

RESULTS OF TRITICALE VARIETY TESTING TRIALS ON DIFFERENT SOIL TYPES IN HUNGARY

TAMÁS SIPOS - ERIKA HALÁSZ, University of Debrecen, Hungary
sipost@agr.unideb.hu

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Summary

Triticale is a stable hybrid of wheat and rye was one of the most successful cultured plant in Hungary in the last two decades when it's sowing area touched the 158.000 hectares. The largest advantages of its growing are its productivity often exceeds the wheat, its growing are cost and environment saving (triticale requires less herbicides and insecticides than wheat) and its yield is easy to sell as a good quality feed or food grains.

In the early nineties it was started the breeding and research of cropping technology of triticale in the Research Centre of University of Debrecen, Centre of Agricultural Sciences in Kisvárd. We test on the adaptability and value for cultivation and use of our breeding materials on different production sites. The trials of variety we located on two habitats in 2007: on a medium loamy brown forest soil (which is also good to the wheat) and on a typical weak sandy soil in the Nyírség (which is traditionally utilizing with rye). The aim of trials were over the measuring the yield to examine the adaptability of genotypes for the two habitats with different characteristic and the quality of production. In the variety testing trials we tested 6 state registered varieties (Calao, Kitaro, Versus, Filius, Disco, Magnat) and 11 from our breeding lines.

In 2007 it was a drought; it rained less precipitate with 140 mm then the average of ten years during the term with vegetation (429 mm). The yield-average of the whole trial was 6.22 (max. 6.9, min. 5.5) t/ha on brown forest soil and 4.05 (max. 5.13, min. 2.88) t/ha on sandy soil.

Productivity of triticale genotypes on two soils
Kisvárd, Hungary, 2007.

Genotypes	Brown forest soil t/ha	Sandy soil t/ha	Yield depression %
Calao	6,60	4,81	27,14
Kitaro	6,36	4,12	35,24
Versus	6,75	5,04	25,41
Filius	6,46	4,28	33,71
Disco	5,83	4,12	29,27
Magnat	6,62	4,28	35,30
1. line	6,08	2,88	52,61
4. line	6,90	3,30	52,11
7. line	5,50	4,35	20,83
9. line	6,40	3,93	38,51
11. line	5,86	5,13	12,50
Average	6,22	4,05	34,87

We found notable differences in the order of yield of the varieties on the two soil types. The varieties responded with different yield-depression as they were sowed on weak sandy soil. The retrogression of their production according to the results on the other soil type stands between 12.5-52.6%. We diagnose the least yield-depression by the breeding line 11 and the Calao among the state registered varieties. The degrees of retrogression of production correlate to adaptive-ability, drought-tolerance, nutrition-claim etc. of the varieties.