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**EFFICIENCY PRETREATMENT DRUGS SEEDS FOSFATMOBILIZUYUCHYMY
SOFT WINTER WHEAT**

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Found that pre-sowing seed treatment of winter soft wheat varieties Vaseline fosfatmobilizuyuchymy drugs positively contribute to the increase in grain yield of winter wheat. According to scientific studies found the highest increase in soft winter wheat yield in the use of bacterial agents and polimiksobakteryn diazofit at a dose of 150 ml/t, making a complete fertilizer dose $N_{25}P_{25}K_{25}$ to $-0,95$, $N_{50}P_{50}K_{50}$ to $-0,95$ $N_{75}P_{75}K_{75}$ on $-0,85$, and for making 3 t/ha of straw recharge $N_{10} - 0,94$, respectively diazofit for making a complete fertilizer dose without fertilizers $0,86$, $N_{25}P_{25}K_{25}$ to $-0,93$, $N_{50}P_{50}K_{50}$ to $-0,94$ $N_{75}P_{75}K_{75} -0,87$ to 3 t/ha of straw + $N_{10} - 1,01$ ranged from 0.89 to 0.95.

Keywords: *fosfatmobilizuyuchi drugs increase crop polimiksobakteryn, growth regulators, fertilizers, seed inoculation.*

Resolution of the problem. In modern agriculture there agroecological direction, which involves the application of new technologies for growing crops that ensure environmentally friendly and biologically valuable crop production. High environmental and economic performance of these technologies leads to microbial agents that can improve nitrogen and phosphorus nutrition of plants. In biological agriculture technologies widely used by bacterial seed treatment pre - party polyfunctional actions can positively influence physiological processes in plants, and thus, increase the productivity of crops

Analysis of major studies and publications which discuss the problem. In addressing the important task of maintaining and restoring soil fertility tion should be tailored to suit microbiological processes taking place in it, and was able to use measures that regulate their activity [1]. It is known that the saturation rotation of certain crops and making unnecessarily high doses of fertilizers enhance mineral - lysis activity of microbial communities, leading to significant losses of humus - them and reducing soil fertility [5]. Alternative technology for growing crops, providing maximum utilization of biological factors form a stable structure of trophic relationships in microbial coenoses, increase their stability and integrity [6].

One element biologization modern agriculture is based on the use of biologically efficient strains of microorganisms that enhance nitrogen and phosphorus nutrition of crops [4]. In addition, microbial drugs contributing to growth of certain microorganisms environmental and trophic groups in soil ryzosfernomu that indirectly indicates metabolic changes [2].

The aim of our work was to investigate the effectiveness of seed treatment doposivnoyi growth regulators "Vympel" and "Agate K-25" protectants "Vial TT" and fosfatmobilizuyuchyh drugs "Polimiksobakteryn" and "Diazofit" to increase yields of winter soft wheat seeds.

Research objectives determine the effect of seed pre-treatment growth regulators, disinfectants and drugs fosfatmobilizuyuchyh to increase the yield of winter soft wheat in the Poltava region.

Materials and methods research. "Polimiksobakteryn" Made Academy of agrarian sciences institute of agricultural microbiology, recommended to improve phosphorus nutrition and increased yield of winter wheat by 11–28%. The drug contains bacteria strain *Bacillus polymyxa* KB, titer-55 X10 cells / g dry form.

"Diazofit" Made Academy of agrarian sciences institute of agricultural microbiology, provides growth crop yields by 15–20% and improve product quality. The drug contains a nitrogen-fixing bacterium *Agrobacterium radiobacter*. "Vympel" Made growth regulator MPNDP "Valley" Ukraine, which improves plant growth and development, promotes active root development, which increases yield by 10–30%. The drug containing PEG-400–230 g/l PEG 1500 540 g/l sodium humate – 30 g/l "Agat-25K" manufacturer "Wend", Ukraine. Significantly increases the field germination, increases vigor seeds. Product contains inactivated bacteria *Pseudomonas aureofaciens* strain N16-2% biologically active substances culture fluid – 38% α -glutamic acid – 70 mg/kg + α -alanine and 60 mg/kg + 3 indolilotsetova acid, 18 mg/kg. "Vial TT" protectants manufacturer "August" inhibits the development of fungi – disease agents that are on the surface of seeds, as well as those that develop-vyvayutsya inside. The drug contains 60 g/l tebukonazolu and 80 g/l tiabendazolu.

