International Journal of Scientific Engineering and Science
Volume 8, Issue 11, pp. 10-12, 2024. ISSN (Online): 2456-7361

Influence of Growth Stimulants to Mulberry Tree Nurseries Development

Nosirova Zarifaxon G'ulamjonovna[1], Safarova Gulrux Meyliyevna[2]
[1,2]Plant protection and quarantine department, Tashkent state agrarian University, Tashkent, Uzbekistan, 100140

Abstract— *The analysis or results ox experiences carried out on revealing efficiency of growth stimulants to mulberry tree nurseries has been presented. As the preparations borate (H_3BO_3) acid, succinic acid and "Xosiline" (20% "Gibberelline") have been chosen. If in June the branches quantity in nurseries was average 2,3-2,9 branches/nursery, then in August this indicator up to 15,6 in control and 18,3 branches/nursery with "Xosiline" (20% "Gibberelline") preparation has been raised. In end of the vegetation period the quantity of appearing branches in all variants has been varied as 16,2-18,5 branches/nursery. The most degree on growing in nurseries, 114,1%, in treated with solution "Xosiline" (20% "Gibberelline") preparation has been observed, where the average height of branches up to 259,0 centimeters has been increased.*

Keywords— *mulberry tree nurseries, growth stimulants, borate acid, succinic acid, Xosiline preparation.*

I. INTRODUCTION

Last developments dealing with the science and technologies influence essentially to crop of agricultural plants too. In this context role of the growth stimulants on cultures development is high. For example, in paper [1] effect of "gumimax" preparation to growing, development and productivity of sunflower plant had been studied and the significant scientific results had been obtained.

In another paper [2] the positive effect of processing before sewing the pea seeds with "Krasnoufimskii 11" growth stimulants to sewing quality and morphologic indicators of grasses had been showed.

When effect of "Sircone", "Gumi-Omi" and "Buton" growth stimulants to quality indicators of "Barbara" sort decorative astra had been studied [3] then had been revealed that "Sircone" preparation effects positively the best to widening of the leaves area and "Buton" one – to the biggest diameter of pea flowers. It should be noted that there the quality indicators because of the pea pests, diseases and bad climate conditions after processing with all used preparations is not decreased. When effect of "Epin-extra" growth stimulant to crop of potatoes development had been studied [4] then pullulation of sprouting of seedlings after 18 days of procession had been revealed.

In paper [5] effect of "Lignogumat AM", "Gumat+7" and "Argolan Akwa" growth stimulants to "Kabardinskaya rannyaya" sort of plum tree had been studied where after the first procession then reduction of fruit shedding and because of one increasing the productivity of fruits up to 12,1-15,4% for each tree had been observed. It should be noted that in case of procession with "Argolan Akwa" preparation then enlargement of plum fruits up to 13,4% has been fixed.

When effect of growth stimulants to development of the grain cultures had been studied [6] then growing of the quality and quantity of productivity had been showed. Creating the new stimulants for other agricultural plants requires the comparative analysis of rational using them and this branch is useful as on economical and as ecological points too.

In particularly, Uzbekistan takes a leading place between world countries on production of silk cocoons, the development of this branch deals with provision in enough quantity of new and qualitative leaves of mulberry tree in comparative short period (April-May). In order to solve this task, we must develop production of the mulberry tree nurseries.

II. METHODOLOGY OF EXPERIENCES

In the present paper the analysis of results of experiences carried out on revealing the effect of growth stimulants to mulberry tree nurseries have been presented. Experiences in fields of farms specialized in silkworm cocoons production in Andijan region of Uzbekistan on period of 2022-2023 season were conducted.

For these experiences the rows with 80 centimeter in width and 1 meter in length in three variants in 3 subvariants on each one's have been selected. There to 1-variant the nurseries of "Uzbekistan", to 2-nd one "Tadjikskaya bezsemyannaya" and to 3-rd variant "Oqtut" sorts of mulberry tree have been sown.

