26.2. Tetsu Kabuta
	23.9. William	26.3. Summer Squash
	24. PERSIMMON: <i>Diospyros kaki</i>	26.4. Wengkhār Kakur
	24.1. Fuyu	27. RADISH: <i>Raphanus sativus</i>
	24.2. Jiro	27.1. Minowase
	24.3. Wengkhār Anday 1	27.2. Spring Tokinashi
	25. PLUM: <i>Prunus domestica</i>	27.3. Bajo Laphu 1
	25.1. Santa Rosa	27.4. 35 days
	25.2. Oishiwase	27.5. YR White Spring
	25.3. Jambay Lhakhang Chuli	28. SPINACH: <i>Spinacia oleracea</i>
	25.4. Soldum	28.1. All Green
	25.5. Yusi Prune 1	28.2. Leaf Beet
	26. POMEGRANATE: <i>Punica granatum</i>	29. SUMMER SQUASH: <i>Cucurbita pepo</i>
	26.1. Bedana	29.1. Zucchini
	26.2. Bajo Seindu 1	30. TOMATO: <i>Solanum lycopersicum</i>
	27. PINEAPPLE: <i>Ananas comosus</i>	30.1. Roma

	27.1. Spineless	30.2. Nozomi	
	27.2. Samtenling kongtsey 1	30.3. Cherry Tomato	
	27.3. Samtenling kongtsey 2	30.4. Bajo Lambenda 1	
	28. STRAWBERRY: <i>Fragaria ananassa</i>	30.5. Cosmic	
	28.1. Yusi Sagong 1	30.6. Garv	
	28.2. Pangtshalu Ngarm	31. TURNIP: <i>Brassica rapa</i>	
	28.3. Pangtshalu Maap	30.1. PTWG	
	29. WALNUT: <i>Juglans regia</i>		
	29.1. Kagzi		
	29.2. Kanthel		
	29.3. Yusipang 2		
	30. WATERMELON: <i>Citrullus lanatus</i>		
	30.1 Sugar Baby		

List of permitted ornamental plants in Bhutan



Ornamental Plants

Butterfly bush (*Buddleja*)
Photo by: Dorji Phuntsho

Scientific Name	Common Name	Scientific Name	Common Name
<i>Abutilon hybridum</i>	Flowering maple	<i>Asparagus densiflorus</i>	Asparagus
<i>Acer spp</i>	Maple	<i>Aster sp</i>	Michelmas daisy
<i>Achillea millefolium</i>	Yarrow	<i>Astilbe</i>	
<i>Achimenes</i>		<i>Aucuba japonica</i>	Gold Dust
<i>Aechmea fasciata</i>	Urn Plant	<i>Bambuseae spp</i>	Bamboo
<i>Aeonium spp</i>	Aeonium	<i>Bassia scoparia</i>	Burning bush
<i>Aerides multiflorum</i>	Orchid	<i>Beaucarnea recurvata</i>	Ponytail palm
<i>Aerides odoratum</i>	Orchid	<i>Begonia rex</i>	Rex begonia
<i>Agapanthus sp</i>	African lily	<i>Begonia x semperflorens</i>	Wax begonia
<i>Agave americana</i>	Century plant	<i>Begonia x tuberhybrida</i>	Tuberous begonia
<i>Alcea rosea</i>	Holly hock	<i>Bellis</i>	Daisy
<i>Alnus</i>	Alder	<i>Berberis thunbergii</i>	Barberry
<i>Aloe vera</i>	Aloe vera	<i>Bergenia ciliata</i>	Elephant's Ears
<i>Alstroemeria spp</i>	Peruvian lily	<i>Bougainvillea glabra</i>	Bougainvillea
<i>Alyssum</i>	Alyssum	<i>Brachyscome iberidifolia</i>	Swan River Daisy
<i>Amaranthus sp</i>	Amaranthus	<i>Brassica oleracea</i>	Ornamental cabbage/kale
<i>Amyrallis</i>	Amyrallis	<i>Buddleja</i>	Butterfly bush
<i>Anemone</i>		<i>Bulbophyllum spp</i>	Orchid
<i>Anoectochilus brevibrabis</i>	Orchid	<i>Buxus</i>	Box
<i>Anthogonium gracile</i>	Orchid	<i>Caesalpinia pulcherrima</i>	Peacock flower
<i>Anthurium</i>		<i>Calanthe spp</i>	Orchid

