



Diversity of agriculture weeds in areca nut fields Bhakatankatte Chikamagluru

Dr. Manjula Rathod, Mithun B M

Department of Studies and Research in Botany, Sahyadri Science College, Kuvempu University, Jnana Sahyadri, Shankaraghatta Shivamogga, Karnataka India

Abstract

Agriculture weeds are unwanted plants that grow along with crops and compete for essential resources such as nutrients, water, sunlight, and space. Agriculture weed can be any plant which incorporated with a particular crop it may another crops, or native and non-native plants. Areca nut (*Areca catechu*) or Adike is an important crop widely grown in Bhakatankatte Chikamagluru and other regions of Karnataka. In areca nut fields, agriculture weeds are common problem due to favourable conditions like shade and moisture. Aim of the present work is to explore agriculture weeds in areca nut fields of Bhakatankatte Chikamagluru through field survey. Total 17 agriculture weed species *Parthenium hysterophorus*, *Cynodon dactylon*, *Ipomoea obscura*, *Mikania micrantha*, *Eleusine indica*, *Panicum repens*, *Amaranthus dubius*, *Portulaca oleracea*, *Amaranthus viridies*, *Ricinus communis*, *Euphorbia heterophylla*, *Spilanthus acmella*, *Lucas aspera*, *coccinea grandis*, *Mimosa pudica* *solanum tovrum* and *Lantana camera* belong to 16 genera and 10 families were recorded. Among 17 species 08 found to be native and 08 were invasive weeds, one is medicinal and one is found to be vegetable respectively. Some weeds like *Amaranthus viridies*, *Amaranthus dubius*, *Portulaca oleracea* and *Coccinia grandis* were used as vegetables and consumed throughout Karnataka. The weeds were identified based on morphological features. The families Poaceae and Asteraceae were represented by 3 species, Amaranthaceae and Euphorbiaceae represented by 2 species, whereas Fabaceae, Lamiaceae, Portulacaceae, Solanaceae, Lamiaceae and Verbinaceae represented by one species each. Habit wise distribution of weed plants accounts for shrub (03), herb (07), climber (02) and vine (01) respectively. The weather of Bhakatankatte Chikamagluru favours growth of weeds because of low temperature, moisture and fertility of soil. Management of agriculture weeds were necessary to control their rapid spread throughout areca nut for yield loss.

Keywords: Agriculture, areca nut, Bhakatankatte, invasive, Karnataka, native, weeds

Introduction

As the world population continues to increase, agriculturally suitable land will be required to produce more crops to sustain life on Earth. With the rapid loss of soil annually, maintaining crop land for current and future food production has become a difficult task. An agriculture weed is any plant growing where it is not wanted. This definition can apply to crops, native plants as well as non-native species. If it is considered to be a nuisance where it is growing, it can be termed a weed. However, weeds are not just unwanted species; they can have substantial negative impacts when they are present. Weeds can effectively compete with crop species, can lower yields, increase labour requirements and, ultimately, increase food costs for the consumer (Swanton *et al.*, 2008). In contrast to many row crops, weeds are capable of rapid development from the seedling stage to the flowering stage. Not only do weeds produce seeds in a relatively short period of time, they can also produce large quantities of seeds within this brief period of time. In addition to seed production, weedy species are often capable of vegetative reproduction which allows continuation of the species even without seed dispersal. Agricultural weed species not only have certain allelopathic characteristics (Plants that release biochemicals in to the environment to inhibit the germination, growth or survival of neighboring plants) that allow them to compete other species. Weed species have the ability to adapt, rather quickly, at a genetic level to environmental factors in order to achieve species continuation. Non-native species of plants are considered to be very weedy in nature. It is reported that some non-native plants can grow faster and bigger, increase reproduction

rates, and can have increased survival rates when outside of their native habitat. Genetic make-up also determines the ability of a plant to become weedy in nature; however, a genetic pattern has yet to be described (Ward *et al.*, 2008; A. J. Price J. A. Kelton 2021) [6, 7].

