

**PRELIMINARY STUDIES OF AN ITALIAN GIANT REED (*ARUNDO DONAX* L.) CLONES COLLECTION**

BUCCI A., CERINO BADONE F., CASSANI E., SCHIEVANO A., PAPA G., ADANI F., PILU R.

Dipartimento di Produzione Vegetale, Università degli Studi di Milano, Via Celoria 2,  
20133 Milano (Italy)

*Biomass, Arundo donax, energy crop*

Giant Reed is a perennial grass native of Asia, nowadays spread out in the Mediterranean area, America, Australia and North Africa. It is especially interesting as energy crop because studies conducted in Italy reported a biomass production of about 40 tons of dry matter per hectare. Giant Reed has long been associated with humans and used to satisfy local necessities, such as plant-tutors, walking-sticks, baskets and mats. Its sterility is a serious obstacle for breeding programmes with the aim of increasing productivity and biomass quality for energy conversion. In fact *A. donax* propagation is based on asexual reproduction exclusively through rhizomes and stems nodes; one shoot can sprout from each node stem in water. Although some papers reported a very low genetic variability others described significant differences in phenotypic traits. In this work we collected giant reed clones from all Italian territory: we explored along roads, railway tracks, riversides and riverbeds, scattered uncultivated areas and urban contexts, collecting 90 *Arundo donax* clones (we sampled one rhizome of about 500g with at least one vegetative bud). The rhizomes were planted (2 m between rows and 2 m within row, 20-30 cm deep) at the experimental field of the University of Milan (Landriano area 45°18'N latitude; 9°15'E longitude). We will present a preliminary characterization of this collection under several points of view.