

# Influence of Stimulants on Rooting of Semi Linned Blackberry Cuttings

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**Abstract:** This article notes the importance of stimulants and substrates in the preparation of seedlings of berry crops entering our republic and undergoing acclimatization, some methods and their advantages. The pros and cons of each method are described in detail. At the same time, today a number of scientific and practical works are being carried out aimed at increasing the economic efficiency of the fruit growing industry and ensuring food security of the population by expanding the range of fruit plants and meeting the demand for high-quality fruits rich in vitamins. In order to ensure food security and food quality for the population of our republic and the world community, it was emphasized that it is necessary to create existing gardens and plantations and grow healthy, high-quality seedlings for these plantations. The rooting indicators of semi-woody cuttings of berry fruits were analyzed in the root (control), in the working solution of Succinic (Burshtinic) acid, in the working solution of the Radifarm stimulant, in the working solution of Giren. Belt stimulator, in working stimulant solution.

## 1 INTRODUCTION

Today in order to ensure food security not only in our republic, but also on a global scale, externalization of orchards and bleak berry fruit plantations is considered one of the main tasks. A lot of attention is being paid to expanding the range of berry varieties organizing berry plantations and increasing productivity and the quality of cultivated fruits and berries.

In the world's leading countries in blackberry and raspberry cultivation specific agro technical elements of botanical species and promising varieties, cultivation, have been developed and scientifically based.

On the territory of our republic, blackberry and raspberry plantations are being established in small areas (Alekseenko, 2005, Aleksin, 2005, Aminova, 2017). At the same time, the morph biological characteristics of these plants and methods of growing seedlings have not been sufficiently studied.


One of the unbent tasks of theoretical and practical importance is to study the promising


varieties of blackberry and raspberry, which are highly important in terms of consumption and marketability, in the soul – climatic conditions of the republic, and to develop methods for growing seedlings


The aim was to determine the effect of various stimulants on the propagation of blackberry and raspberry seedlings from half-wood cuttings, and experiments were conducted on varieties of blackberry such as Natchez and Chester and raspberry Outtim Bliss and Polka.

## 2 MATERIALS AND METHODS

Field and production experiment were carried out, propagation of seedlings from semi-wooded cuttings of blackberry and raspberry seedlings, calculation and evaluation of standard seedling output “Seedlings and cuttings of berry fruit plants”. General technical conditions (UzDST 1191-2009) and V.F. Moiseychenko's methodical instruction entitled.

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“Methodology of recording and monitoring and experiments with fruit and berry cultures”.

Cultivation of healthy blackberry seedling by micro-cuttings method V.A.Zlenko, “Methods of develop herd and three diseases of fruit and vegetable culture” instruction named.

Based on the results of the research, it can be noted that biostimulants with different contents, along with substrates, are of great importance in the intensive cultivation of berry seedlings in modern agriculture.

Berry fruit plants are mainly propagated vegetative, working solutions of various biostimulants that affect the rooting of cuttings of the propagated plant were prepared and used (Aladina, 2004, Buriev et al., 2013, Buriev et al., 2012, Kefeli, 1966, Kosyakovskaya, 1989, Valieva, 2022, Valieva, 2023, Valieva, 2024). Modern new types of biostimulants are significantly different from the previous ones and have a positive effect on plant development. These stimulators not only accelerate the formation of callus in cuttings during the cultivation of seedlings but also increase the resistance of cuttings to stress.

### 3 RESULTS AND DISCUSSION

In the experiments twigs, semi –woody was cut from 2 years old branches in the cultivation of saplings of blackberry and raspberry plants, and different concentrations of stimulants were used to accelerate the rooting process of the cuttings, and positive results were achieved.

During the researches, Kornivin was selected as a control from among the types of stimulators widely used in the republic’s horticulture in the options Radifarm, Yantar acid and Green Belt stimulation were used.

With the help of these stimulants, the degree of rooting of twigs of blackberry varieties were observed in the rooting of twigs.