Areca nut (*Areca catechu* L) or betel nut or Supari (Adike) has a huge consumer base as evident from an estimated 600 million direct betel nut consumers globally and which further increases by 10–20% in the form of betel quid (paan, a preparation containing areca nut) users (Arora and Squier 2019) [2].

On account of the above global demand, areca nut cultivation was taken up by many farmers and in 2017 its area of cultivation has reached 0.956 million(m) ha with a production of 1.34 m tonnes (t) and out of this India has 46.6 and 54.0% share in the global area and production (FAOSTAT 2018). As per report of National Horticulture Board (NHB) during 2017-18, India produced 0.833 m t of areca nut from 0.497m ha area (NHB, 2018).

In areca nut fields, agriculture weeds or weeds are a common problem due to favourable conditions like shade, moisture, and fertile soil. If not controlled, they can significantly reduce the growth and yield of areca nut palms. Invasive weed plants are non-native plants that spread rapidly in a new environment and harm crops, native vegetation, or ecosystem (B. Gangaiah and Abbubaker 2019) [3]. Farmers have long realized the interference of agriculture weed with crop productivity as weeds are regarded as old as agriculture itself and that eventually led to the co-evolution of Agro-ecosystems and weed management (Ghersa *et al.* 1994, 2000) [4].

Study area

Bhakathankatte is a small village located in the Chikamagluru district of the Indian state of Karnataka. It lies in the Ajjampura-Tarikere region and is part of the Malnad transition zone of Karnataka. The village is primarily agrarian and is characterized by areca nut plantations and mixed cropping systems.

Geography

The study area is situated on the Deccan Plateau with an elevation ranging from approximately 600 to 900m above mean sea level. The approximate coordinates of the study area are Latitude: 13.71° N & Longitude: 75.81° E. The region is influenced by river systems, such as the Tunga River and its tributaries



Study area

Methodology

Study and exploration of agriculture weeds in Areca nut fields was recorded through regular field visits.

Results

This work was carried out to explore the agriculture weeds in Areca nut fields Bhakatankatte region Chikamagluru district Karnataka India.

Data collection

The exploration of agriculture weed species was recorded through field surveys in areca nut fields during the period of December 2025 to March 2026. The survey was carried out in randomly selected villages of Bhakatankatte and Ajjampura Chikamagluru. During the survey, farmers and local agricultural practitioners were interviewed to gather information regarding the occurrence and distribution of agriculture weed species in Areca nut fields.

Total 17 agriculture weed species belong to 16 genera and 10 families were recorded, among 17 species 08 found to be native and 08 were invasive weeds, one is medicinal and one is found to be vegetable respectively. Some weeds like *Amaranthus viridies*, *Amaranthus dubius*, *Portulaca*

oleracea and *Coccinia grandis* were used as vegetables and consumed throughout Karnataka. The weeds were identified based on morphological features like root, shoot, leaves, flower and fruits etc. The weed species recorded *Parthenium hysterophorus*, *Cynodon dactylon*, *Ipomoea obscura*, *Mikania micrantha*, *Eleusine indica*, *Panicum repens*, *Amaranthus dubius*, *Portulaca oleracea*, *Amaranthus viridies*, *Ricinus communis*, *Euphorbia heterophylla*, *Spilanthus acmella*, *Lucas aspera*, *coccinea grandis*, *Mimosa pudica* *solanum tovrum* and *Lantana camera*. The families Poaceae and Asteraceae were represented by 3 species, Amaranthaceae and Euphorbiaceae represented by 2 species, whereas Fabaceae, Lamiaceae, Portulacaceae, Solanaceae, Lamiaceae and Verbinaceae represented by one species each. Habit wise distribution of agriculture weeds accounts for shrub (03), herb (07), climber (02) and vine (01) respectively. Further details of each species is recorded in (Table-1 and photographs are represented in Plate 1, 2 and 3). Present study clearly shows that uncontrolled weed growth can significantly affect the productivity and health of areca nut plantations.



Eleusine indica (L.) Gaertn.



Ipomoea obscura KAR – GAWL.



Amaranthus dubius Mart. ex Thell.



Portulaca oleracea L.



Amaranthus viridis L.



Leucas aspera (Willd.)

Plate 1



Ricinus communis L.



