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The influence of the use of the drug Albit on the formation of the seed productivity of the pre-basic material of potatoes

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Abstract. The indicator of high and productive potato harvests is the use of new high-yielding varieties, effective planting material, proper provision of plants with useful substances, ensuring crop care, protection of plants from weeds, diseases and pests, maintaining optimal soil moisture during the growing season. One of the priority indicators that determine the low yield of potatoes in many areas of Ukraine, both favorable and unfavorable for potato growing, is the use of low-quality seed material that is affected by infectious phytopathogens. reproduction of healthy seed material is one of the main tasks of potato seed production. The use of biological preparations to stimulate the development of plants, increasing their endurance to negative environmental stimuli is relevant for the accelerated reproduction of such material. Thus, the purpose of the article is to study the effective technological aspects during the reproduction of pre-basic seed material of potatoes, which includes the use of the biological preparation Albit, in the conditions of the southwestern territory of the Forest Steppe of Ukraine. The article presents the results of studies of the influence of methods of application of the complex drug Albit on the formation of potato productivity in the process of reproduction of pre-basic seed material in the conditions of the southwestern part of the Forest Steppe of Ukraine. In the course of research, it was established that in order to achieve a high level of realization of the biological potential of the culture and product quality when growing pre-basic potato seed material, it is advisable to treat the tubers at planting with Albit 100 ml/t and to spray twice in the seedling and budding phases of vegetative plants with the drug in a dose of 50 ml/Ha

Keywords: potato, harvest, seed productivity, growth regulating substances, tuber fractions

INTRODUCTION

The criterion for high and guaranteed potato yields is the use of new high-yielding varieties, high-quality planting material, full supply of plants with nutrients, timely care of crops, effective protection of plants from weeds, diseases and pests, maintenance of optimal soil moisture during the growing season, compliance with technological regulations.

One of the main factors determining the low yield of potatoes in almost all areas of Ukraine, both favorable and unfavorable for potato growing, is the use of low-quality seed material affected by infectious phytopathogens.

Protection of seed potatoes from viral and other diseases, as well as preservation of reproductive properties of varieties is provided by the potato seed production system. Potato seed production is a branch of potato growing, the task of which is the cultivation of planting material of high reproductions of both potato

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varieties that have been in production for a long time, and new ones, to the extent that they are entered into the State Register of plant varieties suitable for distribution in Ukraine, with mandatory preservation their purity, biological and economic qualities for varietal replacement and systematic varietal renewal in farms of various forms of ownership.

Proper seed production is the most important condition for obtaining high and stable potato yields.

A characteristic feature of the modern innovative development of potato seed production is the production of high-quality seed material of new varieties, resistant to diseases, with high adaptability to various natural and climatic conditions and valuable economic characteristics, which is an important condition for their commercial attractiveness.

In market conditions, along with the increase in potato production, the problem of seed quality has arisen as one of the most important factors in the seed production system. High-performance planting material, with regular variety renewal under all other equal conditions and measures, provides a yield increase of up to 50%.

Therefore, the reproduction of healthy seed material and the increase in the production of super-super-elite in a short period of time is one of the main tasks of potato seed production [1].

The use of biological preparations to stimulate the growth and development of plants, increase their resistance to negative environmental factors (drought, frost, stress after treatment with pesticides, etc.), to harmful organisms is currently relevant for the accelerated reproduction of such material.

Wide use of modern growth-regulating substances is one of the factors of increasing productivity, improving quality and realizing the potential productivity of potato varieties. The use of plant growth regulators in potato plantations in modern conditions of climate deterioration, with the rejection of the use of organic fertilizers and a decrease in quality indicators of soil fertility, increases the overall productivity of potatoes, and increases the reproduction rate of the improved source material. According to the results of the research of the Institute of Potato Growing of the National Academy of Sciences, foliar fertilization with the growth regulator gibberellin A1 at the rate of 20 g/ha during propagation of healthy potatoes by seedling culture increased the yield of seedlings from in vitro plants by 19-26% and increased their reproduction coefficient, depending on the variety, by 18-22%. The use of succinic acid at a rate of 2 kg/ha led to an increase in yield by 21-25% and an increase in the size of tubers by 32-38% [2].

