

Proposal by:

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Rajasthan (Id: U-0423) 2019-03-05**

Title of the work:

Papaya Plantation

Village where it is to be implemented:

Loona

Brief description of the problem and Significance of the Project:

Papaya which is scientifically called as carica papaya is one among the 22 species which are accepted from the Carica genes belonging to the family of Caricaceae. Papaya is originated from the American tropics, mostly from southern Mexico and the neighbouring regions of Central America. Papaya is tropical tree which is very well-known for its leaves which are long and lobed. The fruits of papaya tree have tiny black seeds in them. Papaya is a small tree which is branched in a spares way. They generally grow with one stem which would be to a length of 10 meters. The leaves of the papaya tree are arranged in spiral way and these are confined to the upper level of the trunk. The lower trunk will have scars and that is the place where the birth of leaves and fruits take place. The papaya tree consists of large leaves which would be up to 30 inches in diameter.



Need to understand present status for customisation:-

Need to plant three seeds of papaya at a depth of half an inch in two of the containers. These containers should contain a potting mix which is well -drained. Now the seeds should be placed and the space between them should be even so that there would be sufficient room for their growth. Add water into both the containers so that the soil van gets moistened. Now locate the containers at a place where full sun is available with a temperature of 23⁰C Now provide heat to the bottom of the papayas which are being grown in containers so they would be an improvement in the chances of success. We can also locate the containers in windows which are above a heat register or a radiator. Germination of seeds will take several weeks.



Being a tropical plant a tropical weather is most suited for papaya plantation. It can grow in almost all types of soils.

Climate for Papaya Cultivation

Being a tropical crop, papaya crops need a high level of humidity and temperature. It is sensitive to frost and heavy rains can cause damage. It can also grow in subtropical areas. Areas near the foothills have been found to be the perfect place for papaya cultivation in India. It can grow well at sea level and up to 600m of altitude from sea level. Above 600m, the fruits decrease in quality. Although the crop favors high levels of humidity for growth, it needs a warm and dry climate for ripening. The roots being

shallow, papaya plant cannot withstand strong winds. Papaya can also be cultivated in greenhouse farming.

Soil for Papaya Plantation

Papaya can grow in a variety of soils. However, a rich, sandy loam is ideal for papaya plantation. It can also grow well in alluvial soil which is found along the deltas and river banks. However, it cannot grow in shallow soils or soils that do not let water drain off easily. A fertile, lime-free and well-drained soil is preferred for papaya cultivation.

pH Requirement

A neutral to near neutral soil can be used for papaya cultivation. The pH can be between 5.5 and 7.5.

Season for Papaya Plantation

Papaya is planted during monsoon, autumn and spring season. It is not planted during winter as the frost can cause damage or injury to the crop. In other words, they are planted during the months of June-July (monsoon), October-November (autumn) or February-March (summer). The first few things to be considered while planting papaya are rain, frost and hot air since all three cause injury to the plant.

Watering Papaya Plant

Water requirement for papaya depends on the environmental factors of the area like light, temperature, rainfall, wind, soil type, etc. It also differs with the age of the plant. A young papaya plant would need more moisture than the older trees. This is because older trees have slower vegetative growth. Hence the seedlings are irrigated once or twice a week while fruit bearing trees need irrigation once in every 15 days. Older trees need ample water. However, they cannot tolerate stagnated water or water logging since their roots are shallow and not deep. It results in 'wet feet' and lower fruit yield. That's why drip irrigation in papaya plantation is a good practice. During winter, papaya must be irrigated at an interval of 10-12 days while in summer they are watered once a week till the rains begin.

We need to water the plants regularly in order to bring moisture to the soil, but make sure that must not wetting the soil completely. Start thinning the plants so that only the

papaya which is healthy will remain in each container. We need to be with patience and wait till the plants get at least three leaves before the process of thinning. Allow the plant to get matured for about one and a half or two months and check about flowering of plant.

Use of Papaya:

Papaya, botanical name *Carica papaya*, is a lozenge tropical fruit, often seen in orange-red, yellow-green and yellow-orange hues, with a rich orange pulp. The fruit is not just delicious and healthy, but whole plant parts, fruit, roots, bark, peel, seeds and pulp are also known to have medicinal properties. The many benefits of papaya owed due to high content of Vitamins A, B and C, proteolytic enzymes like papain and chymopapain which have antiviral, antifungal and antibacterial properties. *Carica papaya* can be used for treatment of a numerous diseases like warts, corns, sinuses, eczema, cutaneous tubercles, glandular tumors, blood pressure, dyspepsia, constipation, amenorrhoea, general debility, expel worms and stimulate reproductive organs and many, as a result *Carica papaya* can be regarded as a Neutraceutical. Our review study and pharmacological uses of *Carica papaya* and side/toxic effects proven its scientific importance. *Carica papaya* contains an enzyme known as papain which is present in the bark, leaves and fruit. The milky juice is extracted, dried and used as a chewing gum for digestive problems, toothpaste and meat tenderizers. It also contains many biological active compounds including chymopapain and papain which is the ingredient that aids digestive system, and again used in treatment of arthritis.

Cost of the facility:

Rs.100000

Role of your institute:

In entire process of Pappya plantation project Shri J.J.T. University will involve with villagers throughout from start to end procedures of planting Pappya and sell of final product.

Activity	Month (Flowering in 3 month and within next 3 month Fruits will be available for sell)		
	June 2019	July 2019	August 2019
Plan Execution			
Implementation and Training			
Monitoring			
Reach Market			

Impact of this work and Future prospects of the work:

Loona is village of Jhunjhunu district and with this project under papaya plantation production will help to increase employment and trends of marketing and trading within villagers to enhance the capability to increase the revenue through this project implementation. There are many significant use of Papaya which ultimate resource of income to villagers if they could understand and analyse to make the maximize (ROI) Return on investment from means of investment.

HEALTH BENEFITS OF PAPAYA

Nutrients*

Dietary Fiber 7%
Carbohydrate 3%
Calories 2%

Vitamins*


Vitamin C 103%
Vitamin A 22%
Folate 10%

Minerals*

Potassium 7%
Magnesium 2%
Calcium 2%



*% Daily Value per 100g. For e.g. 100g of papaya provides 103% of daily requirement of vitamin C.

 Fights cancer	 Helps lose weight	 Reduces acne & burns
 Relieves toothaches	 Regulates menstrual cycle	 Treats macular degeneration
 Boosts digestive health	 Improves immunity & heart health	 Effective against intestinal worms

Caution: Avoid intake during pregnancy

Availability of any other funding:

No

Details of the funds rose from other agencies:

Not applicable

Duration of the work:

6-7 months