

## **Title: Triticale in Poland. The career of a botanical curiosity**

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### **Abstract:**

Triticale is a cross (hybrid) between wheat and rye, made first time in the UK by Wilson in 1876. Triticale combines the yield potential and grain quality of wheat with the disease and environmental tolerance (including soil conditions) of rye. In the first years it was evaluated and planted in Germany and in Hungary without success. In 1970 Poland agronomists found this crop interesting and adopt to the type of soil and weather pattern (good grain yield, stress tolerance); research programs were created and many new varieties released; distribution of these varieties was made all over Europe and to New Zealand.

Today there are more than 63 varieties available in Poland they are grown in ca.14% of the 7 million hectares planted to cereals in the country.

The main direction in breeding program is high yield potential in different environments. The next very important characters are lodging resistance, diseases' resistance: mildew, brown and yellow rust, septoria, fusarium and resistance to sprouting.

During the process of registration, apart from the value for cultivation and use (VCU), which is tested officially in COBORU, every new cultivar has to be distinct, uniform and stabile (DUS test).

The challenges of triticale breeding are: new genetic sources, more effective selection in the young generations, the genomic selection, shortening the breeding cycle: better effectiveness of production DH lines, problems with DUS tests.

Triticale has many uses, the most important is animal feed (swine and poultry); the grain is used in bakery (higher protein lower gluten content than wheat) and finds another important use for production of bioenergy like ethanol and biogas.

According to FAO statistics, triticale is grown in more than 3.8 million hectares worldwide, 88% of those are in Europe and 30% in Poland.

From a botanical curiosity this new species became a viable crop.