

## **Response of common wheat to different cultivation intensity and sowing of facultative cultivars at autumn dates**

### **Summary**

Two strict field experiments with spring wheat were located at the Experimental Station for Cultivar Testing in Skołoszów ( $\varphi = 49^{\circ}53'$ ,  $\lambda = 22^{\circ}44'$ , H = 230 m ASL) in the seasons 2012/2013 - 2014/2015.

The factors of the first experiment were: A – the level of cultivation intensity: medium-intensive - A1, intensive - A2. B - Cultivars: Izera, Ostka Smolicka, Parabola, Struna, KWS Torridon, Tybalt, Arabella, Bombona, Kandela, Katoda, Łagwa, Monsun. Differences in cultivation technologies between the applied levels of agricultural techniques referred to the level of nitrogen fertilization, foliar fertilizer application and diversified chemical crop protection.

In the other one-factorial experiment, the usefulness of five facultative spring wheat cultivars (Izera, Ostka Smolicka, Parabola, Struna, Tybalt) for late autumn sowing was tested.

The weather conditions varied in the years of the study and had the differentiating effect on the course of the plant growth; they also modified a number of biometric characteristics of the plants, as well as the quantity and quality of grain yield.

The spring wheat cultivars differed significantly in the parameters tested in the experiment. The cultivar KWS Torridon was characterized by high yields, and of the facultative cultivars sown in autumn, Parabola and Ostka Smolicka gave high yields.

The higher level of cultivation intensity (A2), in comparison to the lower one (A1), resulted in prolongation of the plant growth period, a lower occurrence of diseases, a reduction in the plant height and lodging, a more favourable SPAD index, an increase in the plant density per  $1\text{m}^2$  and an increase in the grain yield.

The cultivars Ostka Smolicka and Łagwa gave high yields on the treatments with the intensive level of production technology.

The grain quality of spring wheat from the spring sowings depended mainly on the year of the study or on the cultivar used, whereas it was diversified to a small extent by the applied levels of cultivation intensity.

Spring wheat cultivars from the autumn sowings differed significantly in the chemical composition of grain, and in addition, this was varied in the years of the study.