

EFFECT OF SEEDLINGS AND FERTILIZER AMOUNT ON PHOTOSYNTHETIC PRODUCTIVITY OF WHEAT

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Annotation

The method of presuming and foliar treatment of spring wheat crops with various grow the regulating preparations should be referred to a number of promising techniques that provide increased productivity and quality of crop production. The conducted studies have shown that the highest values of germination energy and laboratory germination during presuming treatment of seeds with experimental preparations were found in the option Megamix-zinc. The use of various modifications of the Megamix preparation for presowing seed inoculation contributes to an increase in the field germination of the experimental crop according to all options, depending on the year of the study. On average, over the years of the research, the used modifications of the Megamix preparation and their combination with mineral fertilizers contribute to an increase in productivity by 0.51–3.23 kg/ha, the best result over control is ensured by the use of the Megamix-zinc modification compared to complex sulfur-containing mineral fertilizers, which is 11.83 %. Thus, the use of experimental preparations and their combinations with complex mineral fertilizers has a positive effect on production processes which ultimately contributes to an increase in the productivity of spring wheat.

Key words: artificial insemination, surrogate motherhood, prenatal diagnosis, abortion, fetal treatment, embryo.

INTRODUCTIONS

The experimental crop was spring wheat of the “Ulyanovskaya 100” variety. The technique of conducting the field experiment was that generally accepted for small plots, the replication was fourfold, the arrangement of options in the experiment was randomized, and the plot area was 20 m². The objects of research were the following: various modifications of the Megamix preparation (Megamix – profi, Megamixnitrogen, Megamix-zinc) and complex mineralcontaining sulfur

fertilizer diammofoska N15P15K15S10. Before sowing, the seeds were treated with growth regulators. When the tillering phase came, foliar treatment of the crops with the studied preparations was carried out at the concentrations recommended by the manufacturer. The application of experimental preparations can be carried out simultaneously with the use of herbicides in the amount of 200 liters of working solution per 1 ha or as a separate technological operation. In the field experiment, there were two types of fertility: type 1 – natural fertility, type 2 – with the application of experimental mineral fertilizers. The soil of the experimental field is leached black soil of medium thickness, medium loamy soil with the following agrochemical characteristics: humus content.

Plant growth regulators, their artificial analogs or compositional preparations, which contain a balanced complex of phytohormones, biologically active substances, and microelements make it possible to purposefully control the most important processes of plant growth and development, and effectively use the potential capabilities of plants [1–4]. Germination energy is the percentage of germinated seeds over a definite period. It characterizes the ability of seeds to produce even germination in the field which means good standing and survival of plants. Laboratory germination is the main indicator of sowing qualities of seeds, determining their physiological condition. Laboratory germination of seeds is understood as the number of standardly germinated seeds for a certain period (mainly 7-10 days) in a sample taken for analysis. It gives a better understanding of the real possibility of obtaining seedlings of plants in the field.

Chloroplasts contain a lot of water, on average it is 75%. The rest consists of dry matter. Proteins account for 35-55% of total dry matter, lipids for 20-30%, and the rest for mineral substances and nucleic acids. Chloroplasts contain many enzymes and all pigments involved in photosynthesis. The number, shape, and size of chloroplasts of different plants differ from each other. Chloroplasts can be formed in the leaves of green plants in three different ways: 1) by simple division; 2) by budding as a result of disruption of the normal conditions of some cells; 3) reproduction through the cell nucleus. This road is considered the main one. First,

a very small bump appears on the membrane of the cell nucleus. It gradually enlarges, separates from the nuclear membrane, moves to the cytoplasm of the cell, and is fully formed there. In the dark, the stroma of chloroplasts and its size are formed. But the internal structure - lamellae, plates, granules, thylakoids and chlorophyll pigments are formed only in light. Pigments found in chloroplasts are mainly divided into three classes: 1) chlorophylls; 2) carotenoids; 3) phycobilins. Chlorophylls. For the first time, in 1817, French chemists P. J. Pelletier and J. Berzelius isolated a green pigment from a plant leaf and called it chlorophyll. It is derived from the Greek words "chloros" for green and "phyllon" for leaf. In 1906-1914, the German chemist R. Willstätter, as a result of a comprehensive study of the chemical composition of chlorophyll, determined the elemental composition: chlorophyll "a" - $C_{55}H_{72}O_5I_4Mg$ and chlorophyll "b" $C_{55}H_{70}O_6N_4Mg$. German biochemist G. Fischer determined the structural formula of chlorophyll in 1930-1940.

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