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METHODS OF RAPID REPRODUCTION OF PINEAPPLE (ANANAS COMOSUS (L.) MERR)

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Annotations
This article provides recommendations on methods of reproduction (vegetative: rosette of leaves, using sucker and seeds) of pineapple (ananas comosus. L. Merr). For vegetative propagation, it is recommended to use a rosette of ripe fruit leaves, which can be: a) immersed in water; b) place over water c) plant in sandy soil. It is also stated that pineapple can be propagated using seeds. It will be possible to propagate and grow this plant in the future in the conditions of our country. It plays an important role in the employment of the population and the production of medicine

Keywords. pineapple, vegetative propagation, rosette of leaves, sucker, medicinal, ornamental plant, reproduction, greenhouse.

Enter. Although many types of medicinal plants are widespread in our republic, the cultivation of those suitable for subtropical and tropical climate conditions in our territory creates unique difficulties. This is due to the fact that our climate is strongly continental (hot in summer and cold in winter). For this reason, it is important to establish the cultivation of medicinal and ornamental plants suitable for subtropical and tropical climatic conditions. Such plants include pineapple Ananas somosus (L.) Merr-plant. Pineapple contains vitamins (S, carotene, V1, V2, V5, V12), minerals such as calcium, phosphorus, iron, copper, iodine, zinc, and magnesium. Bromelain, a biologically active substance contained in pineapple fruit, prevents the formation of blood clots and improves digestion. Pineapple has anti-microbial and anti-inflammatory effects. It has a diuretic, blood-thinning property. It is useful in vitamin deficiency (avitaminosis), when the walls of blood vessels (arterial vessels) are brittle. The amount of vitamins in pineapple varies depending on the biological characteristics of varieties and lines. It was determined that the amount of vitamin C is 73-116 mg/100 ml [5].
Pineapple fruits are mainly sold after the fruit ripens. We know that pineapple fruit is harvested in its homeland mainly at the technical ripeness of the fruit. During this ripening period, the fruit contains a lot of caustic substances, so when this fruit is eaten, it gives a bitter taste and stings the teeth [2].
At the same time, it is possible to grow the pineapple plant in greenhouses, greenhouses with trenches and at home, and to get additional income by selling the harvested crop.
Analysis of literature on the topic
Pineapple fruit is famous for its nutritious and delicious fruit[1]. Among tropical fruits, the trade volume of pineapple fruit takes the leading place[2]. China is one of the main pineapple-growing

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countries, and it is grown mainly in the cities of Guangdong and Huanganda [3]. Comte de Paris is the main pineapple variety grown in China. The cultivated area of this variety is 80% of the main pineapple cultivated area[4]. "Comte de Paris" fruit is fragrant and sweet, and has a longer shelf life than other varieties. The color of the fruit is tanned[2]. It should be mentioned that despite the beautiful fruit of the "Comte de Paris" variety, its acidity is high, which leads to a decrease in the quality of the product.
The only way to quickly and efficiently propagate a pineapple plant is through tissue culture. Good results have been reported in pineapple plant propagation (Kiss et al., 1995; Firoozabadi and Gutterson, 2003) and protection (Souza et al., 2006) using this method. Propagation of the pineapple plant in this way has several advantages over the traditional method, allowing to obtain a large number of disease-free plants in a short period of time. The use of such methods, in turn, satisfies the demand for seedlings of this plant in our republic.
In its place, it should be noted that there is not enough information on the propagation of the pineapple plant in the conditions of our Republic. Based on this, this article is intended to provide information on the methods of growing pineapple plants in room conditions.
It will be possible to obtain reproduction from the pineapple plant and grow this plant in the conditions of our country in the future. It is of great importance for the employment of the population and the production of medicines.
Research methodology (Research Methodology). The research was conducted in the "Field Experiment Field" and "Experimental Biology" laboratory and greenhouse of Gulistan State University. The genotypes of pineapple (ananas somosus (L.) Merr) introduced from Costa Rica and China were taken as the research object. Vegetative parts of introduced pineapple cultivars were grown under laboratory, room and greenhouse conditions.
Analysis and results. Pineapple propagation methods are generally three methods: from seed, from rootstock, and from cuttings. Most are propagated vegetatively. I. Vegetative reproduction. 2 different methods can be used for vegetative propagation of pineapple. Both methods use a rosette leaf.
Growing from a rosette leaf. Ripe pineapple fruit is selected to separate the rosette leaf. For this, the leaves collected in the socket are cut from the fruit. It is necessary to be very careful in this process, if the part where the leaf is located is damaged, it will be difficult to form roots. A section cut from the pineapple fruit is dipped in coal ash and left to dry for several days. If the rosette leaf is not dried, then the process of rotting occurs. The cut socket is immersed in water to form a root from the leaf or left without touching the surface of the water. The rosette can be planted directly in the soil, sand or humus if there are varieties with a lot of root suckers when the leaf barra and lower leaves are removed (Fig. 1).
First of all, it is necessary to pay attention to air temperature and humidity in vegetative reproduction. Rosette leaves are placed in a bright room with an air temperature of 24-26 0C, without direct sunlight. After the rosette has formed 7-9 roots on the leaves, it is planted in humus soil. If the seedling is well harvested, it continues its vegetation and begins to grow by forming new leaves from the tip.

