

## ARUNDO DONAX PRODUCTIVITY IN THE EU.

### RESULTS FROM THE GIANT REED (*ARUNDO DONAX L.*) NETWORK (1997-2001).

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**ABSTRACT:** *Arundo donax* was cultivated in small plots in eight European sites, with the aim of evaluating the adaptability, growth and productivity of the crop in a range of climate, soil and cultivation conditions. Further to that, propagation, harvesting and storage methods were investigated. Biomass samples were tested for their fuel, pulp and paper characteristics

The efficiency of *A. donax* as a biofiltering device for sewage effluents was also examined. The results obtained so far have shown that *A. donax* can be successfully established and grow under a wide range of climatic conditions. Biomass yields showed high variability and were rather low at the establishment year, but increased rapidly in the subsequent years.

However, maximum biomass production is not to be anticipated prior to the third growing period. Rhizomes were proved to be a better propagation material compared to stem cuttings and whole stems. The fuel characteristics and calorific value of *A. donax* can be considered satisfactory for energy production. The tentative experiments on kraft pulping of *A. donax* confirmed the potential applicability of this plant material for pulp production. The results from irrigation with sewage effluents showed that the benefits of the studied close hydroponic system that used wastewater as a nutrient solution are twofold, biomass production and filter for heavy metals and minerals.

**Keywords:** giant reed, rhizomatous perennial grasses, biomass production, paper production