Cynodon dactylon (L.) Pers



Panicum repens L.



Euphorbia heterophylla L.



Parthenium hysterophorus L.



Spilanthes acmella (L.) L.

Plate 2



Lantana camara L.



Solanum torvum L.



Coccinia grandis (L.)



Voigt *Mimosa pudica* L.



Mikania micrantha Kunth.

Plate 3

Table 1: List of agriculture weeds in Areca nut field

SL No	Common name	Scientific Name	Native/ invasive	Family
01	Wire grass, Ganjalad hullu,	<i>Eleusine indica</i> L. Gaertn.	Native weed	Poaceae
02	Torpedo grass	<i>Panicum repens</i> L.	Invasive weed	Poaceae
03	Dantin soppu Harivesoppu	<i>Amaranthus dubius</i> Mart. ex Thell.	Native weed/ vegetable	Amaranthaceae
04	Gonni/Goli soppu	<i>Portulaca Oleracea</i> L.	Native weed/vegetable	Portulacaceae
05	Green amaranth Keresoppu	<i>Amaranthus viridies</i> L.	Native weed/ vegetable	Amaranthaceae
06	Castor plant Haralyeanne gid	<i>Ricinus Communis</i> L.	Invasive weed	Euphorbiaceae
07	Beedi soppu	<i>Euphorbia heterophylla</i> L.	Invasive weed	Euphorbiaceae
08	Paracress, Sannavana mugali	<i>Spilanthus acmella</i> (L) L.	Invasive weed	Asteraceae
09	Congress weed	<i>Parthenium hysterophorus</i> L	Invasive weed	Asteraceae
10	Kadu gulabi, Kassothi, Chirangi	<i>Lantana camera</i> L.	Invasive weed	Verbenaceae
11	Tumbe gida	<i>Lucas aspera</i> Willd link	Native weed	Lamiaceae
12	Muttidare muni	<i>Mimosa pudica</i> L.	Invasive weed	Fabaceae
13	Vagigandha	<i>Ipomoea obscura</i> (L) Ker Gawl	Native weed	Convolvulaceae
14	Meke kombu Dugdhika	<i>Mikania micrantha</i> Kunth	Native weed	Asteraceae
15	Sunde gida, Kadu/bilibadane,	<i>Solanum tovrum</i> L	Medicinal plant/native Weed	Solanaceae
16	Garika hullu Durva grass	<i>Cynodon dactylon</i> (L) Pers.	Native weed	Poaceae
17	Tondekaai/Tindi	<i>Coccinea grandis</i> (L) Voigt	Vegetable/Native Weed	Cucurbitaceae

The complete profile of agriculture weeds mentioned below,

Wire grass

Classification

- Kingdom: Plantae
- Class: Monocotyledonae
- Order: Poales
- Family: Poaceae
- Genus: *Eleusine*
- Species: *Eleusine indica* (L.) Gaertn.

Distribution

It is an-tropical annual weed, widely distributed throughout, tropical and sub-tropical regions. It thrives in compacted soils, urban areas, orchards and agricultural fields.

Taxonomic description

It has a strong, deep, and difficult to pull root system, low growing annual grass that forms dense tufts. Leaves are flat or folded leaf blades with long flexuous hairs on the upper surface and have flattened hairy sheaths.

Medicinal uses

Acts as a diuretic increase's urine flow. anti-inflammatory and antioxidant properties. Used as an antipyretic, Treats digestive problems – diarrhea and dysentery. Promotes wound healing.

Muguthi balli

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Dicotyledonae
- Subclass: Gamopetalae
- Series: Bicarpellatae
- Order: Polemoniales
- Family: Convolvulaceae
- Genus: *Ipomoea*
- Species: *Ipomoea obscura* KAR–GAWL.

Distribution

Ipomoea obscura commonly known as 'Lakshmana' in Ayurveda, it was native to parts of Africa, Asia and certain Pacific Islands.

