



Utilization of Wild Coriander: As a Substitute of Common Coriander of North East India

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Wild coriander is grown as annual in all over the north eastern states of India but it unfamiliar to other parts of India. It is a tropical herb which is commonly known as by different name like long coriander, maxi coriander, false coriander, fitweed etc. sometimes it is used as a substitute for coriander, because it has a much stronger aroma and taste. North eastern regions of India bestowed with huge biodiversity hotspot of underutilized leafy vegetables being adopted by local community for nourishment and essentially linked to their cultural and traditional systems. In these regions, it grows naturally in forest soils, Jhum lands and along moist-shaded areas where heavy soil predominate. With the increasing commercial cultivation health awareness and more understanding of nutritional/medicinal importance of wild coriander, demand is gradually increasing in present. Now it is becoming one of the fastest economically crop in the region.

Introduction

Wild coriander (*Eryngium foetidum* L.) also known as spiritweed and fitweed belongs to common coriander family but genera and species are different. Wild coriander has been introduced into Florida and the Old-World tropics and become naturalized in many places. In the late 1800s and the beginning of 1900s, eryngo was introduced by Malaysia, Indonesia, Thailand, Myanmar, Sri Lanka, Bangladesh and India. In India it is mostly grown in north eastern part of India. It is known by several local names in different languages such as sawtooth coriander because of teathed leaf margin; bahkhawr (Mizo); awa phadigom (Manipuri); dunia (Naga,); African malli (Malyalam); bandhania (Hindi).

Although the plant morphology and appearance of wild coriander and common coriander is reasonably different, the leaf aromas are deeper green and stronger than common coriander. Generally, the crop lacks systematic agronomical practices. A variety "CARI Broad Dhanya" has been released by CARI, Andaman and Nicobar Islands, India. Despite the wide spread use of this herb for food and as an ethno-medicinal plant in north east India.

Botanical description

It has long and thick tap-root system which fusiforms with evenly branched fibrous roots. Fleshy and waxy oblanceolate or lanceolate leaves form a basal rosette, 10–30 × 1.5–3.5 cm in size, and venation pinnately reticulate. The leaf margin is serrated and each tooth of the margin contains a small yellow spine. The lower leaves have short petiole, but upper leaves are sessile. The plant produces a well-branched cluster of flower heads in spikes forming the characteristic whitish umbel inflorescence on a long stalk (25–50 cm) arising from the center of the leaf rosette. The flowers are sessile, actinomorphic, bisexual and pentamerous. The sepals are green, tubular, acute and persistent which is longer than petals; while petals are white, narrow, oblonged and notched. The stamens are free and alternate with petals; the filaments are white and longer than the petals along with pale yellow ditheous anthers. The gynoecium consists of a compound pistil with 2 carpels and styles; and the inferior ovary

with 2 locules. The anthesis starts in late evening, around 1900 h, and stigma become receptive a day after anthesis at 1200–1400 h (Singh et al., 2014). The fruit is globose-ovoid in shape and covered with rounded protrusions of 1–2 mm long. Commercial cultivation is being practiced in partially shaded moist locations.

Utilization

Wild coriander is commonly used for its distinctive pungent aroma and essential oil. It is a significant cum culinary herb used for good appetizer, marinating, garnishing, flavouring and seasoning of cuisines such as soups, curries, chutneys, sauces, noodles, snacks, salads and meat dishes. For culinary purposes, eryngo is a very popular in the Caribbean and Asia, particularly in north east India and Korea. Although mixed in little quantities, its unique aroma gives the quality flavour to the various dishes in which it is integrated and this is liable for its increasing demand among ethnic community of north east India. The leaves of wild coriander are good sources of several nutrients including minerals, vitamins, carotenoids, anti-oxidants and phytosterols Table 1.