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Figure 1. Vegetative propagation of pineapple plant

In the second method, the rosette leaf is divided into 4 parts and the excess leaves are cut off. It is treated with potassium permanganate, planted in the soil and watered. After a certain period of time, a new plant will grow from each planted piece, and one socket will allow you to get 4 seedlings from a leaf.

Figure 2. Planting pineapple rosette leaf in soil

Research conducted in laboratory conditions showed that in our conditions, the height of the pineapple plant in the first year was 11-15 cm, the root length was 11-14 cm, and the number of leaves was 6-7. In the first year, the leaves formed on the pineapple plant have a flat edge and a yellow tip. In the second year, the pineapple plant developed rapidly. In the second year - 33-37 cm, number of leaves - 18-21, length - 19-46 cm and width - 4-6 cm. This shows that the pineapple plant grew rapidly in the second year, as we noted above. In the second year, small teeth are formed on the leaves of pineapple. This situation is not observed in the first year pineapple plant.

2. Propagation using vegetative suckers. In some varieties of the pineapple plant, in the lower part close to the root, in some varieties, when the life cycle ends, it forms tubers (suckers). These suckers are very small growths that form under the fruit band. It should be noted here that not all pineapple varieties produce such small growths. For example, in the variety "Smooth Cayenne" distributed in Australia.

If the seedling has a root and the growing points are not well preserved, after five to six months, a growth will begin to grow from under the socket leaf. When the size of the plant increases, the old one

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is cut after it starts to dry gradually, the lower leaves are removed, and if it is put in water, roots will appear after a few days.

It is known from world experience that it is possible to get several reproductions from a pineapple plant by collecting cuttings every two to three months. For this, it is recommended that the length of the shoots be 10-15 cm, and they should be carefully taken and planted. This method requires low cost. If there are many roots formed in the pineapple plant and they are not removed in time, it will affect the yield. As a result, the growth and development of the pineapple is negatively affected, causing the fruit to shrink.

Figure 3. Planting a pineapple seedling in the soil

Propagation from seed. A poorly developed fruit is unsuitable for seed. A self-pollinated pineapple plant produces very few seeds and is not suitable for planting, but if it is planted from self-pollinated seeds, the fruit of the plant will be small and wild. Therefore, pineapple varieties are planted side by side. For this, the duration of the vegetation periods, especially the flowering phases, are selected varieties. In this case, the varieties are pollinated by insects and viable seeds are obtained. A ripe pineapple plant produces 4.0 x 15 mm yellow-brown, sickle-shaped, bent seeds. The appearance of the pineapple fruit is similar to a flax seed. Before sowing, the seeds are washed in pink potassium permanganate water and dried. Before planting, the seed was planted to a depth of 2 cm in the soil medium, the composition of which consisted of a mixture of humus, peat and sand. After planting, it is watered and covered with glass or polyethylene. Water was sprinkled from time to time (Fig. 4). A pineapple plant grown from seed produced a rosette of 7-11 cm, 7-9 leaves in the first year. The depth of the root was 5-6 cm, the number was 11-15. Conclusions and recommendations:

1. It is advisable to use the genotypes introduced from Costa Rica and China for vegetative propagation of the pineapple plant (using a rosette leaf).
2. To grow pineapple in room conditions, the temperature should be 24-260C.
3. The pineapple plant can be propagated using seeds. For this, pineapple seeds are planted in special containers. After the seed germinates, it is transplanted to another place.

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