<i>Antirrhinum majus</i>	Snapdragon
<i>Aorchis spathulata</i>	Orchid
<i>Aquilegia</i>	Columbine
<i>Araucaria araucana</i>	Monkey puzzle tree
<i>Arctotis</i>	African daisy
<i>Arundina graminifolia</i>	
<i>Asocentrum himalaicum</i>	Orchid
<i>Camellia japonica</i>	Camellia
<i>Campanula</i>	Bellflower
<i>Campsis grandiflora</i>	Trumpet vine
<i>Canna indica</i>	Indian shot plant
<i>Carpobrotus</i>	Ice plant
<i>Caryopteris</i>	
<i>Cassia fistula</i>	Golden shower tree
<i>Cedrus deodara</i>	Deodar
<i>Celosia</i>	Cockscomb
<i>Centaurea cyanus</i>	Cornflower
<i>Centranthus ruber</i>	Valerian
<i>Cephalanthera longifolia</i>	Orchid
<i>Ceratostigma griffithii</i>	Ceratostigma
<i>Ceratostylis himalaica</i>	Orchid
<i>Chaenomeles japonica</i>	Japanese quince

<i>Calathea sp</i>	Zebra plant
<i>Calceolaria crenatiflora</i>	Lady's purse
<i>Calendula</i>	Pot marigold
<i>Calibrachoa</i>	Million bells
<i>Calliandra</i>	
<i>Callistemon rigidus</i>	Bottlebrush
<i>Calluna</i>	Heather
<i>Crocus spp</i>	Crocus
<i>Croton spp</i>	Croton
<i>Cryptochilus lutea</i>	
<i>Cryptochilus sanguine</i>	
<i>Cryptomeria japonica</i>	Japanes cedar
<i>Cupressus calimiana</i>	
<i>Cupressus funebaries</i>	
<i>Cupressus orientalis</i>	
<i>Cupressus sempervies</i>	
<i>Cycas sp</i>	Cycad
<i>Cyclamen persicum</i>	Sowbread
<i>Cymbidium spp</i>	Orchids
<i>Dahlia sp</i>	
<i>Dalbergia sisoo</i>	
<i>Daphne</i>	

<i>Chiloschita</i> spp	Orchid
<i>Cholorophytum cosmosum</i>	Spider plant
<i>Chrysalidocarpus lutescens</i>	Areca palm
<i>Chrysanthemum</i>	Chrysantehemum
<i>Chrysoglossum ornatum</i>	
<i>Chusua pauciflora</i>	
<i>Clarkia unguiculata</i>	Elegant clarkia
<i>Cleisostoma</i> spp	Orchids
<i>Clematis</i>	Old man's beard
<i>Cleome</i>	Spider flower
<i>Clerodendron</i> sp	
<i>Coelogyne</i> sp	Orchids
<i>Cornus</i>	Dogwood
<i>Cosmos</i>	Cosmos
<i>Cotoneaster</i>	Cotoneaster
<i>Crassla ovata</i>	Jade plant
<i>Crocosmia</i>	Montbretia
<i>Eria</i> spp	Orchids
<i>Erigeron</i>	Fleabane daisy
<i>Erisum</i> sp	Wallflower
<i>Eschscholzia californica</i>	California poppy

