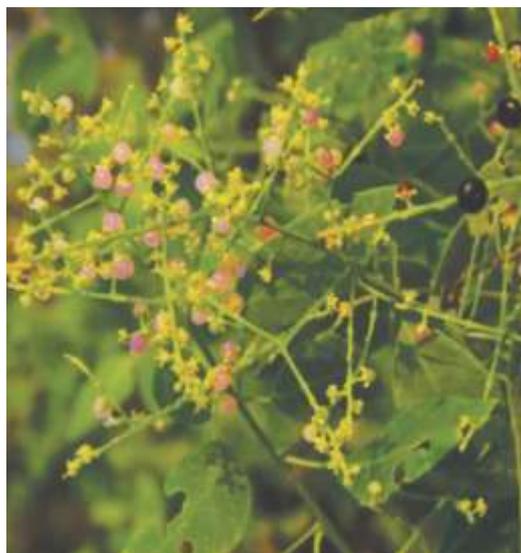


Salvadora persica Linn.

Syn. *S. indica* Wt.

Fam. Salvadoraceae

Ayurvedic name	Pilu
Unani name	Pilu, Miswak
Hindi name	Khara Jhal, Chota Pilu, Meswak
English name	Mustard Tree, Salt Bush Tree,
Trade name	Khara Jhal, Tooth Brush Tree
Parts used	Roots



Salvadora persica

Morphological Characteristics

Salvadora persica is a large shrub or small tree of Thar Desert. The branches are drooping, terete and glabrous. A typical desert plant grows as a mangrove perennial tree as well as under extreme saline (salt stress) and drought conditions. Thus the seeds are dispersed by the birds. The plant produces three types of fruits, *i.e.* pink, purple and white. The purple fruit bearing plants showed better seed traits, *viz.* seed weight, size, thickness, volume, density and viability and germination percentage as compared to other two types of fruit bearing plant. Hence, in the present studies seeds of purple fruit bearing plants were selected to develop agro-techniques. The leaves are shed twice in a year, *i.e.* October-November and February-March, but plant never becomes leafless throughout the year. New leaves appear twice in a year, first during April-May and second during September to December and thereafter new leaves develop slowly. During winter season (cold stress) anthocyanin pigments have been noticed in leaves. The gall formation has been commonly observed on every plant part except roots. These galls have been reported to possess some growth promoting principles.

Floral Characteristics

The plant bear flowers in September-October. The flowers are greenish-yellow borne in axillary and terminal compound panicles. Calyx is glabrous, lobes rounded; corolla is twice as long as calyx; stamens exerted; fruit is a drupe, globose, red when ripe. The plants produce



- **Weed Control:** Manual hand weeding is a better option for weed control in *S. persica* plantations.
- **Disease and Pest Control:** No serious insects, pests and nematodes were observed in this crop.

Harvest Management

- **Crop Maturity and Harvesting:** Seeded fruits require 4-5 months for maturity, *i.e.* from December to April-May. The whole plant is used medicinally, but roots are used for preparation of Meswak toothpaste. The plant may be uprooted after 2 years of growth at any time of the year for root production. The roots are separated and dried.
- **Post-harvest Management:** Uprooted whole plants are separated into leaf, stem and roots with the help of stainless knife/scalpels. Stem branches and roots are used freshly. If these are not used freshly, then these should be stored in well ventilated shady places, so that moisture loss takes place continuously.
- **Chemical Constituents:** Root contains elemental γ -monoclinic sulphur, benzyl glucosinolate, a methoxybenzyl derivative of urea named salvadourea, m-anisic acid and sitosterol. Root bark and stem bark contain trimethylamine. Seed oil is rich in myristic, lauric and palmitic acids.
- **Yield and Cost of Cultivation:** Plantation of crop at 5X5 meter spacing in one hectare area yielded 200 kg roots after two years. Rs. 6800/- is the estimated cost of cultivation for one hectare.

Therapeutic Uses

The root contains steam-distillable oil, which has 90% Benzyl isothiocyanate, a compound responsible for decreasing dental caries and used in the preparation of Meswak toothpaste. The chemical present in the plant can control gingivostomatitis, skin infection and conjunctiva. The root bark is tonic, stimulant, emmenagogue. The stem bark is good for gastropathy.