Taxonomic description: Twining vine with a climbing or creeping growth habit. Heart-shaped leaves have entire leaf margins. Raised, palmate venation is interspersed with sunken veins, producing a quilt-like surface. Flowers: pale yellow trumpet-shaped flowers composed of 5 round lobes that are fused together. Each lobe is notched longitudinally bisected by a thin, yellow, triangular band. The flowers have a dark red throat with white-tipped stamens light brown; dry fruits are approximately egg-shaped with a sharp-pointed apex.

Medicinal uses

It is effectively used against dysentery; leaves are applied to open sores and pustules.

Dantin/ Harive Soppu

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Dicotyledonae
- Order: Caryophyllales
- Family: Amaranthaceae
- Genus: *Amaranthus*
- Species: *Amaranthus dubius* Mart. ex-Thell.

Distribution

It is widely distributed throughout the tropical and subtropical regions of the world.

Taxonomic Description

It is an erect, often branched, annual herb that can grow over 1m tall leaves are simple, alternate, with petioles. Terminal or axillary spikes/panicle inflorescence. Flowers are monoecious. Fruit is small ovoid. One seeded capsule that dehisce circularly.

Medicinal uses

Rich source of vitamins (A, C) and minerals. Helps in treating anemia (high iron content). Improves digestion and relieves constipation. Possesses anti-inflammatory properties. Promotes healthy skin. Strengthens bones (rich in calcium). Helps control blood sugar levels.

Gooli/Gonni Soppu

Classification:

- Kingdom: Plantae
- Division: Phanerogamae
- Class: Dicotyledonae
- Order: Caryophyllales
- Family: Portulacaceae
- Genus: *Portulaca*
- Species: *Portulaca oleracea* L.

Distribution

Widely distributed in temperate and sub-tropical regions, often found in cultivated land, gardens and disturbed habitats.

Taxonomic description

Stem is a smooth, reddish, succulent and prostrate to ascending, branch. Leaves are simple alternate or opposite, with a rounded apex and small setaceous stipules. Flowers are bisexual, actinomorphic, capsule fruit with orbicular reniform seeds.

Medicinal uses

Rich source of vitamins (A, C, E) and minerals. Contains omega-3 fatty acids (good for heart health). Anti-inflammatory (reduces swelling, arthritis)., Antioxidant (protects cells from damage). Used for treating diarrhea and dysentery. Acts as mild laxative (improves digestion). Helps in wound healing (cuts, burns, insect bites). Antimicrobial (fights infections).

Green Amaranth/Kire Soppu

Classification

- Kingdom: Plantae
- Division: Phanerogamae
- Class: Dicotyledonae
- Order: Caryophyllales
- Family: Amaranthaceae
- Genus: *Amaranthus*
- Species: *Amaranthus viridies* L.

Distribution

Commonly found in tropical and subtropical regions in human made habitats, cultivated fields, sand roadsides.

Taxonomic description

Erect or diffuse annual herb, stem is glabrous green or reddish, slender, grooved and branched. Leaves are alternate, long petiole. Flowers are unisexual small, green, densely arranged in terminal/axillary panicles. Indehiscent fruits, small dark brown to black shine seeds.

Medicinal uses

Improves digestion & relieves constipation. Boosts immunity (rich in vitamins A & C). Acts as a mild laxative. Reduces inflammation and swelling. Helps in treating anemia (rich in iron). Used to reduce fever. Leaf pastes treat skin diseases (rashes, boils, wounds). Acts as a diuretic

Tumbe

Classification

- Kingdom: Plantae
- Division: Phanerogamae
- Class: Dicotyledonae

- Sub-class: Gamopetalae
- Series: Bicarpellatae
- Order: Lamiales
- Family: Lamiaceae
- Genus: *Leucas*
- Species: *Leucas aspera* (Willd.)

Distribution

It is distributed in various regions of India, Sri Lanka, and other parts of Southeast Asia. It is a common herb found in open grasslands, fields, and waste areas. Due to its medicinal properties, it is cultivated and used in traditional medicine practices.

Taxonomic description

Tumbe is a herbaceous plant, typically growing as an annual or perennial herb. Leaves are simple opposite covered with fine hairs. Stems erect, branched. Inflorescence is spike, flowers are white in color small.

