«Economics of spring wheat production in the Middle Volga»

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The purpose of the research: to identify the economic and energy efficiency of the applied agrotechnologies of spring wheat in terms of productivity in the conditions of the Middle Volga region.
The studies were conducted in the fields of the Department of Agriculture and the Laboratory of Agroecology of Samara State University.

We studied the effect of the methods of basic tillage and fertilizer on yield, protein accumulation, gluten fractions in the grain of spring soft wheat, economic and energy efficiency.

The predecessor in the experiments was winter wheat for a clean pair.

Variants of the experiment included three types of primary tillage: plowing to a depth of 20-22 cm; loosening to a depth of 10-12 cm; without autumn mechanical treatment, without fertilizers and against the background of use when sowing N60P60K60 at the rate of 3.8 c of azofoska per 1 ha.

Crops were treated with herbicides in the tillering stage - Puma super at a concentration of 0.8 l/ha. The area of the plots is 1200 m². The repetition of experiments is threefold.
Conclusions

On average over the years of research, the highest yield of spring soft wheat - 1.60 t / ha was obtained by plowing 20-22 cm and loosening the soil by 10-12 cm amid the application of mineral fertilizers when sowing N60P60K60 at the rate of 3.8 c of azofoska per 1 ha.

The protein content in the grain of wheat on the background of fertilizer increased to 6% in comparison with the uncomfortable background. Protein values were maximum for plowing - 13.26%, medium - when loosening the soil - 12.66%, the lowest without autumn mechanical tillage - by 6 and 2%, respectively. The amount of gluten fractions was the highest on plowing - 8.70% and loosening - 8.01%.

According to the calculations of economic and energy efficiency in the conditions of the Middle Volga region, using as the main tillage for spring wheat - loosening by 10-12 cm and without autumn mechanical tillage, profitability was higher at the level of respectively 79% and 75% against the background without fertilizer and up to 71% amid the introduction of N60P60K60. Studied tillage energy efficient, because energy efficiency ratio is above zero. The most energy efficient option without autumn mechanical tillage using mineral fertilizers. In this embodiment, the smallest protein intensity ratio was also achieved.
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