

# **THE IMPLEMENTATION OF TRANSGENIC CULTIVARS IN POLISH AGRICULTURE: PROSPECTS AND CONSTRAINTS.**

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## **Abstract**

Application of molecular techniques, including recombinant DNA methods, in plant breeding resulted in development and release of the first generation of transgenic cultivars. Bacterial genes responsible for herbicide resistance and coding for bacterial toxin to insect pests (Bt genes) were incorporated into varieties of several crops (corn, cotton, soybean, sugar beet and rapeseed) with the aim of improving its agronomic performance. These new products of plant biotechnology were surprisingly well received by farmers in some countries. In fact, the rate of increase of area sown with transgenic seeds was very fast; it was the quickest adaptation of technological novelty in agriculture, so far. But in other countries transgenic cultivars were and are perceived as dangerous to people and environment and its implementation was met with vigorous protests of environmental groups and consumer's distrust. There are many reasons for this differential attitude toward this new technology; from cautious approach to new method of gene manipulation to economical and political interests.

In EU countries, Poland included, the regulatory system for GMO release is quite stringent, guided by blurred concept of precautionary approach. In consequence breeding and release of transgenic cultivar is very difficult with lot of red tape and costly. In case of so called agronomic character GMO,s this might result that placing on the market of GMO variety will be unprofitable. The result is that very few transgenic cultivars are allowed to be imported to EU for feed and processing, even less can be cultivated.

Lets hope that this will change when the so called second generation transgenic plants will be available for marketing e.g. plants with improved quality characters. In this varieties the benefit to consumer will be more obvious than in the first generation agronomic GMO,s, therefore these transgenics will be more attractive and more easily accepted. Several examples of such second generation transgenics are described and discussed.