



## Physiological response to water and salt stress of some White Lupine cultivars (*Lupinus albus* L.)

Cristina SLABU, D.P. SIMIONIUC, F. D. LIPȘA, Violeta SIMIONIUC - USAMV Iasi

Currently in Europe is a tendency to counteract some negative effects caused by intensive agriculture. One of these effects, genetic erosion, is determined by the existence in the culture of a small number of species and, within them, a relatively small number of cultivars. White lupine, by its traits (high quality protein content, ability to fix atmospheric nitrogen and to use low-phosphorus soils), could become very interesting species for farmers. The climate and edaphic changes, characterized by extreme temperatures, drought and saline soils represent a challenge for white lupine in extending surfaces. In this study, we observed the reaction of 34 white lupine cultivars to drought and soil salinity. Plants were grown in vegetation pots (type Mitscherlich) until flowering. Regarding drought resistance, quantified by the amount of biomass accumulation, stomatal conductance and assimilatory pigments concentration in green house conditions were measured. Increased resistance to drought was found in the Romanian cultivars Satu Mare and Bihor. From the foreigner, P12159, Lublanc and Družba showed also resistance to dryness. NaCl excess in soil reduces vegetative growth because of lowering the amount of accumulated biomass and decreasing the chlorophyll concentration. Most of cultivars showed toxicity symptoms characterized by leaf chlorosis and necrosis.