<i>Delonix regia</i>	Royal poinciana/Gulm Ohar
<i>Delphinium</i>	Larkspur
<i>Dendrobium</i> spp	Orchids
<i>Dianthus</i> sp	Carnation/Sweet William
<i>Diascia</i> sp	Diascia
<i>Dicentra spectabilis</i>	Bleeding Heart
<i>Dieffenbachia</i>	Dumb Canes
<i>Digitalis purpurea</i>	Foxglove
<i>Dracaena sanderiana</i>	Lucky bamboo
<i>Duranta</i>	
<i>Dypsis lutescens</i>	Areca palm
<i>Echeveria</i>	
<i>Echinacea</i>	Coneflower
<i>Enkianthus</i>	
<i>Epigenium</i>	
<i>Epipremium pinnatum</i>	Neugella
<i>Epipremnum aureum</i>	Golden pothos
<i>Heliconia</i> spp	Lobster claw
<i>Helleborus</i> sp	Hellebore
<i>Hemerocallis</i> sp	Daylily
<i>Hibiscus rosa sinesis</i>	Chinese rose/Rose of Sharon

<i>Esmeralda clarkei</i>	Orchid
<i>Euonymus sp.</i>	Spindle tree
<i>Euphorbia milii</i>	Crown of thorns
<i>Euphorbia pulcherrima</i>	Poinsettia
<i>Ficus benjamina</i>	Weeping fig
<i>Ficus elastica</i>	Rubber plant
<i>Fittonia</i>	
<i>Forsythia sp</i>	Forsythia
<i>Freesia sp</i>	
<i>Fritillaria sp</i>	Fritillaries
<i>Fuchsia sp</i>	Fuchsia
<i>Gaillardia</i>	Blanket flowers
<i>Galanthus</i>	Snowdrop
<i>Gardenia grandiflora</i>	
<i>Gastrochilus spp</i>	Orchids
<i>Gazania</i>	Gazania
<i>Gelsemium sempervirens</i>	Yellow Jasmine
<i>Geranium sp</i>	Cranesbill
<i>Gerbera</i>	Gerbera
<i>Ginkgo</i>	Maidenhair tree
<i>Gladiolus</i>	Gladiolus
<i>Gloxinia sp</i>	Gloxinia

<i>Hippeastrum</i>	Planntain lily
<i>Hosta</i>	Hyacinth
<i>Hyacinthus</i>	Hydrangea
<i>Hydrangea macrophylla</i>	Bottlepalm
<i>Hypophorbe</i>	Hypericum
<i>Hypericum sp</i>	Candytuft
<i>Iberis</i>	Ilex
<i>Ilex spp</i>	Busy Lizzie
<i>Impatiens sp</i>	Indigo
<i>Indigofera</i>	Ipheion
<i>Ipheion sp</i>	Morning glory
<i>Ipomea</i>	Iris
<i>Iris sp</i>	
<i>Jacaranda mimosifolia</i>	Dusty miller
<i>Jacobaea maritima</i>	Jasmine
<i>Jasminum spp</i>	
<i>Juniperus sp</i>	
<i>Justacia sp</i>	Widow's thrill
<i>Kalanchoe sp</i>	Red hot poker/torch lily
<i>Kniphofia</i>	
<i>Kohleria</i>	
<i>Lagenaria</i>	

<i>Godetia amoena</i>	Godetia
<i>Gomphrena globose</i>	Globe Amaranth
<i>Gypsophila elegans</i>	
<i>Hedera helix</i>	Ivy
<i>Helianthus annuus</i>	Sunflower
<i>Helichrysum bracteatum</i>	Strawflower
<i>Leptorchis</i>	Vanda Miss Joaquim
<i>Leucantherum sp.</i>	Shasta daisy
<i>Ligustrum</i>	Privet
Lilies	
<i>Lilium</i>	Lily
<i>Limonium</i>	Statice
<i>Linaria spp</i>	Toadflax
<i>Lisianthus</i>	
<i>Lobelia</i>	Lobelia
<i>Lonicera</i>	Honeysuckle
<i>Lunaria</i>	Honesty
<i>Lupinus hybrid</i>	Lupin
<i>Lychnis</i>	Campion
<i>Magnolia grandiflora</i>	
<i>Magnolia liliflora</i>	Magnolia
<i>Mammillaria</i>	