The use of growth-regulating substances of the new generation, which are a combination of synthetic or natural phytohormones and synthetic or natural humic acids, makes it possible to reduce the volume of chemical fertilizers and plant protection agents. The use of such combinations in spring and autumn stabilizes soil biology.

An increase in the yield of seed tubers of the standard fraction was noted during the complex treatment of potato tubers and plants with Stimpo plant growth regulator. In the Strumok variety, in the version using tubers 28-60 mm in size at a planting density of 74.1 thousand pcs./ha – by 82.1 thousand pcs./ha or 16.4%. When planting tubers with a density of 66.7 thousand pieces/ha – by 87.3 or 18.0%. When using small tubers <28 mm in size (66.7 thousand pieces/ha), the yield of seed tubers increased by 47.8 thousand pieces/ha or 11.3% [3].

Scientific and practical interest in plant growth regulators is growing in many countries. Such interest in their use is caused by the fact that, in the opinion of many scientists and technologists, the possibilities of using fertilizers for further growth of crop yields are running out, and therefore the main additions to plant productivity will be achieved through the use of biologically derived preparations.

According to the research results of RUP "Scientific and practical center of NAAS of Belarus for potato growing and fruit growing", the application of the plant growth regulator Mikrostim B,Cu on the background of N_{120} P_{70} K_{130} ensured an increase in the yield of potato tubers of the Manifest variety by 2.8 t/ha (from 42.4 up to 45.2 t/ha), an increase in starch content by 0.9% [4].

It is possible to improve the quality of the potato crop by improving the elements of the technology of growing potatoes, namely biologization.

The use of environmentally safe preparations based on microorganisms that improve nitrogen and phosphorus nutrition of plants, promote the activation of growth processes, strengthen plant immunity, produce biologically active substances, participate in the biocontrol of phytopathogens, increase the productivity and marketable quality of potatoes.

By affecting the transmission of genetic information, synthetic biostimulants can increase the yield of agricultural crops by up to 48%. They accelerate cell division, intensify the vital activity of cells of plant organisms, increase the permeability of intercellular membranes and accelerate biochemical processes in them, which leads to the strengthening of the processes of nutrition, respiration and photosynthesis. Plants use fertilizers more efficiently.

In recent years, as a result of climate change and a number of organizational and economic factors (the main part of production is in the individual sector, poor-quality planting material, lack of crop rotation, violations of the system of soil cultivation and care), there have been significant changes in the phytosanitary state of agrocenoses of Ukraine. Small areas have turned into reservations for the accumulation of diseases and pests [5].

In modern conditions, the most effective way to control harmful organisms is chemical protection of plants. Its use is a simple and reliable method of obtaining consistently high yields of agricultural crops.

However, the active use of pesticides has a negative impact on human health and the environment. When agricultural land is treated with chemical protection agents, part of it is lost due to wind erosion, dispersion in the atmosphere with air currents.

Depending on the physical properties of the preparation form and the technology of application, 40-70% of the rate of consumption settles on plants and soil, forming the initial stock of the toxic substance [6].

Therefore, now, as an alternative to such a protection system, agricultural producers are increasingly choosing various options for ecologically safe biological farming.

For modern potato farming, the study and implementation of biological means of protection in production is relevant. Namely, the development of an effective system for controlling the spread and level of disease development. Especially fungal (phytophthora, rhizoctoniosis, alternaria, common scab, dry fusarium, rot), which significantly reduce productivity and affect the marketability and shelf life of tubers during long-term storage [7].

