ANALYSIS & ASSESSMENT OF GENETICALLY MODIFIED PLANTS AND DERIVED FOOD & FEED

Molecular Characterisation | Compounds Analysis | Agronomic Traits | Target and Non-Target Organisms | Soil and Micro Organisms | Toxicology | Allergenicity | Post-market Monitoring

Development of a Decision Support System (DSS) for an integrated test system towards the effective and competitive risk assessment on transgenic plants

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Project objectives:

Development of transgene specific thresholds and indicators

Combination of new and efficient methods for the risk assessment of transgenic plants with traditional procedures to form an integrated test system

Partners

a One-Stop-Agency for the risk assessment of genetically modified plants and derived food and feed

b University of Rostock Faculty of agricultural and environmental sciences (Agrobiotechnology)

c Service company for applied statistics and informatics in life sciences

Definition of the problem

Transgenic plants require specific approaches to analyze their potential impact on environment and consumer.
The procedures used to date have often been too extensive, time-consuming and expensive.

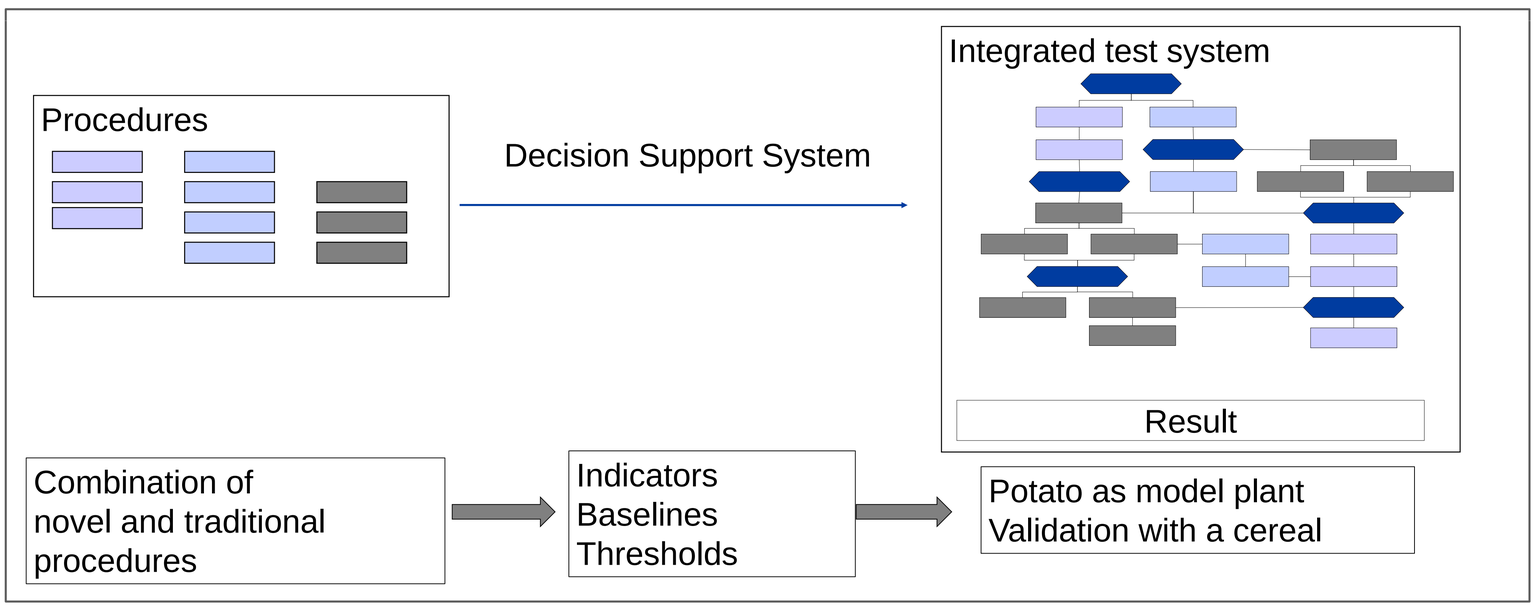

Figure 1.
Novel methods are combined with traditional procedures to form a decision support system (DSS).
The decision rules are based on indicators, baselines, threshold data identified for the specific plant species.
- Indicator: Selected trait with significance to assess a potential risk
- Baseline: "Normal" range of a trait in conventional plant species
- Threshold: Marginal values defined by baseline or governmental rules

The prototype of the DSS has been developed using potato as model plant and will be validated on a cereal. The final decision is made by a scientific expert.

