Fertilization and Quality of Winter Wheat Production Obtained in Long-Term Experiences with Mineral Fertilizers

Valeria DEAC, Mircea IGNEA, Felicia CHEȚAN, Rozalia KADAR, Alina ȘIMON

Agricultural Research & Development Station Turda, Agriculturii street, No.27, 401100, Turda Romania; e-mail: valideac2004@yahoo.com; mircea_ignea@yahoo.com

Keywords: long-term experiences, protein, gluten, determinative factor.

SUMMARY

Long-term experiences are in fact a mirror in terms of land development, fertility and factors affecting their fertility status. (HERA, 2002). A particularly important issue is the quality of production made it is directly related to the doses of fertilizer applied.

Long-term experiences with mineral fertilizers runs in a single system throughout the country since 1967. In ARDS Turda experiences with winter wheat are part of five years rotation, are of the NP, type with the two variables (nitrogen and phosphorus), graduations with 5 each. Wheat variety was experienced Dumbrava.

In the quality of the product obtained in long-term experiences of NP, we can appreciate that kind Dumbrava, which was grown on these surfaces, has a protein content and good gluten. The observed dependence of protein and gluten content of fertilizer doses. In experiments with wheat after maize protein ranges from 11.7% in plots where no nitrogen fertilizer applied, up to a maximum of 13.6%, nitrogen was N160 (2009). Gluten also has an almost linear variation and its evolution is influenced by the dose of nitrogen fertilizer. Lower values are obtained at doses of N0P0 (28.9%) and highest dose is obtained by N160P80, which entitles us to believe that addiction is stronger gluten from nitrogen fertilizer. In experiments with wheat after soybeans on plots where no phosphorus fertilizer applied, the variation in protein content was 10.1% (N0P0) to 14.3% (N90P0).

Climatic factors and soil characteristics make the plant production and quality. Because where vegetation makers fully meet the needs of cultivated plants are quite rare, the only way to get high yields, quality in all areas of culture is to develop technology culture in which to maximize weather conditions: rain, heat, light and fertility of soil. The most important measure of decreased agricultural production fluctuations in space and time is fertilization (Rusu T., 2009). The determinative coefficient shows that on average 99.34% of the variance is due to nitrogen fertilizer production.

REFERENCES