Medicinal uses

Used to reduce fever (antipyretic). Helps in cold and cough relief, digestive problems. Applied on skin rashes and itching. Helps in wound healing and cuts. Used for insect bites, stings and snake bite first aid support

Oudal/Caster Plant

Classification

- Kingdom: Plantae
- Division: Phanerogamae
- Class: Dicotyledonae
- Order: Malpighiales
- Family: Euphorbiaceae
- Genus: *Ricinus*
- Species: *Ricinus communis* L.

Distribution

Rapidly growing shrub in tropical climates often grown as an annual in colder regions. Widely grow in tropical, subtropical and warm temperate regions.

Taxonomic Description

Ricinus communis is a species of perennial flowering plant. The leaves are palmately lobed with serrated edges. The stem is hollow and jointed with pigmentation. Flowers are monoecious, in terminal panicles with lacking petals. A spiny capsule fruit with green or red that splits open, often explosively. Seeds are large oval and bean like.

Medicinal uses

Acts as a laxative – relieves constipation. Shows anti-inflammatory action, Used for wound healing and skin infections. Helps in skin care – treats dryness and acne, promotes hair growth and reduces dandruff. Relieves muscle and joint pain, Used for menstrual pain relief. Used in traditional remedies for eye irritation (with caution).

Garike Hullu/Durva grass

Classification

- Kingdom: Plantae
- Division: Phanerogamae
- Class: Monocotyledonae
- Series: Glumaceae
- Order: Graminales

- Family: Gramineae
- Genus: *Cynodon*
- Species: *Cynodon dactylon* (L) Pers.

Distribution

Cynodon dactylon is a cosmopolitan perennial grass found globally between latitudes 45°N and 45°S. It is native to the Old World, Africa, southern Europe, and Asia.

Taxonomic description

Stems & Habit: Forms dense, leafy mats. stems are erect or ascending, typically growing 10–40 cm tall, while prostrate stolon's can spread rapidly up to several meters. Leaves: Gray-green to blue-green leaf blades, flat. The ligule is present as a fine, ciliate membrane or line of hairs. Inflorescence: The flower head consists of a terminal whorl of 3–6 digitate radiating spikes that are green or purplish. Tiny spikelet's produce small grain caryopses.

Medicinal uses

Traditional Use: In India and regional traditions (such as in Karnataka), it is known locally as *Garike hullu* and is widely used in Hindu religious ceremonies (e.g., worship of Lord Ganesha). Ayurveda: Used extensively in traditional medicine as a cooling, diuretic, and wound-healing agent often crushed into a paste or juice to stop bleeding.

Torpedo grass

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Monocotyledonae
- Order: Poales
- Family: Poaceae
- Genus: *Panicum*
- Species: *Panicum repens* L.

Distribution

Panicum repens is a highly invasive perennial grass, widely distributed throughout tropical and subtropical regions. Thrives in moist, sandy soils, coastal beaches, lakeshores, marshes and disturbed habitats.

Taxonomic Description

Creeping rhizomes can extend several meters. Tough and thick often resembling. Stem is culm. Leaves are linear, lanceolate open panicle inflorescence with obliquely erect to ascending branches. Small, oval-shaped, glabrous spikelet's are present.

Medicinal uses

Diuretic- increases urine flow. Urinary tract infections. Helps in kidney and bladder disorders. Anti-inflammatory – reduces swelling, promotes wound healing, antimicrobial activity against infections. Used to reduce fever. Aids digestion and relieves stomach issues. Helps detoxify the body. Used for minor skin diseases. Provides mild pain relief

Bedi Soppu

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Dicotyledonae

- Order: Malpighiales
- Family: Euphorbiaceae
- Genus: *Euphorbia*
- Species: *Euphorbia heterophylla* L.

Distribution

Euphorbia heterophylla is native to tropical and subtropical widespread pantropical weed. It is a major agricultural weed.

Taxonomic description

It is a erect annual herb or under shrub. Leaves are variable in shape within one plant lower leaves are usually alternate while upper leaves are opposite. Margins are entire or serrate. Fruit is small 3 lobed capsules. 3-4 mm long. Dark brownish grey to black ovoid seeds.