Depending on the timing of planting and methods of processing plants and tubers with chemical and biological preparations, research has established the level of productivity of Skarbnytsia and Lileya potato varieties in the conditions of four soil and climate zones of the Lviv region (Forest Steppe, Polyssia, Carpathian Foothills and Carpathians).

It was noted that the treatment of tubers with biological preparations before planting plants in the budding and flowering phases with Planriz, Diazophyt, Phosphoenterin and the fungicide Ridomil Gold MC 68 WG generally contributed to an increase in the yield and marketability of potatoes compared to the control variant by an average of 1.3-1.5 times , increasing the standard part of tubers.

The use of biological preparations (on the background of high technology) can preserve the potato crop and ensure the production of ecologically clean products, and therefore significantly reduce, and sometimes completely prevent the use of chemical protection agents [6].

The results of a three-year study conducted at the Institute of Potato Growing of the National Academy of Sciences on the study of the influence of planting dates and treatment of tubers before planting with biological preparations on the yield, marketability, and quality indicators of new potato varieties showed that the dates of planting and treatment of tubers with biological preparations influenced the productivity of the studied varieties. The highest overall yield was obtained in the variant using the biological preparation Planryz at all planting times [8].

Treatment of vegetative potato plants with bioorganic fertilizers with re-regulating properties Prostin and Polistin contributed to the growth of the yield of Lileya tubers up to 37.6 t/ha or 11.2% higher than in the control [9].

To date, about 4,000 biologically active substances have been identified and studied to varying degrees in global practice, 10% of which have found practical use in the production of agricultural products.

These drugs, regulating the activity of metabolism in seeds and fruits, activate or inhibit the processes of energy resource utilization, affect overwintering, increase resistance to drought, suppressing the activity of some enzyme systems, to the action of chemical protection agents, affect the processes of growth and development, accelerate ripening. All this ultimately affects the quantity and quality of the harvest [10].

During 2016-2018, scientists of the Ukrainian Plant Quarantine Research Station of the Institute of Plant Protection of the National Academy of Sciences conducted a study of the effectiveness of the use of biologics in potato plantations on yield and profitability indicators in field conditions on gray forest, silty, heavy loam soil.

It was established that the use of various combinations of biological preparations, including Pseudomonas fluorenscens bacteria, compared to the control variant, contributed to the increase in productivity, yield of a smaller part of non-standard tubers, and higher profitability of potatoes [11].

The use of various types of microbiological preparations in modern technologies not only improves the productivity and quality of products, increases resistance against phytopathogens, but also contributes to the recovery of agrocenoses from the harmful effects of pesticides. An ecological alternative to plant protection is the reduction of phytopathogens under the influence of biological preparations. The study of the effect of treatment with biological preparations (Planryz, Fitodoktor) of seed material and affected potato plantations with Alternaria was carried out on the basis of the Ukrainian Research Plant Quarantine Station of the Institute of Plant Protection of the National Academy of Agrarian Sciences (UkrRPQS IPP of the NAAS).

The results of the experiments indicate the expediency of using biological preparations against potato Alternaria. The technical efficiency of their action when processing potato seed material on all studied varieties was 26.6-47.1% [12]. The analysis of literary data shows the perspective of the study of biological preparations in Ukraine. Marketing of drugs of biological origin is actively developing in our country. The data available in the scientific literature are insufficient for a correct and justified choice of the most effective of them, taking into account the area of use. There is conflicting information about the influence of biologics on some quality indicators of the crop. All this calls for a deeper study of these issues.

The purpose of the research is to study effective technological elements in the process of reproduction of pre-basic seed material of potatoes, which includes the use of Albit biological preparation, in the conditions of the southwestern part of the Forest Steppe of Ukraine.

