

THE EFFECT OF DIFFERENT FERTILIZER TREATMENTS ON THE YIELD AND QUALITY OF WINTER WHEAT

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The effect of fertilization on the yield and quality of winter wheat was studied on meadow soil in 2015-2016 years in Hódmezővásárhely. The experiment was set up on the area of SZTE Tangazdaság Ltd, in three replications. The preceding crop was alfalfa. Four fertilizer steps were applied besides the control: N80PK30, N100PK30, N120PK0, N120PK30 kg/ha active ingredients. The year 2015-2016 was favourable for winter wheat production. The amount of precipitation in the vegetative period of winter wheat was higher by 92.8 mm than the average. The distribution of precipitation was unfavourable. The rainfall in October and February was more than the average, while in March, April and May less rain fell compared the average. The obtained data were processed by single factor variant analysis. In the control treatment the yield was 5.70 t/ha. The maximum yield 7.37 t/ha was reached with N80PK30 kg / ha fertilizer treatment. The yield difference between the two treatments was statistically justified. The nutrient doses higher than N80PK30 did not increase the yield of wheat. The gluten content was 38.40 % in non treated plot. In the N80PK30 treatment reached the highest value 40.60%. In the other treatments the gluten content decreased compared to N80PK30 treatment.

16.50% crude protein content was measured in the NOPK0 treatment. The highest content of crude protein (17.30%) was in the N80PK30 treatment, which was statistically justified higher, compared the control value. Compared to this value in the higher treatments the crude protein content decreased significantly. The Zeleny number was 63.69 ml in the control treatment. In N80PK30 treatment reached the maximum value, 73.07 ml. Our scientific results proved that in case of using a good preceding crop the amount of fertilizer can be decreased, which is important in environmentally and economical point of you.