<i>Lagerstroemia sp</i>	
<i>Lantana camara</i>	
<i>Lasthenia sp</i>	
<i>Lathyrus odoratus</i>	Sweet pea
<i>Lavandula</i>	Lavender
<i>Lavatera</i>	Tree mallows
<i>Oxalis Triangularis</i>	False shamrock
<i>Paeonia</i>	Peony
<i>Papaver</i>	Poppy
<i>Pas siflora</i>	Passionflower
<i>Paulownia</i>	Foxglove tree
<i>Pelargonium</i>	Geranium
<i>Pennisetum</i>	
<i>Penstemon</i>	Beard Tongue
<i>Pentas lanceolata</i>	
<i>Peperomia caperata</i>	
<i>Petunia sp</i>	Petunia
<i>Phalœnopsis</i>	Orchid
<i>Philodendron sp</i>	
<i>Phlox paniculata</i>	
<i>Pieris formosa</i>	
<i>Pilea peperomioides</i>	Chinese money plant

<i>Matthiola incana</i>	Stock
<i>Mirabilis jalapa</i>	Four o'clock flower
<i>Monstera deliciosa</i>	Split-Leaf Philodendron
<i>Muscari</i>	Grape hyacinth
<i>Myosotis</i>	Scorpion grasses
<i>Myrtus</i>	Myrtle
<i>Nandina</i>	Sacred bamboo
<i>Narcissus</i>	Daffodil
<i>Neanthebella</i>	
<i>Neoregelia carolinae</i>	Blushing Bromeliad
<i>Nerium oleander</i>	Oleander
<i>Oncidium</i>	
<i>Ophiopogon</i>	Lily turf
<i>Opuntia</i>	Prickly pear
<i>Oreorchis micrantha</i>	
<i>Orychophragmus</i>	
<i>Rhododendron spp</i>	Rhododendron
<i>Rosa sp</i>	Rose
<i>Ruellia spp</i>	Wild petunia
<i>Salix</i>	Willow
<i>Salvia</i>	Sage

<i>Pinus sp</i>	Pine
<i>Piptanthus nepalensis</i>	Evergreen laburnum
<i>Pittosporum</i>	
<i>Platynerium bifurcatum</i>	Staghorn fern
<i>Platycodon grandiflorus</i>	Ballon flower
<i>Plectranthus australis</i>	Swedish ivy
<i>Plumbago sp</i>	Leadwort
<i>Poa Pratensis</i>	Kentucky blue grass
<i>Polyalthia longifolia</i>	False Ashoka
<i>Portulaca grandiflora</i>	Moss rose
<i>Primula spp</i>	Primrose
<i>Pyracantha</i>	Firethorn
<i>Pyrostegia venusta</i>	
<i>Quercus</i>	Oak
<i>Ranunculus</i>	Buttercup
<i>Rhapis excelsa</i>	
<i>Tanacetum parthenium</i>	Tansies
<i>Thuja compacta</i>	Thuja
<i>Tillandsia sp</i>	
<i>Torenia</i>	Wishbone flower
<i>Tradescantia spp</i>	Wandering jew