STUDY OF PRODUCTIVITY OF PRE-BASIC POTATO SEED MATERIAL ACCORDING TO THE METHOD OF APPLICATION OF THE COMPLEX DRUG ALBIT

The study of the productivity of the pre-basic seed material of potatoes depending on the method of application of the complex drug Albit was carried out during the 2019-2020 growing season at the Ternopil State Agricultural Research Station of the Podillia Agricultural Fodder Institute of the National Academy of Agrarian Sciences of Ukraine on the fields of breeding and seed rotation scientific and technological department of crop production and agriculture with the early-ripening variety Tiras. Albit (producer of PE "Rodonite") is a complex preparation, biofungicide, anti-stressor, which has the properties of growth regulator and fungicide, used for seed treatment and foliar treatment of plants.

The antidote (antistress) effect of Albit when used with chemical pesticides ranges from 5 to 93%, i.e. Albit is able to prevent crop losses. The drug increases the yield of cereals, legumes, sugar beets, potatoes, sunflowers, flax, vegetables, fruits, fodder herbs and other agricultural crops by 12-23%. The fungicidal effect of Albit is based on strengthening the immunity of plants, stimulating their natural ability to resist diseases. Strengthening the natural protective mechanisms of plants, the drug acts as a broad-spectrum systemic fungicide. Due to the reproduction of nitrogen fixers and other useful bacteria in the soil, activating the supply of nutrients to plants, Albit increases the coefficients of mineral nutrition elements used by plants from the soil and from fertilizers by 18-47%. As a result, plants use the available nutrients more effectively, allowing to reduce the consumption of mineral fertilizers by 10-30%. In addition, the biological preparation strengthens the drought resistance of plants and ensures a stable harvest. The high reproducibility of the action of the drug, that is, the ability to ensure a stable harvest in various conditions, opens up wide prospects for its use. The composition of the Albit preparation: poly-β-hydroxybutyric acid from soil bacteria (Bacillus megaterium and Pseudomonas aureofaciens), terpene acids from coniferous extract, a balanced starting set of macro- and microelements. Albit does not contain living microorganisms, but only bacteria from them, which makes the effect of the drug more stable, less susceptible to the influence of environmental conditions. The advantage of Albit over similar drugs is its compatibility with all pesticides and fertilizers. It is characterized by low cost and environmental friendliness as a biological drug, while at the same time it is close to chemical drugs in terms of efficiency and stability.

The research was conducted in accordance with methodological recommendations for conducting research with potatoes, developed by the Institute of Potato Growing of the National Academy of Agrarian Sciences (Nemishaeve, 2002) [13].

According to the methodology, the following observations of plant growth and development were carried out during the vegetation period: phenological observations (the beginning (10%) and massive (75%) onset of phases of plant development were noted: seedlings, budding, flowering and death of tops); records of plant stand density after germination; records of disease. The density of plant stands was recorded by continuous counting of the number of plants in all accounting areas. During the visual inspection of crops for the presence of diseases in all variants of the experiment, over the years of observation, no plants affected by viral and other diseases were found. Harvest accounting was carried out by the method of continuous weighing of potatoes from each accounting plot. The structure of the crop was determined taking into account the requirements of DSTU 4013-2001 "Varietal and sowing qualities of seed potatoes. Technical conditions", and calculated by counting and weighing tubers by fractions: <28 mm; 28-55 mm, >55 mm in the transverse diameter of the tubers in the first and third repetitions. The marketability of the harvest was determined by the mass of all tubers >28 mm in transverse diameter, expressed as a percentage of the total harvest. The number of tubers in each fraction was counted and weighed and determined as a percentage of the total number or weight. Tuber damage by fungal and bacterial diseases was determined by external signs of affected tubers in three repetitions of all variants in samples of 100 potato tubers.

The planting area of the plot in the experiment is 28 m2, accounting – 25 m^2, repetition three times. The density of planting is 42,000 plants per hectare.

