

# Maati Tatva Agro-Industries

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## Aloe Vera

*Aloe Vera* is an evergreen perennial succulent species, Originated from Arabian Peninsula. More than 500 species are known out of which only few are known for commercial used. Most beneficial varieties are *Aloe barbadensis miller* and *Aloe indica royle*.



**Economic parts:** Leaves



## Chemical composition and its uses

Chemical contain	uses
Aloin	Cleanse digestive system/ relives constipation
Acemannan	Immunostimulant, antiviral, antineoplastic and gastrointestinal properties
Vit. E	Anti-aging supports immune functions, prevent inflammation & coronary heart disease, promote eye health, and lower the risk of cancer.
Dimethyl sulfoxide	Decreased pain, speed the healing of wound, burns,

	muscle and skeletal injuries, arthritis etc.
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### *Aloe indica royle*

Clumping suckering succulent with short stem leading to compact stiff rosettes composed of 8-10 inches with the width of 2 inches spotless dark green leaves. Its pulps are sweet in taste therefore mostly used in processing healthy food products like juice, candy etc.



### *Aloe barbadensis miller*

Consist of thick fleshy light green, white spotted leaves that grow up to 18 inches in length and 2-3 inches in width at the base with sharp spikes at the edges. It is used mostly for cosmetic products and pharmaceutical products.



## Cultivation

**Soil and climate:** Basically, it is a warm tropical crop grown in various climatic condition but need protection from frost. It is a very low maintenance plant and can be successfully grown in low rainfall region. It can adapt in a wide range of soils but best suited in well drained sandy loam with the pH not exceeding 8.5. Commercial cultivation can be done in the region 25-40°C.

### **Land preparation:**

Field is thoroughly ploughed and cross ploughed to bring the soil to the fine tilth stage and beds of 10-12 inch raised bed are prepared.

**Propagation:** Propagated through suckers of 6-9 inches or sometimes by cutting a new growth. Germination takes place after 45 days of planting.

**Plantation:** Suckers are planted with the spacing of 24x24 inches Planting can be done all year round; summer plantation thrives for more water.

## Management:

**Irrigation:** This herb does not needs much water and can be grown as rainfed crops. 4-5 irrigation is required during summer.

**Pest:** No serious pest is reported

### ● Caution:

- Avoid water logging soil
- Timely weeding should be done
- Avoid use of chemicals/ synthetic fertilizers, pesticides or weedicides.

## Harvesting and Yield

Aloe leaves can be harvested by using sharp shears. Leaving aside three leaves the rest are harvested. Commercial Aloe productions produce upto 5 years. The first production starts after 12 months of planting and yield 3 kg/ plant (approx.) followed by the next production after 6 months or 12 months depending upon availability of water. Each plant yield 5 kg (approx.) leaves on 2<sup>nd</sup> yield onwards.

**Marketing:** Aloe is among the few medicinal plants having both medicinal and cosmetic uses and thus, has an extensive market across the globe.

## Economics

### ❖ Expenditure

Plant spacing	Plant density(acre)	Cost per plant	Total cost	Cost of fertilizers	Cost of land preparation
2 x 2ft.	13,000	Rs 4/-	Rs 52,000	Rs 10,000	Rs 5000

**Total investment = Rs 67,000/-**

❖ **Income**

Production per year	Yield per plant(Approx.)	Total	Company buy back price/ kg	Total
1 <sup>st</sup> year	3 kg	39,000 kg	Rs 3.50	Rs 1,36,500
2 <sup>nd</sup> year	5 kg	65,000 kg	Rs 3.50	Rs 2,27,500
3 <sup>rd</sup> year	5 kg	65,000 kg	Rs 3.50	Rs 2,27,500
4 <sup>th</sup> year	5 kg	65,000 kg	Rs 3.50	Rs 2,27,500
5 <sup>th</sup> year	5 kg	65,000 kg	Rs 3.50	Rs 2,27,500

**Total income in 5 year = Rs 10, 46,500 /-**



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