Research on soft winter wheat varieties Vaseline conducted during 2008–2010, in a left-bank forest-steppe at the experimental field of Poltava institute of agricultural them. N.I. Vavilov. Repeated – three times, the predecessor – peas, seed rate – 5.0 million of similar seeds per 1 ha seeding depth –4–6 cm seeding was carried out in the third week of September, depending on weather conditions, the period in the year of sowing seed drill SZ-3,6. Before sowing the seeds treated with disinfectants vial (0.4 l/t) riststymulyuyuchyoyu substance vympel (150 ml/m) agate-25K 40 g/t, and joint processing pennant vympel (90 ml/m) and agate-25K (25 g/t), vympel (120 ml/m) and agate-25K (60 g/t), vympel (100 ml/m) and agate-25K (20 g/t). and conducted pre-sowing inoculated bacterial preparations (polimiksobakteryn and diazofit) at a dose of 150 ml/t of

the working medium flow 2 l/ha. Spring nitrogen fertilizer made in versions: N₂₅, N₅₀, N₇₅ merzlotalomu in soil during vegetation. Accounting for productivity performed by podilyankovoho thrashing followed by purification of grain and transfer to 100% purity and 14% humidity, which was determined according to the methodology for state testing [3].

Studies. The main criterion, which allows to evaluate the effectiveness of complex technological measures crop is grain yield. Generalized yield data in the experiment showed that the maximum increase in yield depends on the weather conditions, mineral nutrition and doposivnoyi seed treatment. According to our research found that pre-sowing seed inoculation of wheat and soft winter polimiksobakterynu provided diazofitu obtain additional yield (Table 1.). Thus, during the study to maximize the yield for seed treatment disinfectants Vial TT yield increase was 0.36 without fertilizer, in making a complete fertilizer dose N₂₅P₂₅K₂₅ – 0,64, N₅₀P₅₀K₅₀ – 0, 70, N₇₅P₇₅K₇₅ – 0, 71, and for making 3 t/ha of straw and feeding N₁₀ – 0,62.

1. Yields of winter soft wheat varieties Vaseline depending on seed treatment of biologically active substances (average for 2008-2010)

Doposivna seed treatment (factor A)	Options fertilization (factor B)	Yield t/ha	Increase in yield, t/ha ±
No seed treatment - control	Without fertilizer	4,81	–
	N ₂₅ P ₂₅ K ₂₅	5,71	–
	N ₅₀ P ₅₀ K ₅₀	5,87	–
	N ₇₅ P ₇₅ K ₇₅	5,98	–
	3 t/ha of straw + N ₁₀	5,55	–
Protruyennya seeds Vial 0.4 l/t	Without fertilizer	5,17	+ 0,36
	N ₂₅ P ₂₅ K ₂₅	6,35	+ 0,64
	N ₅₀ P ₅₀ K ₅₀	6,57	+ 0,70
	N ₇₅ P ₇₅ K ₇₅	6,69	+ 0,71
	3 t/ha of straw + N ₁₀	6,17	+ 0,62
Processed seed growth regulators *	Without fertilizer	5,78	+ 0,97
	N ₂₅ P ₂₅ K ₂₅	6,32	+ 0,61
	N ₅₀ P ₅₀ K ₅₀	6,30	+ 0,43
	N ₇₅ P ₇₅ K ₇₅	6,50	+ 0,52
	3 t/ha of straw + N ₁₀	6,16	+ 0,61
Processed seeds bacterial drug polimiksobakteryn, 150 ml/m	Without fertilizer	5,70	+ 0,89
	N ₂₅ P ₂₅ K ₂₅	6,66	+ 0,95
	N ₅₀ P ₅₀ K ₅₀	6,82	+ 0,95
	N ₇₅ P ₇₅ K ₇₅	6,83	+ 0,85
	3 t/ha of straw + N ₁₀	6,49	+ 0,94
Processed seeds bacterial drug diazofit, 150 ml/m	Without fertilizer	5,67	+ 0,86
	N ₂₅ P ₂₅ K ₂₅	6,64	+ 0,93
	N ₅₀ P ₅₀ K ₅₀	6,81	+ 0,94
	N ₇₅ P ₇₅ K ₇₅	6,85	+ 0,87
	3 t/ha of straw + N ₁₀	6,56	+1,01
<i>HIP</i> ₀₅ factor A		1,96	
<i>HIP</i> ₀₅ factor B		1,96	
<i>Interactions A B</i>		5,71	