Soil conditions: deep chernozems, low-humus, slightly leached medium loamy granulometric composition. Agrotechnics of growing potatoes in the experiment, the fight against diseases and pests is generally accepted for the zone with the use of a complex of seed measures. The predecessor is winter wheat. Before planting, mineral fertilizer was applied at the rate of N80P80K80 (nitroamofoska).

According to the scheme of the experiment, when planting, seed tubers were treated with Albit (100 ml/t) and vegetative plants were sprayed with Albit (50 ml/ha) in the seedling and budding phase (Table 1). The formation of the harvest of agricultural crops, including potatoes, is significantly influenced by meteorological conditions. Fluctuations over the years, as well as seasonal changes in air temperature, atmospheric and soil moisture, play a significant role in the processes of nutrient exchange in the soil.

The years of research differed in the amount and nature of precipitation, air temperature.

Table 1. Scheme of the experiment

No	Drug, dose and method of use		
	Treatment of tubers before planting	Spraying of vegetative plants in the seedling phase	Spraying of vegetative plants in the budding phase
1	Control - water	-	-
2	Albite 100 ml/t	-	-
3	-	Albit 50 ml/ha	-
4	-	-	Albit 50 ml/ha
5	Albite 100 ml/t	Albit 50 ml/ha	Albit 50 ml/ha

During the two years of observation, the weather conditions of 2020 compared to 2019 were more favorable for the growth and development of potato plants, for the processes of stem formation, tying of tubers in the bush, and ultimately for the accumulation of potato tubers (table 2; 3, built according to the data of the Horostki agrometeorological station in 2019-2020).

Table 2. Average monthly air temperature for April-September, °C

Year	April	May	June	July	August	September
2019	10.0	14.2	21.3	18.9	20.5	16.1
2020	8.6	11.8	19.3	19.3	20.4	16.3
norm	8.1	14.1	17.3	18.8	18.3	13.8

Table 3. Amount of precipitation for the month of April-September, mm

Year	April	May	June	July	August	September
2019	25	121	54	30	22	13
2020	16	60	123	94	81	95
norm	40	62	82	91	65	55

The results of research carried out during 2019-2020 showed that the use of the complex drug Albit in the conditions of the southwestern part of the forest-steppe of Ukraine when growing additional basic material of potatoes of the Tiras variety helps to increase the yield compared to the control option - water treatment. The highest average yield of potatoes over two years (19.8 t/ha) was recorded in the options where tubers were treated before planting with Albit at a dose of 100 ml/t and spraying of vegetative plants in the seedling and budding phases with the drug at a dose of 50 ml/ha. The increase compared to control averaged 4.3 t/ha of tubers (21.7%) over two years of observation (Table 4).

Table 4. The effect of the use of the complex drug Albit on the yield of potatoes of the Tiras variety, t/ha, 2019-2020

No	Variants	Potato yield, t/ha			Growth to control (±)	
		2019	2020.	2019 -2020	t/ha	%
1	Control is water	14.4	16.5	15.5	-	-
2	Treatment of tubers before planting with Albit 100 ml/t	15.6	17.2	16.4	+0.9	5.8
3	Spraying vegetative plants in the seedling phase with Albit 50 ml/ha	16.2	18.3	17.3	+2.5	16.1
4	Spraying vegetative plants in the budding phase with Albit 50 ml/ha	16.3	20.2	18.3	+2.8	18.1
5	Treatment of tubers before planting with Albit 100 ml/t + spraying of vegetative plants in the seedling and budding phase with Albit 50 ml/ha	17.5	22.1	19.8	+4.3	21.7
	P,%	2.37	2.98			
	HIP0,05, t/ha	1.24	1.84			

Phenological observations conducted during the growing season of potatoes showed that the use of Albit to some extent influenced the dates of onset of phenological phases. During the observations, it was visually noted that the emergence of seedlings was more friendly and 2-3 days earlier compared to the control, on the options where the tubers were treated with the drug before planting. Potato productivity largely depends on the number of stems and tubers in the bush. All agrotechnical measures carried out should be aimed at creating optimal conditions for the formation of the named productivity factors. Observations during 2019-2020 showed that the use of Albit contributed to an increase in the average number of stems per potato bush. This indicator increased in all options, where the drug was used, but the option in which treatment of tubers at planting (100 ml/t) and two-time spraying of vegetative plants (50 ml/ha) in the seedling and budding phase was carried out stood out the most. In this version, this indicator was within 4.4 units on average over two years of research. at 3.0 pcs. in the control version (Table 5).