III. RESULTS AND DISCUSSION

The initial biometrical indicators of the selected for experiences mulberry tree nurseries have been presented on Table I.

TABLE I. The initial biometrical indicators of the selected for experiences mulberry tree nurseries (Andijan region, 2022-2023)

Sorts of mulberry tree nurseries	The average length of nurseries, centimeter	The average width of nurseries, centimeter	The average width of nurseries together with leaves, centimeter	The average quantity of leaves, pieces
Uzbekistan	20,12	0,48	24,1	11,2
Tadjikskaya bezsemyannaya	20,73	0,58	25,2	12,3
Oqtut	20,75	0,47	26,1	11,6

As it is seen from Table that the initial average biometrical indicators in all sorts too close between themselves and this fact allows us to analyze in comparative level the reached efficiency between variants after procession with selected growth stimulants.

The growth indicators after 70 days of procession have been observed. The growth indicator in this sort was 76,5% and

International Journal of Scientific Engineering and Science
Volume 8, Issue 11, pp. 10-12, 2024. ISSN (Online): 2456-7361

width one was 22,4%. After 50-60 days of procession the growth indicator was 68,2-73,1% and width one was 15,6-21,3%. The least quality indicators in the being in control rows have been observed. There theirs values were 10,6% and 1,5%, correspondingly (see, Table II).

TABLE II. Effect of procession to development of nurseries (Andijan region, 2022-2023)

Duration of procession, days	Period of procession		Growth indicator of nurseries, %	Width indicator of nurseries, %
	begin	end		
Nurseries in control	-	-	18,2	1,5
40	28.01	10.03	75,4	14,2
50	18.01	10.03	78,7	15,6
60	08.01	10.03	84,8	21,3
70	30.12	10.03	86.3	22.4
80	20.12	10.03	82,1	19,7
90	10.12	10.03	79,6	17,1

In the experiments as the growth's stimulants we selected borate acid (H_3BO_3), succinic acid and "Xosiline" (20% "Gibberelline") preparations. In order to analyze the effect of stimulants in comparative level the nurseries in additional variant with pure water have been processed, that is it left in control.

The best growth indicators of nurseries in variant processed with "tadjikskaya bezsemyannaya" sort of murberry tree with "Xosiline" (20% "Gibberelline") preparation solution have been observed. The growth indicator and width one equaled to 88,5% and 78,7%, correspondingly (see, Table III).

TABLE III. Effect of growth stimulants to mulberry tree nurseries (Andijan region, 2022-2023)

Growth stimulants	Growth indicators of nurseries, %	Width indicators of nurseries, %
Nurseries in control	73,2±7,1	20,1±2,3
Borate acid (H_3BO_3)	86,9±8,8	23,5±2,5
Succinic acid	86,1±8,4	23,2±2,1
Xosiline (20% Gibberelline)	88,5±8,5	24,6±2,5

The intermediate growth and width indicators with "Uzbekistan" tree sort processed with succinic acid and "Xosiline" preparation solutions have been obtained which their values were 86,1-86,9% and 21,1-25,3%, correspondingly. The least indicators, as expected, in control variant (growth indicator 73,2% and width one 20,1%) have been obtained.

Appearance of the vegetative parts (leaves quantity, leaves area, branches quantity, average length of branches) of nurseries in dynamical temp have been studied. There the leaves quantity in each nursery on variants in 15.06 were 18,9 pieces (in control), 21,4 pieces (in "Xosiline" preparation), after one month (in 15.07) 222,5-243,4 pieces, after two months 380,8 and 418,2 pieces and at the end of vegetation period have been reached up to 392,2-422,6 pieces.

The highest indicator on the leaves quantity in processed with "Xosiline" preparation's solution has been observed, which in September reached up to 422,6 (to 107,7% more than in control) pieces. In control variant this indicator equaled to 392,2 pieces (see, Fig. 1).

