Proceedings of the XLIX Italian Society of Agricultural Genetics Annual Congress
Potenza, Italy – 12/15 September, 2005
ISBN **88-900622-6-6**

Poster Abstract - H.09

FACTORS AND TIME THAT CARACTERIZE THE APPROVATION OF TRANSGENIC PLANTS IN USA AND EUROPE

M. PRANDI, L. BUCCHINI

Hylobates Consulting Srl., Via Gaggiano 42, 00135 Roma, Italy – hylobates@hylobates.it

GMO, field testing, commercial release, access to market, US regulations

Genetically modified organisms (GMO), specifically crops, are constantly increasing their international market share, both in terms of seeds, fields grown and food and feed produced; attention to them has escalated in sight of the resumption of approvals in Europe. While a moratorium has been in place for several years in Europe and more stringently in Italy, research and development of new genetically modified plants have never entirely ceased in Europe and in Italy as well. If research is ever to turn into commercial deployment, it becomes important to understand which GM-specific factors drive, accelerate or slow approvals of GMOs; such factors may be measured as the time that elapses between an application for approval (or even for field testing) and the final outcome. Also, to identify the context in which Italian GMOs may compete, it may be as important to ascertain the trends in GM plants released for field trials, considering for example which species, which modifications have been tested in the recent years. Europe has resumed only recently approvals of GMOs; therefore it is difficult to use European data for this purpose. In the US, on the other hand, all data concerning approved, withdrawn and pending applications for field testing and commercial release of GM plants are publicly available since the 1985. Therefore, we have decided to conduct our analysis on US data first, and then compare the results with available European data.

Specifically, by using univariate and multivariate statistics, we have identified key factors, taking time into account, for rapid versus slow approval of GM plants (from first field testing to market release) in the database maintained by the Biotechnologies Regulation Service (BRS), an office within the US Deparment of Agriculture's APHIS (Animal and Plant Health and Inspection Service) which is responsible for apmonitoring of field trials and commercial releases.

Also, we have identified different, well defined time periods, characterized by different GM events brought to field testing, Variables scrutinized included the species modified, the institution that has requested the approval, the genotypic and phenotypic characteristics and the dates of petition (notification) and granting of approval. We have then compared these results with existing European data in order to bring to light the differences between the factors that may lead to approval of the events in the two analyzed systems.

Although US data cannot be extrapolated to the European Union without caution, our analysis provides insights into which crops and types of modification may be marketed more readily. Also, GM plant developers may understand the current scenario in terms of plants brought to testing (and eventually to market) in the US by different institutions, within a historical perspective.