Proceedings of the 52nd Italian Society of Agricultural Genetics Annual Congress
Padova, Italy – 14/17 September, 2008
ISBN **978-88-900622-8-5**

Poster Abstract – A.44

NUCLEAR AND CHLOROPLAST DNA VARIABILITY IN *ARUNDO* (ARUNDINOIDEAE)

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biomass, chloroplast, phylogenesis

In the Mediterranean environment several perennial grasses are the leading candidates to become energy crops because they produce lignocellulosic biomass that is ideal for fuel and because they also display a good adaptability to such environments. Among perennial grasses, *Arundo donax* L. (giant reed) grows spontaneously and abundantly in Lombardy, with rapid growth and high yield capacity. Moreover, giant reed has attracted attention due to other potentially benefits such as phytoremediation and landscape beautification. Giant reeds produces flowers but viable seeds have not been observed in most areas where it has been introduced. Agamic propagation by rhizomes is the principal way to plant this species and one of the most important problems to be solved is the high planting costs, due to the difficult mechanisation of the propagation practices by rhizomes. On the other hand, in other areas of world, giant reed has escaped cultivation and become a invasive weed of riparian habitats where it not only displaces native species but also modifies ecological and successional processes. In this study, we investigate genetic variation in *A. donax* and in putative and fertile parent species (*A mediterranea, A. plini and A. collina*) using ISSR primer and chloroplast spacers (Rps16-TrnK, Rpl32-TrnL, PsbA-TrnH). The real genetic diversity of giant reeds at a wider geographical scale is not known. The knowledge of the level of genetic variability is particularly important in breeding and/or biological control programs.