

METHODS OF HONEYSUCKLE PROPAGATION

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Honeysuckle is an uncommon crop in Ukraine. Its berries are healthy and tasty. The fruits of early varieties ripen in spring, by the end of May, when we are in great need of fresh berries and vitamins. In 2024, only four varieties of blue honeysuckle were included in the State Register of Varieties Suitable for Distribution in Ukraine: Alicia, Svitanok, Spokusa, and Chaika. This berry crop has a significant potential for cultivation in our country, and therefore the study of the technology for growing high-quality planting material, including foreign experience, is essential.

Honeysuckle propagation is an important aspect to ensure high-quality planting material and increase yields. There are several methods of honeysuckle propagation, including vegetative propagation, somatic embryogenesis, indirect organogenesis, and other in vitro methods. Below are the main methods of honeysuckle propagation based on scientific research.

Vegetative propagation – propagation by cuttings: honeysuckle cuttings can be successfully rooted using an overhead mist system or subirrigation. The use of the potassium salt of indole-3-butyric acid (K-IBA) in concentrations from 4000 to 12000 mg/l significantly improves the quality of the root system [2].

Propagation by cuttings of Japanese honeysuckle: Treatment of cuttings with NAA (75 µg/ml) and the use of different mixtures to stimulate rooting significantly improves plant survival and biomass [3].

In vitro propagation.

Somatic embryogenesis and indirect organogenesis: An in vitro regeneration system through somatic embryogenesis and indirect organogenesis was developed for blue honeysuckle (*Lonicera caerulea* L.). The highest level of induction of embryogenic callus was achieved on MS medium with 10 mg/L 2,4-D, and the highest level of root induction was achieved on MS medium with 1.0 mg/L IBA [5].

The method of microclonal propagation of blue honeysuckle (*Lonicera caerulea* var. *kamtschatica*) includes sterilization using 70% ethanol and 10% calcium hypochlorite, which ensures a high percentage of uninfected shoots. The use of AgroAquaGel® during acclimatization improves the quality of the root system [1].

Direct rooting ex vitro and adaptation of blue honeysuckle micropropagules ex vitro allows to accelerate the process of micropropagation and reduce the cost of obtaining healthy planting material [4].

Other methods.

Callus culture: a method of propagation through callus culture was developed for Japanese honeysuckle (*Lonicera japonica* Thunb.). Induction of callus from the apical shoots on MS medium with the addition of 1,5 mg/l BAP showed the best results [7].

Rapid propagation technology: The use of different concentrations of growth hormones and the change of media with different composition of macro- and microelements allows to achieve high rates of proliferation and rooting [6].

Honeysuckle propagation can be successfully performed using various methods, including vegetative propagation by cuttings, somatic embryogenesis, indirect organogenesis and other in vitro methods. Each of these methods has its own advantages and can be adapted to specific conditions and honeysuckle species to produce high-quality planting material.

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INFLUENCE OF EUROLIGHTING ON THE ONTOGENESIS OF SUNFLOWER HYBRID PLANTS ON THE ACTIVITY OF ENZYME SYSTEMS

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In Ukraine, more than 90% of vegetable fats are produced from sunflower seeds. This culture is attractive to agro-producers of the Steppe zone due to low production