

## **TRANSGENIC POPLAR AGAINST LEPIDOPTERA: AN ITALY-CHINA PROJECT FOR BIOSAFETY AND CONSERVATION**

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The area under genetically engineered plants producing *Bacillus thuringiensis* (Bt) toxins is steadily increasing. This increase has magnified the risk of resistance alleles being selected in natural populations of target insect pests. The speed at which this selection is likely to occur depends on the genetic characteristics of Bt resistance but also on the resistance management plans. Poplar plants expressing CryIAb against several species of Lepidoptera were selected. Initially they were grown in alternate rows (one row of wild type and one row of transgenic plants), however, considering several parameters, we suggest a different model for plantation strategy of GM plants and constitution of refuge areas. This approach was developed in the framework of the project “Sustainable research and development in biotechnology applied to the protection of the environment, in collaboration with the Popular Republic of China” Sponsored by the Italian Ministry of Environment, to implement and improve a resistant management plan according to the different species of pests and to the Chinese environment and regulations. A similar approach could be adopted also in Italy, in the case of a future liberalisation of Bt poplar transgenic cultures. Moreover the helpfulness of male-sterile /Bt poplars in the resistance management and on the environmental impact is discussed. In fact the release of commercial Bt poplar trees was made possible by an early Chinese regulatory system for transgenic cultures, somehow looser than the North American and European one. The Italian- Chinese project aims at the development of guidelines that could answer to European biosafety requests as well as from the new rules introduced in China aimed at the best preservation of this culture very important for the Asian Country.