

ARUNDO DONAX PRODUCTIVITY IN THE EU

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ABSTRACT: Ten *Arundo donax* populations were cultivated in small experimental plots in four EU sites, that is in Madrid -Spain, Thiverval-Grignon – France, Braunschweig – Germany and Cambridge –UK. The experimental trials followed a randomised complete block design that provided plots of 4m x 5m, in three blocks. Crop survival over the winter, shoot height and density were monitored at monthly intervals, during the first, second and third growing periods. Dry matter yields were estimated at the final harvest every year. Results obtained so far have shown that *A. donax* can be successfully established and grow under a wide range of pedoclimatic EU conditions. In general the tested population exhibited better growth and yield performance in the sites of their origin. Almost all the populations, grown in Spain, produced considerable yields in all years. *A. donax* L. plants in Germany and UK survived over the winter but did not appear to naturally dry over the winter, nor to flower. This may be a potential problem for growing *A. donax* L. in North European conditions, as there could be a lack of sufficient nutrients sequestered to the rhizomes for the following years growth. Biomass yields showed high variability and were rather low at the establishment year, but increased in the subsequent years. However, maximum biomass production is not to be anticipated prior to the third growing period.

Keywords: giant reed, perennial grasses, biomass production