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**INFLUENCE OF TIMING OF FUNGICIDE TREATMENT**

**ON THE YIELD OF SEEDS OF THE PARENTAL FORM**

**OF “CROWN C” MAIZE HYBRID**

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*As a result of the studies, experimental data were obtained on the effectiveness of the use of fungicides against bladder smut and fusarium cobs on the hybridization site of the maternal parent form of Crohn C. In the control variant, 37.6% of plants affected by bladder smut in the form of growths of various sizes were detected without fungicide treatment. In the variants with the use of the fungicide Optimo, KE in the phase of development of maize of 10-12 leaves of patients with bladder smut of plants was 15.9%. Most blistering of the fungus (92%) was detected on the cob, and the remaining 8% - on the stem and leaves. In the variant with processing of corn in the phase, the start of panicle panning of the total affected plants was 22.8%, of which 66.7% with growths on the cobs and 33.3% on the stems. In the variant with treatment of maize with Privent, SP fungicide, in the phase of 10-12 leaves in the control variant revealed only 17.4% of the affected plants, of which 60% of the plants were bloated on the ears and 40% on the stems. When treating with Privent, SP fungicide, 24.7% of affected plants were noted in the phase of the onset of panicle panning; of these, 70% of the growths are marked on the cobs and 30% - on the stems.*

*Given the possibility of using the fungicides Optimo, KE and Privent, SP reduces the number of ears affected by fusarium. The greatest decrease in the disease was noted in the variants with treatment in the phase of the onset of panicle panning. So, in the control variant without treatment 32% of the ears affected by fusarium infection were revealed, and in the variants with the use of the fungicide Optimo, KE and Privent, SP in the phase of 10-12 leaves, these indicators were 12 and 19%, respectively. On samples of cobs taken in the variants with fungicide treatment in the beginning of panicle panning phase, signs of fusariosis were observed in 7% of cobs treated with Optimo, KE and 26% in the variant treated with fungicide Privent, SP. In terms of yield, the most effective variant was the experiment with the use of the fungicide Optimo, KE in the phase of 10-12 leaves of corn plants, which provided an increase in the yield of corn grain to the control in the amount of 0.35t / ha or 13.9%. In the variants of the experiment using the Privent SP fungicide, the joint venture in this phase of plant development added to the control amounted to 0.21t / ha or 12.3%.*

**Key words:** maize, vesicular head, fusarium wilt, fungicides, processing terms, grain harvest, yield increase.

**REFERENCES**

1. Dospekhov B.A. *Metodika polevogo opyta* [Methods of field experience. 5th edition]. M., 1979. Pp. 48-53.

2. *Metodicheskiye ukazaniya po proizvodstvu gibridnykh semyan kukuruzy* [Methodical instructions for the production of hybrid maize seeds]. Pyatigorsk, 2007. 20 p.

3. Sotchenko E.F., Ivaschenko V.G. *Effektivnost' protraviteley protiv vozbuditeley steblevykh gniley, pyl'noy i puzyrchatoy golovni kukuruzy v predgornoy zone Stavropol'skogo kraya* [Efficiency of disinfectant agents against causative agents of stem rot, dusty and blister smut of corn in the foothill zone of the Stavropol Territory] // *Selektsiya, semenovodstvo. Tekhnologiya vozdelyvaniya kukuruzy. Materialy konferentsii, posvyashchennoy 20-letiyu GNU VNII kukuruzy* [Selektsiya, Semenovodstvo. Maize cultivation technology. Proceedings of the conference dedicated to the 20th anniversary of the State Scientific Research Institute of Maize] / Edited by V.S. Sotchenko, academician of the Russian Agricultural Academy. Pyatigorsk, 2009. 320 p.

4. *Metodicheskiye ukazaniya po gosudarstvennomu ispytaniyu fungitsidov, antibiotikov i protraviteley semyan sel'skokhozyaystvennykh kul'tur / Pod red. K.V. Novozhilova* [Methodical instructions on the state test of fungicides, antibiotics and desinfectant preservatives of seeds of agricultural crops. Ed. K.V. Novozhilov]. M., 1985. Pp. 112-121.

5. Ivashchenko V.G., Sotchenko E.F. *Otsenka vliyaniya skrytogo fuzarioza semyan na vskhozhest' i urozhaynost' kukuruzy. Materialy 2-y Vseros. nauchno-prakt. konf. «Agrotekhni-cheskiy metod v zashchite rasteniy ot vrednykh organizmov»* [Evaluation of the effect of latent fusariosis of seeds on germination and yield of corn // *Materialy 2-y Vserossiyskoy nauchno-prakticheskoy konferentsii «Agrotekhnicheskiy metod v zashchite rasteniy ot vrednykh organizmov»* [Materials of the 2nd All-Russian Scientific and Practical Conference "Agrotechnical method in the protection of plants from harmful organisms"]. Krasnodar, 2002. Pp. 35-36.

6. Sotchenko E.F. *Vitovaks protiv pyl'noy i puzyrchatoy golovni v posevakh kukuruzy* [Vitovax against dusty and bubbly head in corn crops] // Corn and sorghum. 2004. № 1. P. 18.

7. Nikolaeva N.F., Skripnyuk V.N. *Bolezni kukuruzy v Stavropol'skom kraye i mery bor'by s nimi. Novyye priyemy bor'by s vreditelyami i boleznyami kukuruzy* [Maize diseases in the Stavropol Territory and measures to control them. New methods of controlling pests and diseases of corn]. Collection of scientificworks. ВНИИК, 1979. Pp. 132-135.

8. Ivanov A.L., Molchanov E.N., Tarchokov H.S., Chochaev M.M., Azubekov L.H. etc. *Osobennosti adaptivno-landshaftnoy sistemy zemledeliya Kabardino-Balkarskoy respubliki / Pod obshchey red. M.M. Chochayeva* [Features of the adaptive-landscape system of agriculture of the Kabardino-Balkarian Republic / Under the general editorship. M.M. Chochaev]. Nalchik, 2013. 320 p.

9. Kushkhabiev A.Z., Appaev S.P., Urusov A.K., Kagermazov A.M., Azubekov L.H., Khachidogov A.V., Shipsheva Z.L. *Kukuruza v Kabardino-Balkarii* [Corn in Kabardino-Balkaria]. Nalchik, 2017. 204 p.

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