Medicinal uses

Used for treating skin diseases (warts, ringworm), Latex applied on cuts for wound healing. Acts as an anti-inflammatory agent, Provides pain relief (headache, body pain). Used for digestive problems (diarrhea, stomach issues). Helps in respiratory conditions (cough, asthma). Has anthelmintic activity (expels worms).

Congress grass

Classification

- Kingdom: plantae
- Division: Phanerogamiae
- Class: Dicotyledonae
- Order: Asterales
- Family: Asteraceae
- Genus: *Parthenium*
- Species: *Parthenium hysterophorus* L.

Distribution

It is a highly invasive, rapidly spreading weed native to tropical America. It is naturalized across Asia, Australia and Africa.

Taxonomic description

It is an invasive annual herb in the Asteraceae family. Stem is branched, erect, covered in fine trichomes becoming woody with age. Leaves are alternate pubescent, pale green. Flowers are small white creamy, terminal. Seeds are small black wedge-shaped achenes. Root is taproot system.

Medicinal uses

Topical application of leaf juice treats cuts and wounds, Traditional poultices are applied to treat muscular rheumatism, skin inflammation, and joint swelling.

Sannavana muguli/Hemmugulu

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Dicotyledonae
- Order: Asterales
- Family: Asteraceae
- Genus: *Spilanthes*
- Species: *Spilanthes acmella* (L) L.

Distribution

Widely distributed medicinal herb found throughout tropical and subtropical regions.

Taxonomic description

It is an annual herb sometimes short-lived perennial often with procumbent stems that at root at nodes. Leaves are simple, opposite, ovate, triangular to ovate with serrated margins and petiolate. Flower flowrates are typically yellow, one seeded dark to black fruit is present.

Medicinal uses

Relieves toothache (natural anaesthetic effect). Treats gum infections and mouth ulcers. Has strong antibacterial and antifungal properties. Reduces inflammation and swelling. Acts as a pain reliever (analgesic). Helps in fever, improves digestion and appetite. Useful in skin diseases and wound healing. Contains antioxidants that protect body cell

Hunni/Kakke

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Dicotyledonae
- Order: Lamiales
- Family: Verbenaceae
- Genus: *Lantana*
- Species: *Lantana camara* L.

Description

Highly invasive, woody shrub native to central and south America. It has invaded over 50% of natural areas. Thrives in disturbed habitats including road sides, fences etc.

Taxonomic description

Lantana camara is a erect perennial shrub which typically grows around 2 meters. The leaves are broadly ovate, opposite, and simple and have a strong odor when crushed. It has a small tubular shaped flower arranged in clusters in terminal areas stems. Flowers are in different colors include red, white, pink, etc. The fruit is a berry like drupe.

Medicinal uses

Used for wound healing, Shows antibacterial, antifungal and anti-inflammatory activity. Treats skin diseases (eczema, itching, rashes). Treats digestive problems. Used against fever, cough and cold, asthma and bronchitis. Acts as insect repellent.

Ganike soppu/kaakmachi

Classification

- Kingdom: Plantae
- Division: Phanerogamia
- Class: Dicotyledonae
- Sub-Class: Gamopetalae
- Series: Bicarpellatae
- Order: Polemoniales
- Family: Solanaceae
- Genus: *Solanum*
- Species: *Solanum tovrum* L.

Distribution

Solanum nigrum (black nightshade) is globally distributed, native to Eurasia, and introduced to the Americas, Australasia, and South Africa.

Taxonomic description

An evergreen, multi-branched shrub that grows 1 to 4 meters tall. The stems and leaves are often dotted with

sharp, straight, or slightly hooked prickles. Flowers: Clusters of star-shaped, pale white flowers with yellow centres. Fruit: Small, green, pea-sized berries that grow in dense clusters, which turn dull yellow or orange when fully mature

Medicinal uses

It is used in Ayurveda (for anaemia) and traditional medicine of Southeast Asian remedies, for its dense concentration of iron, antioxidants, flavonoids, and alkaloids. Fruit to soothe indigestion, manage stomach ulcers, and ward off microbial infection

Tondekai

Classification

- Kingdom: Plantae
- Division: Phanerogamiae
- Class: Dicotyledonae
- Subclass: Polypetalae
- Series: Calciflorae
- Order: Passiflorales
- Family: Cucurbitaceae
- Genus: *Coccinia*
- Species: *Coccinia grandis* (L.) Voigt

Distribution

Native to tropical Africa, the Arabian Peninsula, and tropical/subtropical Asia (India).