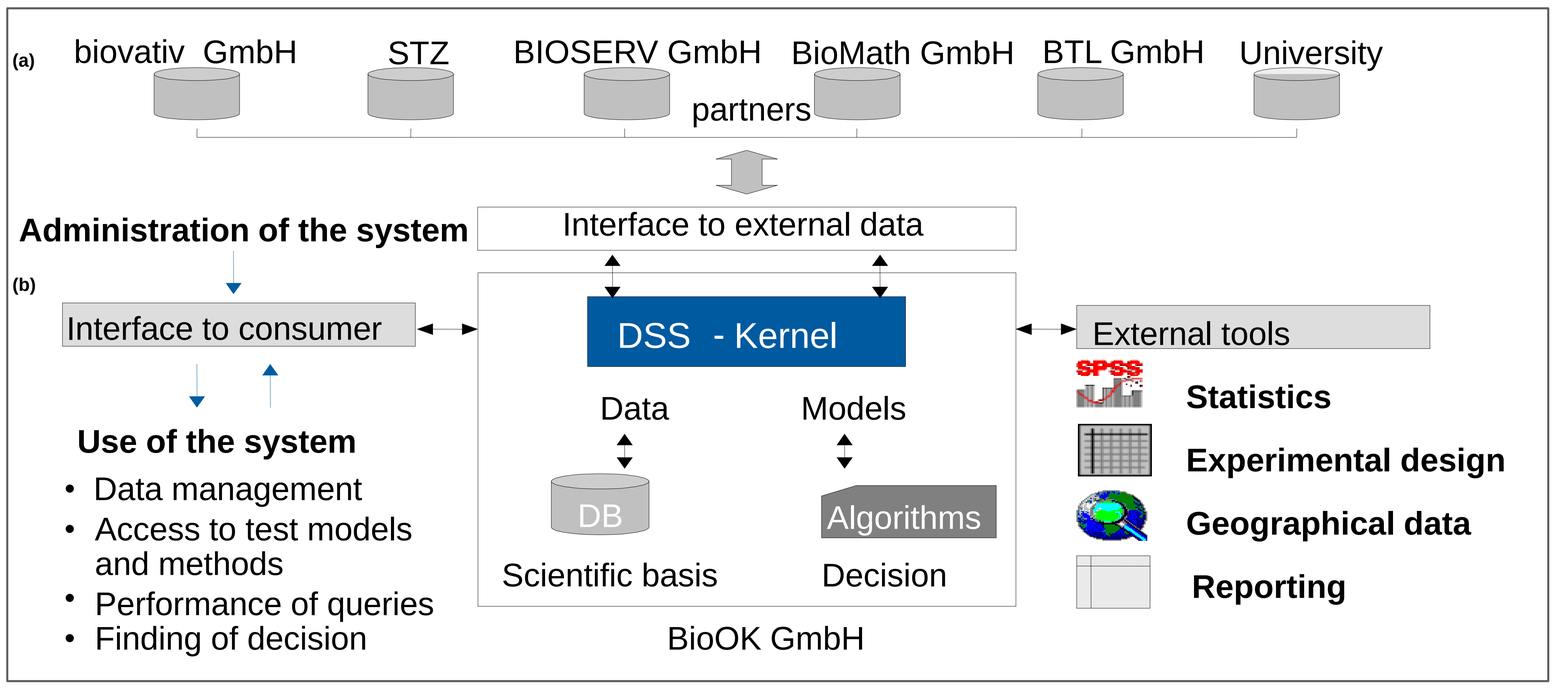

Figure 2.
The DSS is supported by a scientific database and a computerized tool using specific algorithms following a decision dendrogram.
Data is provided by (a) the partners and (b) the consumer.

Goal

The goal is to lower the costs and accelerate the approval system in order to facilitate the application of environment-friendly transgenic plants.