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INFLUENCE OF CULTIVATION TECHNOLOGY ELEMENTS ON YIELD FORMATION OF BLUE LUPINE CULTIVATORS IN TERMS OF WESTERN POLISSIA OF UKRAINE

Among all grain legumes the blue lupine has taken a special place as a source of gluten in Ukraine in general and in Polissia in particular. It has such valuable economic features as a relatively short vegetation period, quick rates of growth, unpretentiousness to growth environment, resistance to anthracnose and fusariose. The aim of our researches was to establish dependence of blue lupine capacity formation from cultivator, fertilizer and pre-sowing disinfection of seeds in terms of western Polissia of Ukraine.

Blue lupine cultivators Pelikan, Brianskiy 1121 and Svetanik were the subject of the researches. Fertilization variants: 1 – without fertilizers, 2 – $P_{45}K_{90}$, 3 – $N_{30}P_{45}K_{90}$. The variant without introduction of fertilizers and seeds disinfection was the control one. Seeds were processed with chemical protectant Fundazol and biological protectant Mikosan N with simultaneous inoculation.

To ensure high yield level of new cultivators of blue lupine with appropriate grain quality indices in terms of western Polissia the researches were conducted with the purpose to improve basic elements of this crop cultivation technology in this zone, in particular, amounts of mineral fertilizers, inoculation, pre-sowing disinfection.

Introduction of fertilizers not only raises the yield, but improves its quality. Thus, protein content in blue lupine grain of cultivator Pelikan on the control area (without fertilizers) was 32.90%, on the background of $P_{45}K_{90}$ —33.49 and with N_{30} being added – 33.71%. Consequently, increment above the control one was 0.59 – 0.81%. On the control area the cultivator Brianskiy showed 33.51%, and with $P_{45}K_{90}$ being added —34.07 (+ 0.56%), and on the background of $N_{30}P_{45}K_{90}$ – 34.12% (+0.62%). Svetanik showed the following indices: 32.90% on the control area, on the background of $P_{45}K_{90}$ —33.38 (+0.48%), and with N_{30} being added – 33.72% (+ 0.82%).

Analysis of yield indices showed that pre-sowing inoculation of seeds provided increase in yield of Pelikan by 0.13 – 0.24 t/ha, of Brianskiy 1121 – by 0.17 – 0.20 t/ha, Svetanik – by 0.10 – 0.25 t/ha. Combination of seeds disinfection with Fundazol and pre-sowing inoculation provided rise of level of yield depending on fertilization variant by 0.36 – 0.71, 0.37 – 0.88 and 0.36 – 0.75 t/ha, processing with Mikosan N and pre-sowing inoculation of seeds – by 0.46 – 0.94, 0.51 – 0.97 and 0.44 – 0.85 t/ha respectively for cultivators.

Maximum yield of cultivators being researched is observed on variants, which foreseen introduction of $N_{30}P_{45}K_{90}$ and seeds processing with Mikosan N in combination with inoculation.

Therefore to get the maximum yield of blue lupine grain in western Polissia technology of its cultivation must foresee introduction of $N_{30}P_{45}K_{90}$, 2 – 3 days before sowing, disinfection of seeds with Mikosan N and on the day of sowing – with the

substance based on an active culture of legume bacteria of *Rizobium lupini* No. 359a.

Key words: cultivation technology elements, seeds inoculation, blue lupine, symbiotic apparatus, protectant, cultivator, fertilizer, yield, grain quality.