WEATHER CONDITIONS AND THE YIELDING
OF NARROW-LEAF LUPINE (Lupinus angustifolius L.) IN NORTHERN POLAND

Key words: meteorological factors, narrow-leaf lupine, northern Poland, yield

Summary

The influence of meteorological factors on the yielding of narrow-leaf lupine Wersal cultivar was studied in the years 1992–2006. The study material on yield and weather conditions originated from the experimental stations of the evaluation of varieties situated in northern Poland. Forward stepwise multiple regression method was used in the analyses and obtained equations were evaluated by the coefficient of determination $R^2$, adjusted coefficient of determination $R^2_{adj}$, Cross Validation procedure to obtain predicted coefficient of determination $R^2_{pred}$ and Fisher-Snedecor test. Weather parameters such as solar radiation, average temperature and precipitation were differentiated in individual periods of growth and development of the narrow-leaf lupine, which had a significant impact on yield, phenology and the length of inter-phase periods. Only in the experimental station in Glodowo, the obtained equations successfully passed the verification test by the Cross Validation procedure and were statistically significant in all distinguished periods of development. Among the factors that had a significant impact on yield variability were mainly: the minimum temperature from sowing to germination and from germination to beginning of flowering and rainfalls from the flowering till technical maturity. In Bialogard, only one equation proved statistically significant after CV procedure, no significant equations were obtained for Marianowo.