PLANT FACT SHEET

Mirabilis expansa (Ruiz. & Pav.) Standl.

GENUS *Mirabilis* **FAMILY** Nyctaginaceae

COMMON NAMES Mauka, Chago

EDIBLE PARTS AND USES

Edible parts: Leaves, Root, Tubers, Vegetable

The tuberous root is eaten. It is eaten like tapioca/manioc. They are sun dried then boiled or fried also used in soups and stews.
The leaves are eaten in salads and chilli sauces.
It is also converted to a sweet by burying it in a pit where it is layered between layers of barley straw and the sugars become concentrated.

DESCRIPTION

It is a low compact plant. It grows 1 m high. The collar of the stem swells and becomes the edible part. The shoots near the base branch and a dense group of leaves develop from this. The stems are cylinder shaped and they have nodes or rings along them. A pair of opposite laves grows from these joints. The leaves are oval or heart shaped and 3-8 cm long by 2 cm wide. They are leathery. They are reddish along the edges and veins. The flowers are on long slender stalks at the top. They are 3-6 cm long and covered with hairs. The stems and tubers are eaten. The stems are smooth and fleshy and 50 cm long by 5 cm wide.

HABITAT

A tropical plant. In the Andes it grows between 1,000 and 2,500 m altitude. In Peru it grows in semi-humid regions between 2,300 and 3,500 m altitude. Here the average temperature is 13°C with the maximum temperature of 25°C and the minimum temperature of 5°C. It dies back after frost. They need deep soils with plenty of organic material. An annual rainfall of 680 mm is suitable.

PRODUCTION

Cultivation

Shoots from near the base are used for planting. Pieces of stem or suckers can be used. Plants can also be grown from seed. Plants grown from shoots at the base can be harvested after one year. Suckers take longer. Plants are put in holes. They are spaced 1 m apart. Because plants are delicate earthing up around them must be done carefully.

Harvesting and Seed Production

Plants take 7-9 months to produce. They emerge after planting in 4-7 days and start to form tubers 36-45 days from planting. Flowers form about 100 days later. Plants are harvested about 95 days after flowering.

NOTES

There are about 50-60 Mirabilis species. There are 15 in tropical America. It is 7% protein.

REFERENCES

Castillo, R. O., 1995, Plant Genetic Resources in the Andes: Impact, Conservation, and Management. Crop Science 35:355-360

Facciola, S., 1998, Cornucopia 2: a Source Book of Edible Plants. Kampong Publications, p 161

Ferns, Useful Tropical Plants

Field Mus. Nat. Hist., Bot. Ser. 11:113. 1931

Galluzzi, G. & Noriega, I. L., 2014, Conservation and Use of Genetic Resources of Underutilized Crops in the Americas - A Continental Analysis. Sustainability, 6:980-1017

Hermandez Bermejo, J.E., and Leon, J. (Eds.), 1994, Neglected Crops. 1492 from a different perspective. FAO Plant Production and Protection Series No 26. FAO, Rome. p 20, 172

Kays, S. J., and Dias, J. C. S., 1995, Common Names of Commercially Cultivated Vegetables of the World in 15 languages. Economic Botany, Vol. 49, No. 2, pp. 115-152

Kermath, B. M., et al, 2014, Food Plants in the Americas: A survey of the domesticated, cultivated and wild plants used for Human food in North, Central and South America and the Caribbean. On line draft. p 541

Kiple, K.F. & Ornelas, K.C., (eds), 2000, The Cambridge World History of Food. CUP p 1812

Leon-Lobos, P., et al, 2022, Patterns of Traditional and Modern Uses of Wild Edible Native Plants of Chile: Challenges and Future Perspectives. Plants (Basel) v 11 (6) Table S1

Lim, T. K., 2015, Edible Medicinal and Non Medicinal Plants. Volume 9, Modified Stems, Roots, Bulbs. Springer p 56

Plants for a Future database, The Field, Penpol, Lostwithiel, Cornwall, PL22 0NG, UK. http://www.scs.leeds.ac.uk/pfaf/

Tapia, M. E., The role of under-utilised plant species with regard to increased food security and improved health of poor poeople, in mountain regions. IIAP-PNUD/Peru

Torre, de la, L., et al, 2008, Enciclopedia de las Plantas Útiles del Ecuador. Herbario QCA. Pontificia Universidad Católica del Ecuador. p 471

USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). [Online Database] National Germplasm Resources Laboratory, Beltsville, Maryland. Available: www.ars-grin.gov/cgi-bin/npgs/html/econ.pl (10 April 2000)

Wiersema, J. H. & Leon, B., 2013, World Economic Plants. A Standard Reference CRC Press. 2nd Ed. p 449

World Checklist of Useful Plant Species 2020. Royal Botanic Gardens, Kew

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French, B.R. & Maynard, A.R. Food Plants International Database. Food Plants International

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