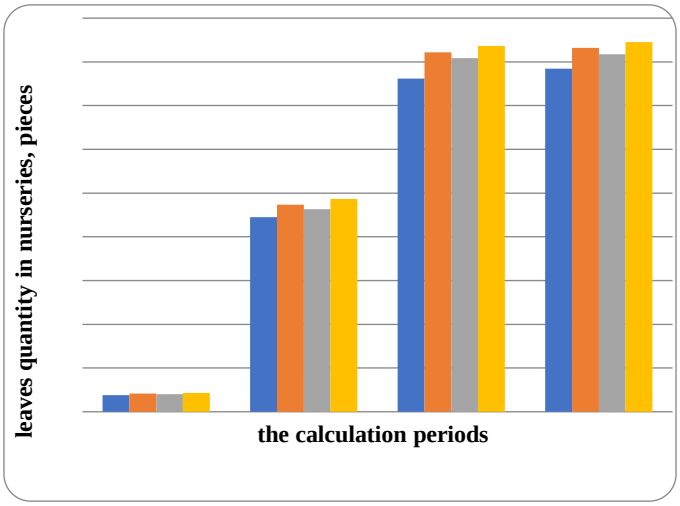

Fig. 1. The effect of growth stimulants to the biometrical indicators of nurseries (Andijan region, 2022-2023). Here the blue row corresponds to control variant; the orange row – to procession with borate acid (H_3BO_3), grey row – to procession with succinic acid and yellow row – to procession with "Xosiline" (20% "Gibberelline") preparation variants.

The intensive appearing of branches in each nursery in June-July has been observed. The branches quantity on all variants in June was 2,3-2,9 pieces, in August this indicator reached up to 15,6 (in control) and 18,3 (with "Xosiline" preparation) pieces. At the end of vegetation period the branches quantity has been reached up to 16,2-18,5 pieces. The highest indicator in height of branches of nurseries, 114,1% in comparison of control variant has been observed. The value of this indicator in end of September was 259,0 pieces. The average length of nurseries at the end of the vegetation period in control was 226,8 centimeters.

IV. Conclusion

Thus, based on the analysis of experiences carried out on revealing efficiency of the growth stimulants to mulberry tree nurseries we can conclude that:

The used preparations such as borate acid (H_3BO_3), succinic acid and "Xosiline" (20% Gibberelline) preparation are enough effective devices for obtaining in the short time duration the high mulberry trees with the many branches and leaves.

References

[1] K. M. Tadjiyev, "Effect of growth gumimax stimulant to growing, development and productivity of sunflower reseeding in south of Uzbekistan", *Aktualniye problemi sovremennoy nauki*, no. 3 (126), pp. 35-38, 2022.

[2] N. A. Nikishina, "Effect of growths stimulants to growing and development of pea plant seed", *Molodyoj i nauka*, no.11, pp. 1-5, 2023.

[3] N. N. Minina, "Effect of growths stimulants to growing and development of pion Astra plant", *Molodyoj i nauka*, no. 7, pp. 43-47, 2018.

[4] K. E. Nikonov, G. M. Pugachyova, I. B. Kirina, "Effect of growths stimulants to germination and growing of potatoes microtuber", *Vestnik landshaftnoy arxitekturi*, vol. 4, no. 4, pp. 1-8, 2021.

[5] X. M. Nazranov, B. X. Nazranov, A. M. Temmoyev, "Effect of growths stimulants to plums productivity", *Izvestiya Kabardino-Balkanskogo gosudarstvennogo agrarnogo universiteta im. M.V. Kokova*, no. 4(38). pp. 21-27, 2022.

[6] A.V.Danilov, “Effect of growths stimulants to productivity and quality of grain cultures”, *Vestnik mariyskogo gosudarstvennogo universiteta. Seriya selskoxozyaystvenniye nauki. Ekonomicheskiye nauki*, vol. 3, no. 1(9), pp. 28-32, 2017.