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Poster Abstract - E.23

EVALUATION OF GM POPLARS EXPRESSING RELEVANT TRAITS FOR HERBICIDE TOLERANCE, DISEASE RESISTANCE AND PRODUCTION OF PHARMACEUTICS: BIOCHEMICAL, MOLECULAR AND MICROBIOLOGICAL STUDIES ON PLANTS AND DETECTION OF TRANSGENE SEQUENCES IN SOIL

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In vitro grown GM poplar plants (*Populus alba* L.) expressing the *bar*, *StSy* and *nptII* genes (Confalonieri et al., 2000; Giorcelli et al., 2004) were transferred to greenhouse and cultivated in pots containing soil collected from agricultural land. The goals of this work were: 1) to study the stability of transgene expression over different seasons during an extended period (up to three years) 2) to evaluate the susceptibility of *StSy* GM poplars to different leaf diseases 3) to evaluate the herbicide (ammonium glufosinate) tolerance of *bar* GM poplars 4) to study the stability of resveratrol compounds produced by *StSy* GM poplars over seasonal successions during three years 5) to monitor the persistence of recombinant DNA sequences in soil and assess the occurrence of horizontal gene transfer from GM poplars and soil microorganisms 6) to study the possible use of *StSy* GM poplars as potential source for the production of pharmacological compounds. The different studies are currently in progress and preliminary results are reported.