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Performance of Pineapple varieties (Ratoon Crop)

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ABSTRACT: One experiment was conducted to evaluate the yield of pine apple varieties (ratoon) with a view to find out suitable variety for North Eastern Ghat Region at RRTTS, G. Udayagiri during 2020-23. Three varieties are taken *viz.*, Queen, Berhmpur local and Simachal (ratoon). It was observed that in the ratoon crop in Berhampur local has yielded highest *i.e.* 166.20 qha^{-1}, due to higher percentage of flowering plants (49.0) and high average fruit weight of 640g.

Keywords: Pineapple, Berhampur local, Varieties, Ratoon.

INTRODUCTION

The plant crop after harvest can be retained as ratoon crop for two more years. After the harvest of the plant crop, chopping the side leaves of the mother plant should be done for easy cultural operations. The suckers retained should be limited to one or two per mother plant. Earthing up should be done. Other management practices are same as for the plant crop.

There are four types of propagation material on pineapple plants: suckers, slips, crowns, and ratoon suckers. Slips grow from the fruit itself or along the stalk below the fruit, while crowns are the leafy tops of the fruit. To remove a ratoon, grasp it at the base and twist it gently from the mother plant, and plant it in a 4 gallon pot filled with moist well drained soil. Pineapple plants may produce up to two fruits, the plant crop and the ratoon crop. After harvesting the first fruit, remove all suckers and hapas but one. Pineapple is a bromeliad (*Ananas comosus*), and can be easily grown in your home garden if you have a warm climate and decent sun exposure..

The scientific name of pineapple is (*Ananas comosus*) which belongs to the Bromeliaceae family (Baruwa, 2013; Hasan *et al*., 2022). Pineapple (*Ananas comosus* (L.) Merr.) is a perennial monocotyledonous herbaceous fruit tree that is found in almost all tropical and subtropical areas of the world, ranking third in terms of economic production behind banana and citrus. At present, there are about 90 countries and regions worldwide where pineapples are cultivated. The total global area of pineapple cultivation exceeds 400,000 hectares and is mainly distributed in Asia, America, and Africa.

Pineapple cultivation performs very well in Indian horticulture fruits production, its stand in 9th rank in terms of production among all the fruits grown in India. According to National Horticulture Board (Horticulture Statistic Division) mainly 10 states in India produced almost 95 per cent of country's total production. Among top 10 states in production,. It contains vitamin A, B, and C considerable amount of calcium, potassium and fibre. Due to its delicious nature it has excellent flavour and nutritive value. It is low in fat and Cholesterol (Alam and Usmani 2019). It contains a special enzyme called 'Bromelin' which helps digestion of protein (Afzal, 2019). Institutional and technological limitations are a reflection of a larger problem of inadequate farmer support provided by agricultural extension. It is challenging for farmers, especially those who grow pineapples, to make progress in their production activities that is reasonable when the extension service is not meeting expectations. Khalid *et al*. (2007) state that historically, horticultural crops, including fruits, were neglected in favour of increasing the productivity and production of major crops . Furthermore, the majority of the nation's harvested produce is wasted, which could be brought on by ineffective marketing strategies, post-harvest losses, low technological advancements that make it easier to process high-quality pineapple products, and inefficient production methods (Ivan *et al*., 2011). Gumi and Aliero (2012) claim that pests and diseases deprive the world of over 40% of the potential yield of the eight most important food crops . Sectioning of the stem into pieces containing lateral buds released from the suppression and stipulated to form new plantlets is done in order to break the apical dominance (Collins, 1960). Plantlets obtained through stem sectioning are of superior quality but the size is smaller compared to conventional planting material like slips and suckers (Reinhardt *et al.*, 2018). Improved varieties, weeds, illnesses, and pest infestations are examples of biotic stress factors that lower pineapple yield and quality, which significantly lowers the amount of money that can be made from producing pineapples. The natural flowering of pineapple affects fruit development and quality, and impacts harvest (Py *et al*.,

1987; Bartholomew *et al.,* 2002; Sanewski *et al.*, 2018). Therefore, one experiment was conducted to evaluate the yield of pine apple varieties with a view to find out suitable variety for North Eastern Ghat Region. In order to find out suitable variety of North Eastern Ghat Zone, one experiment was conducted at RRTTS, G. Udayagiri, Kandhamal.

MATERIALS AND METHODS

One experiment was conducted to evaluate the yield of pine apple varieties with a view to find out suitable variety for North Eastern Ghat Region at RRTTS, G.Udayagiri during 2020-23. 3 varieties are taken *viz.*, Queen, Berhmpur local and Simachal.

Design- RBD, replication-3, spacing and method of planting- 25×60×90cm in trench method, plants/hill-one, fertilizer dose: 8:4:8 of NPK/plant/year

RESULT AND DISCUSSION

It was observed that in the ratoon crop in Berhampur local has yielded highest *i.e.* 166.20qha^{-1}, due to higher percentage of flowering plants (49.0) and high average fruit weight of 640g. Some ripe fruits were affected with rotting fungal diseases. In case of local cv., there was a slight decrease in fruit length, but girth was higher and weight was less in second ratoon crop as compared to main crop and first ratoon crop. Fruit length, girth and weight were higher in 'Local' cultivar than Giant Kew and Mauritius. Fruit weight was lowest in second ratoon crop among the three crops (main + two ratoon) studied. Py *et al*. (1987) reported that reduction up to 20% in yield of smooth Cayenne (Kew and Giant Kew) varieties is common in ratooning. Experiments conducted at the Indian Institute of Horticultural Research, Bangalore, on ratooning have revealed that average fruit weight in the first and second ratoon was 88% and 79% of the plant crop, and the plant stand also reduced leading to reduction in fruit yield by 49.3% and 46.2% in the first and second ratoon crops (Chadha *et al.,* 1977). Rosalina and Kahar (2018) reported that the organic matter in soil comes from plant and animal residues. Ramadhani and Nuraini (2018) explained that the nutrient availability in the soil is influenced by soil pH. Organic matter can balance nutrients and reduce soil acidity. These are in accordance with the findings of Bonomo *et al.* (2020); Maneesha *et al*. (2019) on the effects of fertigation on pineapple and Tiwari (2017) on the effects of fertigation and black plastic mulch on banana.

Table 1: Flowering and yield of Pineapple varieties (Ratoon crop).

Name of the Variety	% of flowering plant	Average weight of fruit(g)	Yield (q ha^{-1})
Queen	38.0	290.0	58.41
Berhampur local	49.0	640.0	166.20
Simachal	34.0	365.0	65.77

CONCLUSIONS

It is possible to grow pineapples with careful attention to soil management, irrigation, and temperature control. Selecting appropriate pineapple varieties Berhampur local for ratoon that are better suited to subtropical conditions can also enhance the chances of successful cultivation.

FUTURE SCOPE

Practices like mulching, shading, and providing protection during extreme weather conditions will be studied by the local climate.

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