THE EFFECT OF FERTILIZATION ON THE YIELD AND YIELD COMPONENTS OF WINTER WHEAT

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We studied the effect of fertilization on the yield and some yield component of winter wheat in 2016/2017 years. The experiment was set up in three replications on the area of SZTE Tangazdaság Ltd in Hódmezővásárhely. The soil was meadow soil. The preceding crop was sunflower. Six fertilizer levels were applied besides the control: N80PK30, N100PK30, N130PK30, N150PK30, N170PK0, N170PK50 kg/ha active ingredients. The year 2016-2017 was unfavourable for winter wheat production. The amount of precipitation in the vegetative period of winter wheat was lower by 80.2 mm than the average. The distribution of precipitation was unfavourable. The obtained data were processed by single factor variant analysis. In the control treatment the yield was 4.20 t/ha. The maximum yield 5.60 t/ha was reached with N130PK30 kg/ha fertilizer treatment. The yield difference between the two treatments was statistically justified. The nutrient doses higher than N130PK30 did not increase the yield of wheat.

The number of spikes/m2 was 564.67 in control treatment. In N100PK30 and N130PK30 treatments we measured significantly higher values 567.67 and 677.33 spikes/m2. The grain number in spike was 36.5 pieces in non fertilized parcels. We reached the highest value 43.77 pieces in N130PK30 treatment. The difference was not significant. The thousand seed weight changed slightly due to the fertilization. We measured 31.08 g in control treatment. The maximum value 32.71 g we got in N130PK30 treatment. The difference was not statistically justified. Our scientific results showed, that the N130PK30kg/ha fertilizer level was the optimum for the winter wheat in 2016/2017.