



Effect of Land Tillage Methods on Dodder

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Abstract: This article presents the results of research on the development of effective methods of agrotechnical and chemical control measures to prevent the spread of dodders in soybean, sunflower fields, field edges, ditches, and canals.

Keywords: soybean, sunflower, herbicide, control, pilot, zeta, agrotechnology, productivity, economic efficiency.

Introduction

Changes in the global climate conditions and the growth of the population of our country require the rational use of land resources. In recent years, special attention has been paid to the effective use of agricultural crops and the food security of the population in our republic. It is important to conduct research in order to provide the growing population with cheap and high-quality agricultural products, improve the phytosanitary status of products, and prevent the entry of quarantined objects into the republic. Identifying the types of harmful organisms to increase the yield and quality of oilseed crops in our irrigated fields, preventing the spread of dodder quarantine weed, and developing highly effective innovative means of combating them are among the urgent problems of today.

The purpose and tasks of the research

In the conditions of Tashkent and Jizzakh regions, the spread of dodders, development and level of damage to wild plants in oil fields and field edges are studied and scientifically substantiated. Effective methods of agrotechnical and chemical control measures are developed to prevent the spread of dodders in soybean and sunflower fields, field edges, ditches and canals.

The novelty of scientific work

For the first time, the types of dodders, their biological characteristics, and levels of damage to wild plants in the fields of soybeans and sunflowers and wild plants on the edges of the fields are studied and scientifically substantiated; effective agrotechnical methods (rotating crops, tillage, mechanical removal) of weed control in oil crops and wild plants on field edges will be developed; Effective herbicides are selected and convenient norms, methods and periods of their use are determined and introduced into production.

Results

Plowing the land in agriculture is one of the most important agrotechnical factors, which ensures a sharp reduction in the number of weeds. That is why agrotechnical measures are one of the most reliable and effective methods of weed control. Autumn plowing is an effective measure for improving soil conditions and reducing the number of weeds. When the land is plowed with a double-row plough, the soil is better loosened, weed seeds and roots are buried deeper, resulting in significantly fewer weeds in the fields. In our experiments, we used a double-layer plow to drive 30 cm deep in a row, and a simple plow 40 cm in the first year; 24 cm in the 2nd year; 32 cm driving in the 3rd year, 40 cm in the 1st year on a two-tier plow; 24 cm in the 2nd year. In the 3rd year, we determined the effect of plowing at a depth of 32 cm on weeds, including dodder. The obtained data are presented in Table 5.1. 8.5% after 30 days, 20.7% after 45 days, and 40.5% after 60 days of soybean plants were infected with thin-stemmed dodder on the soil plowed 30 cm deep in the normal plow. After 30 days in the soil plowed at a depth of 30 cm in a two-layer plow, the rate of damage to the dodder was 3.4%. After 45 days of soybean planting, 4.75% and 11.2% of the plants after 60 days were found to be infected with aphids. In the experiments of B.G. Aleev [p. 7-21], it was noted that plowing the land at a different depth gives a good result in reducing weeds. In the first year, depending on the cotton-growing regions, the soil is plowed at a depth of 30 or 40 cm, and in the second and third years, the plowing depth is reduced to 20 cm, and then the soil is plowed every year with a depth of 30-20-30-20 or 40-20-40-20 cm. implementation according to the system is indicated. After 30 days, when plowing with a two-tiered plow at a depth of 40 cm in the 1st year and 24 cm in the 2nd year, no dodder was observed. It was found that 1.20% of the plants were infected with dodders after 45 days after planting soybeans. Soybean yield was 21.3 s/ha in the control variant, which was plowed at a depth of 30 cm in a regular plow. In the version where the land was plowed with a two-tier plow at a depth of 30 cm, the yield was equal to 25.2 s/ha. The yield was 24.3 s/ha in the variant where the land was plowed to a depth of 40 cm in the 1st year and 24 cm in the 2nd year with a normal plow. The yield was 28.8 s/ha in the two-tiered plow in the 1st year 40 cm deep and 24 cm deep in the 2nd year. In this variant, compared to the control variant, 7.5 s/ha more yield was obtained. An experiment with a similar experimental scheme was conducted in Dostlik district of Jizzakh region. In this experiment, plowing at a depth of 30 cm per year in a double-layer plow, 40 cm in the first year in a simple plow; 24 cm in the 2nd year; 32 cm driving in the 3rd year, 40 cm in the 1st year on a two-tier plow; 24 cm in the 2nd year; In the 3rd year, the effect of plowing at a depth of 32 cm on weeds, including dodder was determined. The obtained data are presented in table 5.2. 7.75% after 30 days, 20.4% after 45 days, and 40.3% after 60 days of soybean plants were affected by the thin-stemmed dodder in the soil plowed to a depth of 30 cm. In the second option, it was found that 1.1% of soybean plants were infected with dodders after 30 days, 2.0% after 45 days after soybean planting, and 3.1% after 60 days. After 30 days, after 30 days, when plowing with a two-tiered plow at a depth of 40 cm in the first year and 24 cm in the second year, no dodder was observed. 45 days after soybean planting, the number of plants affected by the fungus was 1.5%. 75 days after soybean planting, it was found that 2.5% of the plants were infected with dodders. Soybean yield was 21.0 s/ha in the control variant, which was plowed at a depth of 30 cm in a regular plow. In the version where the land was plowed with a two-tier plow at a depth of 30 cm, the yield was equal to 24.2 s/ha.

Conclusion

The yield was 25.7 s/ha in the variant where the soil was plowed to a depth of 40 cm in the 1st year and 24 cm in the 2nd year. The yield was 27.3 s/ha in the two-tiered plow, plowed at a depth of 40 cm in the 1st year and 24 cm in the 2nd year. In this variant, compared to the control variant, 6.3 s/ha more yield was obtained.

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