

Scientific cultivation of pineapple (*Ananas comosus*)

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Pineapple (*Ananas comosus*) is an important fruit crop in NEH region. It is having pleasant flavour and taste. It is fairly rich in Vitamin A and C. The fruits are eaten fresh as well as canned and processed products in different forms.

For getting high yield of pineapple following scientific technology has been recommended.

Soil and climate

Pineapple grows well in any type of soil having a good retention of moisture, drainage and aeration. Cultivation over hardpan in sub soil and water logging should be avoided. The optimum temperature range for successful cultivation is between 15.6⁰ C and 32.2⁰ C. The pH should be 5.0 - 6.0.

Varities

Kew and Queen are most suitable varieties for cultivation. The important features of the include:



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Kew: It is a late maturing variety grown particularly for its canning quality. The plants are vigorous and leaves are long with straight margins. Leaves having small spines at the tip and also at the base near its attachment to the stem; where they are irregularly arranged. Fruit are big sized and weight ranged from 1.5 to 2.5 kg and is oblong in shape, slightly tapering towards the crown. Eyes are broad and shallow, making fruits more suitable for canning. The fruit is light yellow, almost fibreless and very juicy with 0.6-1.2% acid, and 12-16° brix TSS.

Queen: The plants are characterized by dwarf, compact habit of growth. Foliage is bluish green. The leaves are short, stiff, and very spiny along the margins and thickly covered with a whitish bloom on both surface. Fruit weight ranges from 0.9-1.3 kg. Eyes are small, prominent, deep set. When fully mature, the fruit is golden-yellow and internal flesh is deep golden yellow less juicy than Kew, crisp textured with pleasant aroma and flavour. The TSS content varies from 15° to 17° brix and acidity between 0.6-0.8 percent. This variety is suitable for table purpose.

Planting material

Suckers and Slips are usually preferred for planting since they flower comparatively earlier than crown. Slips of 45-50 cm size with weighing from 350-450 g gave an earlier uniform flowering and fruiting; followed by 55-60 cm suckers weighing 500-750 g are ideal. The fruit quality is found better by 5-10 cm long crown planting.

Manure and fertilizers

Pineapple is a shallow feeder with high N and K requirement. Well rotten FYM @ 500 g/pit is applied at 15-20 days before planting. Application of 12 g each of N & K₂O /plant is recommended. There is no need of phosphorus application. However, if the soils are poor in phosphorus, 4 g of P₂O₅/plant can be applied. Nitrogen and potash is applied in two equal split doses. The first dose of nitrogen is given two months after planting and the last dose 12 months after planting. The K should be given in 2 split doses. Entire phosphorus and half dose of potash are given at the time planting and the remaining potash 6 months after planting.



Planting

There are two systems of pineapple planting viz, single row system and double row system. Single row system is uneconomical and at the time, fruits develop sunburn in the absence adequate shade because of low density planting. Double row system is recommended which gives more profits allows the maximum use of land, less weed infestations, protection from sunburn and lodging of fruits, due to mutual support of plants. Planting done at a spacing of 30 x 60 x 90 cm in double row system of planting, which accommodates 43,500 plants/ha i.e. suckers should be planted at a distance of 30 cm from plant to plant within the line and 60 cm from plant within the line 60 cm in between two lines, and 90 cm between two double rows.



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Pineapple suckers are allowed to dry at least for 30- 35 days before planting. In fact, if fresh suckers are planted in moist soil, or if more moisture is available as in rainy season, they may begin to decay. To facilitate better rooting, it is necessary to strip off the scale leaves from the basal portions of the planting materials. After removing scaly leaves, the planting material should be treated with Difoliation (0.2%) solution to avoid heart rot disease.

Pineapple is mainly planted just at the onset or at the end of monsoon. However, September is the best time for its planting in NEH region. About 85% plants set fruits and became ready for harvesting in 18 months of planting. Planting of pineapple across the slope prove better for getting higher yield because of least soil loss.



Flower induction

To get uniform flowering in pineapple, application of 25 ppm Ethephon (6.25 ml/100 litres of water) +2% Urea + 0.04% NaCO₃ at 40-45 leaf stages is done. About 50 ml of the solution is poured into the heart of the plant. The application of Ethrel (0.25 ml/litre) causes flower induction. Efficacy of flower

including compound is reduced during rainy season. Therefore, these chemicals are not applied during rains. Plant start flowering in 45-50 days after chemical application.

Earthing up

This is an essential operation in pineapple cultivation aimed at good encourage to the plants. As its roots are very shallow, the plants are eventually lodged especially under flat-bed planting in heavy rainfall area.

Intercropping

For suppressing the weed population and restoring soil fertility in pineapple, intercropping with leguminous crop like rice bean, cowpea and moong-dal are most suitable in the first year of planting.



Mulching

Conserved soil moisture and weed growth are the major problems in pineapple cultivation. Mulching of pineapple field with black polythene followed by thatch grass/saw-dust gives better yield and quality, and suppresses the weed growth.

Irrigation

Pineapple is grown mostly as rainfed crop in this area. During scarcity of rainfall irrigation pineapple once in 10-15 days is advisable wherever facilities exist to ensure good crop.

Pests and diseases

Mealy bug is the most important pest of pineapple. The nymphs and adults suck juices from leaves and tender shoots. Need based application of Monorotophos (Nuvacron) 2.5 g/litre of water at vegetative stage and Dimethoate @ 2.5 ml/litre of water at the fruiting stage is recommended to manage the pest.

Heart rot or stem and root rot are common diseases of pineapple. The green leaves turn yellowish green and tips turn brown. The central whorl of leaves when affected will come out with a gentle

pool. Basal portion of the leaves shows sign of rotting and emits foul odour. The disease is controlled by good drainage, proper selection of healthy planting material and prophylactic treatment of material with Dithane Z-78 (3g/litre water).

Harvesting and yield

Pineapple attains flowering at 10-12 months after planting and attains harvesting 15-18 months after planting, depending upon the variety, time of planting, type of planting material used. Harvesting should be done with a sharp knife, severing the fruit stalk with a clean cut in such a way that the fruit is not damaged and crown is retained. Such fruits can be stored without any fear of damage for 3-4 weeks after harvest in a well-ventilated cool place. Yield has been recorded of 40-50 t/ha.