Table 5. The effect of the use of the drug on the formation of the number of stems and tubers in a bush of potatoes of the Tiras variety, pcs./bush, 2019-2020

No	Variants	Stem, pc./bush			Tuber, pc./bush		
		2019	2020	2019-2020	2019	2020	2019-2020
1	Control - water	2.9	3.1	3.0	9.9	10.2	10.1
2	Treatment of tubers before planting with Albit 100 ml/t	3.2	3.3	3.3	10.5	10.8	10.7
3	Spraying vegetative plants in the seedling phase with Albit 50 ml/ha	3.5	3.7	3.6	11.4	11.6	11.5
4	Spraying vegetative plants in the budding phase with Albit 50 ml/ha	3.6	3.9	3.8	11.9	12.6	12.3
5	Treatment of tubers before planting with Albit 100 ml/t + spraying of vegetative plants in the seedling and budding phase with Albit 50 ml/ha	4.2	4.5	4.4	12.8	13.2	13.0

The main components of the potato harvest are the formation of tubers under the bush. Analysis of two-year observations showed that the use of Albit provided an increase in the tuber-forming capacity of potato plants. The data in Table 5 show that an increase in the number of tubers under the bush was observed when using the drug in all variants of the experiment. On average over two years, the most of them were obtained in the variant where Albit was used to treat tubers before planting at a dose of 100 ml/t and for spraying vege-

tative plants at a dose of 50 ml/ha in the seedling and budding phase. In this variant, the yield of tubers from one bush was the largest and amounted to 13.0 units on average in 2019-2020. with control 10.1 pcs. The increase in this version was 2.9 pcs. (Table 5)

The ratio of the fractional composition of the crop for the years of the study differed by variant. It was established that the use of Albit contributed to the increase in marketability of tubers. Namely, an increase in the mass of tubers of the large (>55 mm) and seed (28-55 mm) fractions and a decrease in the mass of tubers of the small fraction (<28 mm in transverse diameter).

Over two years of research, in all variants where the drug was used, an increase in the mass fraction of tubers of the large fraction to 31.5-28.9% of the total mass of tubers was noted, respectively, according to the variants, while the control was 26.5%. The largest number of tubers of the seed fraction on average over two years of research was noted on the control variant – 59.4%. (Table 6).

Table 6. The structure of the Tiras variety potato harvest by weight depending on the use of biological preparation, 2019-2020

No	Variants	Tubers fraction								
		<28 mm			28-55 mm			>55 mm		
		2019	2020	2019-2020	2019	2020	2019-2020	2019	2020	2019-2020
1	Control - water	3.4	2.8	3.1	58.8	60.0	59.4	25.8	27.2	6.5
2	Treatment of tubers before planting with Albit 100 ml/t	3.0	12.2	2.6	9.0	8.0	8.5	8.0	9.8	8.9
3	Spraying vegetative plants in the seedling phase with Albit 50 ml/ha	2.4	1.6	2.0	7.8	8.4	8.1	9.8	30.0	9.9
4	Spraying vegetative plants in the budding phase with Albit 50 ml/ha	12.0	1.2	1.6	7.9	8.6	8.3	0.1	0.2	0.1
5	Treatment of tubers before planting with Albit 100 ml/t + spraying of vegetative plants in the seedling and budding phase with Albit 50 ml/ha	0.9	0.1	0.5	8.3	7.7	8.0	0.8	2.2	1.5

During a visual inspection of the crops for the presence of diseases, no plants affected by viral and other diseases were detected in all variants of the experiment for two years. When determining tuber damage by fungal and bacterial diseases based on external signs, minor tuber damage by common scab (0.3% on control) was detected in 2019.