Table 1 Nutritional compositions of wild coriander

Composition	Content	Composition	Content
Moisture	87 %	Iron	0.02 %
Carbohydrate	6.5 %	Vitamin A	10,460 IU/100 g
Protein	3.3 %	Vitamin B2	60 mg/100 g
Fat	0.6 %	Vitamin B1	0.8 mg/100 g
Ash	1.7 %	Vitamin C	150–200 mg/100 g
Phosphorus	0.06 %		

Medicinal properties

It has been used as traditional ethno-medicine by the local community of north east India for the treatment of number of ailments such as fevers, chills, vomiting, burns, earache, fevers, hypertension, headache, constipation, fits, asthma, stomachache, arthritis, worms, infertility complications, snake bites, scorpion stings, diarrhea, and malaria. Moreover, pharmacological studies of the aerial plant parts have demonstrated anthelmintic, anti-inflammatory, analgesic, anti-convulsant, anti-clastogenic, anti-carcinogenic, anti-diabetic etc. (Dutta et al., 2023)

Agronomical cultivation practices

Wild coriander is grown as annual in all over the North eastern states of India (Arunachal Pradesh, Mizoram, Manipur, Nagaland, Assam and Tripura) but it unfamiliar to other parts of India. Northeastern regions of India bestowed with huge biodiversity hotspot of underutilized leafy vegetables being adopted by local people for nourishment and essentially linked to their cultural and traditional systems. In these regions, it grows naturally in forest soils, Jhum lands and along moist-shaded pathways where heavy soils predominate. For cultivation, the plant thrives best in acidic soil pH 5.5–6.5, well drained soil, irrigated, humid, short day shaded conditions; but tends to bolt and flower profusely in hot, high light and long days of summer months which is ultimately harmful to leaf growth and succulence, quality and aroma. It is a quantitative long-day plant at mean temperature 27 °C. The plant produces a well-branched cluster of flower heads in spikes forming the characteristic umbel inflorescence on a long stalk arising from the center of the leaf rosette. Wild coriander tends to bolt and flower profusely under high temperature and long-day photoperiod. It is a shade-loving coriander and being cultivation practiced in partially shaded moist condition. Shaded areas produce plants with larger and greener leaves that are more marketable because of their better appearance and higher aroma.

The plants are easily propagated by seed (germinates in 20–25 days) and vegetative suckers in spring and suckers are planted during monsoon. The seedlings are ready to transplant in 45–50 days after seed sowing. The transplants should be spaced at 15 × 10 cm

within and between rows. The plants are ready to harvest at 130-150 days after seed sowing. Harvesting should be done by picking plants, leaving side suckers, at 15–20 days interval. Plant length ranges from 10 to 30 cm from basal rosette along with 5–8 leaves per plant.

Market potential

Wild coriander has enormous market potential for extraction of essential oil for cosmetic and perfumery and pharmaceutical industry for formulation of various types of products and ethnomedicin in various parts of north east India like, Pasighat, Itanagar, Namsai (Arunachal Pradesh) Kolasib, Aizawl, Serchip (Mizoram), Imphal East, Imphal West (Manipur), Dimapur, Kohima (Nagaland) indicated that most of the coriander were harvested from traditional Jhum lands and moist-forest area. Generally, the supplies wild corianders were in short to cover the local demand. With the increasing commercial cultivation health awareness and more understanding of nutritional and medicinal importance of this herb, demand is gradually increasing day-by-day. Now it is becoming one of the fastest economical crop in the north eastern state. The present retail price is about Rs.10-20 per bunch of 8–15 leaves depending on the leaves size. A kitchen garden of 25 × 4 m size (100 m²) could get minimum Rs 12,000 in a growing season of 8–10 month. Such type cultivation practices could accrue abundant benefit to the farmers of the region. In fact, the region has great potential for the plantation of medicinal plants because of ideal agro-climatic conditions and suitable soil.



Fig 1. Plants of wild coriander (*Eryngium foetidum* L.)

References

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