Note: * without fertilizers processed pennants vympel (150 ml/m), N₂₅ – compatible vympel treatment (90ml/m) and agate-25K (25 g/t), N₅₀ – agate-25K (40 g/t), N₇₅ – vympel (120 ml/m) and agate-25K (60 g/t), N₁₀ – vympel (100 ml/m) and agate-25K (20 g/t).

The use of growth regulators, there is active support growth harvest. According to scientific studies found that streamer treated seeds (150 ml / m) increased crop grown on –0,97, N₂₅P₂₅K₂₅ – compatible streamer treatment vympel (90 ml/m) and agate-25K (25 g/t) for 0, 61, N₅₀P₅₀K₅₀ agate-25K (40 g /t) to –0,43, N₇₅P₇₅K₇₅ – vympel (120 ml/m) and agate-25K (60 g/t) -0,52, and the introduction of 3 t/ha of straw recharge of N₁₀ – vympel (100 ml/m) and agate-25K (20 g/t) increase in yield rose – 0.61. Doposivna seed treatment polimiksobakterynom boosted the growth of the crop when you make a complete fertilizer be: no fertilizer at 0,89, N₂₅P₂₅K₂₅ to – 0,95, N₅₀P₅₀K₅₀ to – 0,95, N₇₅P₇₅K₇₅ to – 0.85, 3 t/ha of straw + N₁₀ to – 0.94: according diazofit in making a complete fertilizer dose without fertilizers 0,86, N₂₅P₂₅K₂₅to – 0,93, N₅₀P₅₀K₅₀ to – 0,94, N₇₅P₇₅K₇₅ to – 0.87, 3 t /ha of straw + N₁₀ at – 1.01, compared with a control option protruyennya growth regulators and seed.

Conclusions:

1. Found that pre-sowing seed treatment of winter soft wheat varieties Vaseline fosfatmobilizuyuchymy drugs positively contribute to the increase in grain yield of winter wheat.
2. The analysis found that nitrogen fertilization on soil merzlotalim N₂₅P₂₅K₂₅, N₅₀P₅₀K₅₀, N₇₅P₇₅K₇₅ and pre-inoculated seed growth-stimulating and biologically active substances (vympel + agate K-25, and polimiksobakteryn diazofit) helps to increase productivity.
3. According to scientific studies found the highest increase in soft winter wheat yield in the use of bacterial agents and polimiksobakteryn diazofit at a dose of 150 ml/t, making a complete fertilizer dose on N₂₅P₂₅K₂₅ – 0,95, N₅₀P₅₀K₅₀to – 0,95 N₇₅P₇₅K₇₅ on – 0.85, and for making 3 t/ha of straw recharge N₁₀ – 0,94, respectively diazofit in making a complete fertilizer dose without fertilizers 0,86, N₂₅P₂₅K₂₅ to -0,93, N₅₀P₅₀K₅₀ to – 0,94 N₇₅P₇₅K₇₅ –0.87 to 3 t/ha of straw + N₁₀ at – 1.01 range from 0.89 to 0.95.

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