CONCLUSIONS

As a result of scientific research conducted in Ternopil SARS IFA NAAS during 2019-2020, it was established that a high level of realization of the biological potential of the culture and the quality of products when growing pre-basic potato seed material on deep chernozems with low humus and slightly leached medium loam granulometric composition, it is advisable to treat the tubers when planting with the complex drug Albit in a dose of 100 ml/t and spray twice in the seedling and budding phase of vegetative plants with the drug in a dose of 50 ml/ha.

The analysis of the results of studies on the productivity of the basic potato seed material depending on the method of application of the complex drug Albit for the Tiras variety showed that a reliable increase in yield compared to the control was obtained in all options with the use of the drug. The highest yield of potatoes on average over two years was 19.8 t/ha (in 2020 – 22.1 t/ha) in variants where tubers were treated with Albit before planting (100 ml/t) and vegetative plants were sprayed in the seedling phase and budding with the drug at a dose of 50 ml/ha. The yield increase before control in 2020 was 5.6 t/ha (33.9%) and 4.3 t/ha (21.7%) on average for 2019-2020.

The use of Albit, as one of the elements in the technology of production of pre-basic seed material for potatoes, helps to improve the marketability of the crop, increase the average number of stems and tubers in the bush and, accordingly, increase the productivity of the crop as a whole. In modern agro-ecological conditions,

it is of great importance to further optimize techniques for the study and application of the latest biological preparations in the cultivation of seed potatoes, first of all, in the reproduction of pre-basic and basic seed material in order to obtain quality products and reduce the chemical load on the soil and plants.

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Вплив застосування препарату Альбіт на формування насіннєвої продуктивності добазового матеріалу картоплі

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Тернопільська державна сільськогосподарська дослідна станція Інституту кормів сільського господарства Поділля Національної академії аграрних наук України

Анотація. Показником високих і результативних урожаїв картоплі є використання нових високопродуктивних сортів, ефективного садивного матеріалу, належне забезпечення рослин корисними речовинами, забезпечення догляду за посівами, надання захисту рослин від бур'янів, хвороб та шкідників, дотримання оптимального стану вологості ґрунту в період вегетації. Одним з пріоритетних показників, які визначають низьку врожайність картоплі по багатьох зонах України, як у сприятливих, так і несприятливих для заняття картоплярством, є використання насіннєвого матеріалу низької якості, який є ураженим інфекційними фіто патогенами. розмноження оздоровленого насіннєвого матеріалу є одним із основних завдань насінництва картоплі. Застосування біопрепаратів для стимуляції розвитку рослин, підвищення їх витривалості до негативних подразників навколишнього є актуальним для прискореного розмноження такого матеріалу. Таким чином, метою статті є дослідження ефективних технологічних аспектів під час репродукування добазового насіннєвого матеріалу картоплі, що включає застосування біопрепарату Альбіт, в умовах південно-західної території Лісостепу України. У статті представлено результати досліджень впливу способів застосування комплексного препарату Альбіт на формування продуктивності картоплі у процесі репродукування добазового насіннєвого матеріалу в умовах південно-західної частини Лісостепу України. У ході досліджень встановлено, що для досягнення високого рівня реалізації біологічного потенціалу культури та якості продукції при вирощуванні добазового насіннєвого матеріалу картоплі доцільно проводити обробку бульб при садінні Альбітом 100 мл/т та проводити дворазове обприскування у фази сходів та бутонізації вегетуючих рослин препаратом у дозі 50 мл/га

Ключові слова: картопля, урожай, насіннєва продуктивність, ріст регулюючі речовини, фракції бульб