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Ecologically Oriented
Development in the
Aral Sea Region



ROSEHIP CULTIVATION FOR FARMERS IN UZBEKISTAN

Information Package



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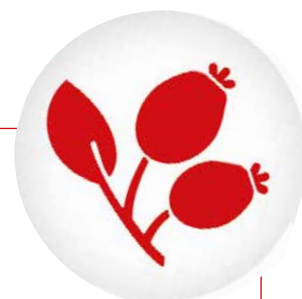


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EXECUTIVE SUMMARY

ROSEHIP CULTIVATION FOR FARMERS IN UZBEKISTAN

This information package empowers consultants and farmers in Uzbekistan to successfully cultivate rosehip plants and reap the benefits of this lucrative crop. It compiles detailed instructions on propagating and cultivating rosehip plants for their high-value fruits. Here are the key takeaways:

▶ PROPAGATION:

- **Seeds:** Harvest seeds in early August when fruits turn yellow. Stratify seeds by mixing them with sand and burying them in a deep hole for several months. Sow stratified seeds in fall, fertilize, and weed regularly. Seedlings are ready for transplanting in late autumn or early spring.
- **Cuttings:** Choose 30–35 cm cuttings from plant stems and bury them with three sides up. Plant in early March and maintain for two years. Transplant to final location in the third year.



▶ CULTIVATION:

- Plant seedlings with 5–6m row spacing and 2–3m spacing between plants.
- Water regularly, fertilize with nitrogen and organic fertilizers.
- Cultivate soil between rows to avoid damaging roots.
- Expect fruit production after 2–3 years, increasing in subsequent years.



▶ HARVESTING:

- Pick fruits before full ripeness, when they turn red but are not soft. Avoid harvesting after frost.
- Wear gloves for protection.
- Dry fruits in special devices at 80–90°C for several hours or on warm autumn days, stirring regularly. If not possible dry in a closed space by spreading the fruits out on a piece of cloth. Drying in direct sunlight is not recommended.



▶ BENEFITS:

- Vegetative propagation (cuttings) offers faster harvest compared to seeds.
- Rosehip cultivation can yield up to 1 ton of fruits per fertile field.





INTRODUCTION

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Rosehip fruits contain healing properties as its fruits are rich in vitamins. It also plays an important role in the rational use of available soil resources and environmental protection. Rosehip is widely used in the fight against soil erosion due to the development of taproots in the plant. It is useful for reclamation purposes in the establishment of forest groves in ravines, in regeneration of sandy soils and in the use of other unfit for agricultural land. The has a strong and deeply developed root system and is resistant to drought. Therefore it is used to prevent the erosion of hills and mountain slopes and to strengthen ravines.

In the flora of Uzbekistan, the species of rosehips are especially distinguished by their shape - mainly round or long shaped. The main criterion that determines the biological activity of rosehip is the amount of ascorbic acid in

its fruits. Rosehip fruit and its medicinal preparations balance the metabolism of the human body, improve the synthesis of hormones, accelerate tissue regeneration, and increase the body's resistance to colds and unfavorable factors of the external environment. The plant, common in Central Asia, has always attracted the attention of researchers due to their good growth, scenic beauty, widespread hybridization processes, and valuable vitamins.

Rosehip fruit is a natural vitamin concentrate, because its fruit contains a lot of vitamin C (up to 6%) and vitamins B1 B2 P, E. Medicines are prepared from it, rosehip juice, and rosehip ointment are effective in the treatment of scurvy, anemia, hemophilia, and atherosclerosis.





ROSEHIP CULTIVATION TECHNOLOGY

ROSEHIP CULTIVATION TECHNOLOGY

The rosehip species is a polycarpic plant with many seeds and fruits. When harvesting rosehip seeds in the conditions of Uzbekistan, they are collected in the first half of August, when the fruits of the plant begin to turn yellow. The fruits of the plant are separated from the seeds and mixed with 1 part of the seeds and 3 parts of sand. The mixture is placed in a hole 60-70 cm deep and covered, moistened every 10-15 days. Minimum once a month, the seeds are removed from the hole and reburied with stirring.