<i>Sansevieria trifasciata</i>	Snake plant	<i>Trifolium sp.</i>	Clover
<i>Schefflera arboricola</i>	Umbrella Treee	<i>Tropaeolum majus</i>	Nastrutium
<i>Schizanthus</i>		<i>Tulipa</i>	Tulip
<i>Schulumbergera bridgesii</i>	Christmas cactus	<i>Vanda spp</i>	Orchid
<i>Sedum</i>		<i>Verbena</i>	Verbena
<i>Sempervivum arachnoideum</i>	Cob web houseleek	<i>Vinca major</i>	Periwinkle
<i>Smithiantha sp</i>		<i>Viola</i>	Pansy
<i>Solanum laxum</i>	Potato vine	<i>Vriesea sp</i>	Flaming Sword
<i>Solanum pseudocapsicum</i>	Ornamental chilli	<i>Wisteria floribunda</i>	Wisteria
<i>Solenostemon</i>	Coleus	<i>Xeranthemum annuum</i>	
<i>Spiraea</i>	Spiraea	<i>Xerchrysum bracteatum</i>	Strawflower
<i>Strelitzia reginae</i>	Bird of Paradise	<i>Yucca</i>	Yucca
<i>Syringa vulgaris</i>	Lilac	<i>Zantedeschia arthropica</i>	Calla lily
<i>Tabernaemontana sp</i>		<i>Zephyranthes sp</i>	Rain lily
<i>Tagetes sp</i>	Marigold	<i>Zinnia elegans</i>	Zinnia
<i>Tamarix</i>	Tamarisk		

Native Livestock and Poultry Breeds of Bhutan



Yak (*Bos grunniens*)
Photo by: Phub Dorji

Native Livestock and Poultry Breeds of Bhutan

In terms of native livestock diversity, there is limited information and published statistics on the breeds over the years. However, there is a growing concern on the loss of native genetic diversity due to the introduction of profitable exotic breeds/varieties and reduced farm labor. Once lost, this important native genetic resource is largely irreplaceable. A better understanding of the native genetic diversity that the country possesses and the loss of genetic diversity have to be addressed urgently in light of the food and nutrition security of the country and conservation of biodiversity, especially in the face of emerging challenges such as climate change and loss of traditional farming systems.

Sl. No.	Livestock Species	Traditional Breeds and Crosses	Livestock Statistics	
			2013	2018
1	Cattle (<i>Bos indicus</i> and <i>Bostaurus</i>)	Nublang	121791	100282
		Jaba	4424	2204
		Bajo		
		Goleng		
2	Mithun (<i>Bos frontalis</i>)	Mithun/ Mithun crosses	624	221
3	Yak (<i>Bos grunniens</i>)	Yak	39543	41463
		Yak Crosses (Zo, Zom- Dz)		
4	Buffalo (<i>Bubalis bubalis</i>)	Buffalo (non-descript)	691	550
5	Pigs (<i>Sus scrofa</i>)	Jitupha- Dz/ Sapha- Sh.	8314	6578
		Dhompha- Dz		
6	Chicken (<i>Gallus gallus</i>)	Pure black (<i>Yubja Naap-Dz</i>)	143073	152937
		Naked neck (<i>Khuilay- Lh</i>)		
		Hairy comb (<i>Belochem- Dz</i>)		
		Frizzled (<i>Pulom- Dz/Dumsey- Lh</i>)		
		Native white (<i>Yubja kaap- Dz</i>)		
		Barred Yubja		
		<i>Jarizam- Dz./ Kaurey- Lh</i>		
		<i>Jatey- Dz/Sekini- Lh</i>		
		<i>Bailetey- Lh</i>		

7	Goat (<i>Capra hircus</i>)	Goat (non-descript)	39264	49393
8	Sheep (<i>Ovis aries</i>)	Jakar type	9917	10,274
		Sakten type		
		Sipsoo type		
9	Horse (<i>Equus caballus</i>)	Yuta	22629	12159
		Boeta		
		Merak-Saktenpata		



Pig (*Sus scrofa*)
Photo by: Dorji Phuntsho



Photo by: Dorji Phuntsho

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Cover Photo (Front) Collage:

1. *Paphiopedilum fairrieanum*; Photo by Dorji Phuntsho
2. Musk Deer (*Moschus leucogaster*); Photo by Ugyen Sonam
3. White-bellied Heron (*Ardea insignis*); Photo by Tshering Tobgay
4. *Lantana camara*; Photo by Jamtsho

Cover Photo (Back): Mushroom habitat; Photo by Sonam Tshering



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