Taxonomic description

Herbaceous, deeply grooved, hairless stems emerging from an aggressive, tuberous root system. Leaves: Alternate, simple leaves palmately 3--5 lobed or angled (heart to pentagon-shaped), with tiny reddish or yellow glands underneath. Flowers: The plant is *dioecious* (male and female flowers grow on separate plants). They are axillary, solitary, large, bell-shaped, white with yellowish-green centers, and measure about 4 cm in diameter. Fruit: An ovoid-oblong berry, bright green with white stripes enclosing compressed seed.

Medicinal uses

Topical applications (like leaf pastes) are used to treat eczema, ringworm, psoriasis, and various itchy skin eruptions. Fresh leaf juice is commonly applied to burns, sores, and cuts to promote wound healing and stop infections. Warmed leaves or extracts are applied topically or consumed to reduce rheumatic joint pain and inflammation. The raw tender fruit is chewed to soothe mouth ulcers, while root extracts are traditionally used as a mild digestive aid and to manage stomach pain. Plant used to treat respiratory conditions (like bronchitis and asthma), jaundice, and urinary tract infections.

Muttidare muni

Classification

- Kingdom: Plantae
- Division: Phanerogamia
- Class: Dicotyledonae
- Subclass: Polypetalae
- Series: Calciflorae
- Order: Rosales
- Family: Leguminosae
- Subfamily: Mimosoideae.

- Genus: *Mimosa*
- Species: *Mimosa pudica* L.

Description

It is native to central and south America, widely distributed as a pantropical weed across South Asia, East Asia, the Pacific Islands and Australia.

Taxonomic description

Habit: A prostrate to semi-erect subshrub or herb growing (up to 1 meter) tall. Stems are typically purplish, armed with sparse, short, curved prickles. **Leaves:** Alternate, bipinnate leaves featuring 1 to 2 pairs of pinnae and 10 to 28 pairs of tiny, linear-oblong leaflets. They are highly sensitive to physical stimuli, temperature, and darkness, undergoing Nyctinasty "sleep" movements. **Flowers:** Globe-shaped pink to lilac flower, heads with color primarily coming from the protruding stamen filaments. **Fruits & Seeds:** Clustered, flat, bristly pods long that break into 1 to 5 segments containing ovoid seeds.

Medicinal uses

It is known as *Lajjalu* in Ayurveda, where extracts are traditionally applied to manage wounds, piles, and dysentery.

Kadu/Sihi balli

Classification

- Kingdom: Plantae
- Division: Phanerogamia
- Class: Dicotyledonae
- Subclass: Gamopetalae
- Series: Inferae
- Order: Asterales
- Family: Compositae (Asteraceae)
- Genus: *Mikania*
- Species: *Mikania micrantha* Kunth.

Distribution

It is native to tropical Central and South America and the Caribbean. As a highly invasive weed, it has spread extensively throughout Southeast Asia, the Pacific Islands, Australia

Taxonomic description

Stems: Slender, hexagonal (or 5-ribbed), yellowish-brown stems that can stretch up to 6 meters long. They easily root at the nodes when touching the ground. **Leaves:** Opposite, simple leaves shaped broadly ovate to triangular with a heart-shaped base and a pointed tip. **Flowers:** Small, whitish to greenish-white flowers grouped in clusters of four, arranged in repeatedly branched panicles. They emit a strong fragrance. **Fruits:** Small, black dry fruits (achenes) that are narrowly oblong with a white, wind-dispersed feathery pappus.

Medicinal uses

The plant's juice or leaf paste is widely used as first aid to stop minor bleeding and accelerate the healing of sores, cuts, and insect bites. Traditional poultices are applied to treat rheumatism, arthritis, and localized skin inflammation. Leaves exhibit strong natural antifungal and antibacterial properties, making them a folk remedy for rashes, itches, and sores. Leaf decoctions are often consumed to reduce fevers, alleviate colds, and treat respiratory ailments.