When the seeds are stratified in this way, their fertility increases. Prepared seeds are sown in the fall to a depth of 30-35 cm, fertilized with manure and phosphorus



fertilizers, 3-4 seeds are planted at a depth of 1.0-1.5 cm with row spacing of 10-15 cm. A 1 cm thick mulch layer of rotted manure or wood shavings will help retain moisture. At the same time, it protects the seedlings from frostbite. Depending on the arrival of spring, the first shoots will grow in the first ten days of March. In March, the plant is cleared of weeds and the rows are cultivated. It is watered and treated 3-4 times a month. Fertilizing with nitrogen fertilizers at the rate of 50-60 kg per hectare in May-June and July helps the seedlings to grow well.

Even after germination, seedlings are fed with nitrogen fertilizers and watered frequently. Apply sulfur to seedlings in May; the powder is sprayed. With good care in the first ten days of May, the sprouts reach 10-15 cm in height, up to 6-8 leaves appear on the stem, and the roots reach 10-12 cm. The roots of these seedlings are cut to 1.0-2.0 cm and can be replanted with a row spacing of 60-65 cm or 10-15 cm.

10-15 days after replanting, seedlings are treated between rows, fertilized with nitrogen fertilizers and periodically sprayed with a sulfur preparation. Seedlings are cleared of weeds in June-July and watered every 10-12 days. The seedlings will be ready by late autumn. Seedlings can be transplanted in autumn or early spring with row spacing of 5-6 m or row spacing of 2-3 m. It is necessary to fight fungal and viral diseases, feed with nitrogen fertilizers and, in the autumn months, feed with organic fertilizers simultaneously with inter-row cultivation.



METHODS OF PROPAGATION OF ROSEHIP BY VEGETATIVE METHOD

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Vegetative propagation of rosehip species is more convenient than propagation by seeds. At the same time, the plants enter the harvest faster. When propagating by this method, 30-35 cm long cuttings are taken from plant stems. They are tied with three sides up and buried in the ground. In early March, cuttings are planted with row spacing of 70-75 cm and row spacing of 30-35 cm. Some of the cuttings should protrude 10-15 cm from the soil. The plant is grown with good care for two years. In the third year, in the first ten days of March, the plants are planted in soil prepared for the formation of plantings at a distance of 5-6 m between rows and 2.0-3.0 m between seedlings. When planting a plant, it is necessary to take into account the cultivation of seedlings and row spacing and harvesting. Water for irrigation is taken from adjacent furrows.



It should also be taken into account that the root network can be damaged when the cultivation is deeply immersed or when it is dug deep by hand. Planted seedlings begin to bear fruit after 2-3 years and in subsequent years.



COLLECTION AND DRYING OF ROSEHIP FRUITS

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Rosehip fruits are harvested when they are not yet fully ripe and turn red before frost. Harvesting when the crop is fully ripe (in September) is not recommended. Since it is difficult to dry ripe fruits, and as a result of frosts, a sharp decrease in the content of ascorbic acid is also observed in the areas where the plant grows. When picking fruits, you can use rubber or canvas gloves. On average, up to 1 ton of rosehip fruits can be collected from fertile fields. Every working day you can collect 20-25 kg of rosehip fruits.

It is recommended to dry the collected fruits in special drying devices at a temperature of 80-90 degrees for several hours or in cool weather on warm autumn days. During drying, it is necessary to periodically turn the fruits. As a result of drying in the sun, the quality of raw materials may deteriorate.






CONCLUSION

Rosehip contains vitamins C, B-2, P, E, K, which are extremely necessary for human wellbeing. It is also extremely rich in carotene, fats, organic acids and other substances.

If the Rosehip plantation is cared for in strict accordance with agrotechnical measures, an average of 2.5-3 kg can be harvested from each bush. This allows you to collect 25-30 kg of natural vitamin C per hectare. Fruits should not be allowed to ripen, otherwise they will soften and their characteristics may decrease. The collected fruits are dried in special shady places without access to sunlight.





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