The Korniven stimulator, which was used as a control, was analyzed in comparison with other options.

Table 1: The effect of various stimulants on the degree of rooting of green twigs of blackberry varieties (2021-2023 years)

| Types of substratum | date     | Rooting % |         |         |         |         |         |
|---------------------|----------|-----------|---------|---------|---------|---------|---------|
|                     |          | Natchez   |         |         | Chester |         |         |
|                     |          | 10 days   | 20 days | 30 days | 10 days | 20 days | 30 days |
| Korniven (control)  | 01-10.08 | 28        | 67      | 82      | 30      | 71      | 83      |
| Yantar acid         |          | 32        | 71      | 84      | 35      | 75      | 86      |
| Radifarm            |          | 48        | 78      | 94      | 52      | 81      | 96      |
| Green Belt          |          | 44        | 73      | 93      | 47      | 78      | 95      |

In this table, the degree of rooting of the twigs of the blackberry plant varieties were different under the influence of different stimulants.

First of all, the widely used stimulant Cornevin was used as a control in the experiment and the indicators effect of this stimulus on the rooting of twigs of blackberry varieties are analyzed in comparison with other types of stimulants Natchez species of blackberry green hall – wooden twigs in Cornevin (control) when they were polished in 16-18 hours the rate of rooting of the cuttings were 28% in the first 10 days, and 82% of the twigs were recorded after 30 days.

The rate of rooting twigs of this variety, when they treated for 16-18 hours in the working solution of Yantar acid, the rate of rooting of twigs after the first 10 days was 32% and after 30 days, it can be seen that

84% of cuttings were rooted. When the cuttings were treated in the working solution of the Radifarm stimulator for 16-18 hours, the rooting indicators of the twigs were analyzed after the first 10 days, and 48% of the twigs were rooted and after 30 days, 94% of rooting rate was found in twigs.

When the cuttings were treated in the staff solution of Green Belt stimulator for 16-18 hours the rooting indicators of the twigs were analyzed after the first 10 days 44% of the twigs took root after 30 days, 93% of the twigs took root.

The experiments showed that the when the rooting rate of green twigs of the Natchez variety was analyzed in different stimulants, compared to the control and other options, 12% in Radifarm stimulator and 10% in Green Belt stimulator showed higher rooting results.

When the twigs of the Chester variety of Blackberry were treated for 16-18 hours in Kornevin (control), the rooting rate of the twigs were 30% in the first 10 days, and after 30 days, the rooting rate was recorded in 83% of the twigs.

When the Sprigs were treated of the Radifarm stimulator for 16-18 hours, when the indicators of rooting in the twigs were analyzed after the first 10 days, 52% of the cuttings were rooted and after 30 days, 96% of the sprigs were rooted.

First 10 days 47% of the twigs took root and after 30 days, 95% of the sprigs were rooted.

In the experiments, when the level of rooting of Chester variety twigs in different stimulators was analyzed, it was observed that 13% in Radifarm stimulator and 12% in Green Belt stimulator showed higher results of twigs rooting compared to the control other options.

During the experiment the degree of rooting of cuttings of raspberry varieties was studied. There were certain differences between species and varieties in rooting twigs.

The Kornevin stimulator used as a control was analyzed in comparison with other options.

It was observed that the degree of rooting of half-wooden twigs of raspberry varieties was different under the influence of different stimulators.

## 4 CONCLUSIONS

In the propagation of blackberry seedlings from green twigs, in radifarm stimulator of blackberry varieties, Natchez variety 94% Chester variety 93%, Green Belt stimulator 96% Natchez variety, Chester variety 96% of cuttings were rooted.

Radifarm and Green Belt biostimulants are somewhat more effective than Kornevin, which is currently widely in production for rooting twigs of various plants. By using them, it was found that it is possible to accelerate the rooting process of cuttings of blackberry plants and to achieve a well-developed root system and the formation of the upper part in seedlings.

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