Similar studies conducted by Gangaiah and Abbubaker 2019 in Andaman and Nicobar Islands suggested that, proper identification of weed species and timely management are essential for effective control. Weed plants play a major role in areca nut cultivation by competing with the crop for nutrients, water, sunlight, and space. Their presence can reduce growth, lower yield, and create favourable conditions for pests and diseases. Weeds are highly adaptable and can survive in diverse environmental conditions. They reproduce rapidly through seeds, vegetative parts, or both, which makes them difficult to control. Some weeds produce a large number of seeds that remain dormant in the soil for long periods, leading to repeated infestation even after removal.

Sutherland, 2004 concluded, Competitive ability by weeds is determined by several plant characteristics. One of the most common traits of a weed species is its tendency to be an annual or biennial rather than a perennial; this allows the species a faster reproduction rate leading to a higher fecundity.

Conclusion

One of the known facts that some medicinal plants and weeds which grow incorporated with crops also known as weeds are because they also contribute to loss of crop and its economy. These Agriculture weeds and interfere with agricultural productivity. Their presence in crop fields leads to strong competition for essential resources such as nutrients, water, sunlight, and space. This competition reduces crop yield and quality, making weed management an important aspect of agriculture. Areca nut is an economically important plants in this region, and harvested twice or sometime thrice in year. Most of the farmers of the study area are depending on areca nut crop for their financial needs, they grow other crops with areca nut as integrated farming but all these things also provide favourable condition and if agriculture weeds are not managed properly, it leads loss yield further more studies are required in this direction.

References

1. Setiawan Dwi P, Ragsdale DW. Use of aluminum-foil and oat-straw mulches for controlling aster leafhopper, *Macrostelus fascifrons* (Homoptera: Cicadellidae), and aster yellows in carrots. The Great Lakes Entomologist, 1987;20(2):103.
2. Arora S, Squier C. Areca nut trade, globalisation and its health impact: perspectives from India and South-east Asia. Perspectives in Public Health, 2019;139(1):44-48.
3. Gangaiah B, Abbubaker. Effect of mulching on weed management in areca nut in Andaman and Nicobar Islands. Indian Journal of Weed Science, 2019;51(3):312-318.
4. Ghera CM, Benech-Arnold R, Satorre EH, Martinez-Ghera MA. Advances in weed management strategies. Field Crops Research, 2000;67:95-104.
5. Sutherland S. What Makes a Weed a Weed: Life History Traits of Native and Exotic Plants in the USA. Oecologia, 2004;141:24-39.
6. Ward SM, Gaskin JF, Wilson LM. Ecological Genetics of Plant Invasion: What do We Know? Invasive Plant Science and Management, 2008;1:98-109.
7. Kelton JA, Price AJ. USDA-ARS, National Soil Dynamics Laboratory, Auburn University, Alabama AL36832, USA, 2021.

8. Gogoi S. Study of Weed Flora in Dibrugarh district, Assam, NE India, 2020.
9. Sarmah R. Floristic composition and distribution of weeds in different crop ecosystems of Jorhat in India. *Indian Journal of Weed Science*, 2019;51(2):139-144.
10. Barua IC, Gogoi AK. Phytosociological studies of sugarcane weeds in Assam. *World Weeds*, 1995;2:107-115.
11. Bhan VM, Kumar S, Raghuwanshi MS. Weed management in India. *Indian Journal of Plant Protection*, 1999;17:71-202.
12. Mani VS, Gautam KC, Chakrabarty TK. Losses in crop yield in India due to weed growth. *Proceedings of the National Academy of Science*, 1968;42:142-158.
13. Rao AN, Nagamani A. Integrated weed management in India-revisited. *Indian Journal of Weed Science*, 2010;42:1-10.
14. Brey JR. A study of mutual occurrence of plant species. *Ecology*, 1956;37:21-28.
15. Janson S, Vegelius J. Measures of Ecological Association. *Oecologia*, 1981;49:371-376.