THE EFFECT OF HYDRO-THERMAL CONDITIONS ON THE SEED YIELD STRUCTURE OF FODDER GALEGA (Galega orientalis Lam.)

Key words: cultivation, fodder galega, precipitation, temperature, yield structure

Summary

The fodder galega (Galega orientalis Lam.) is a perennial plant of Fabaceae having a complex root system, which makes its response to water deficits less dynamic than that of other legumes. The fodder galega var. Gale was grown in a long-term, univariate experiment set up randomly at the experimental object of the University of Natural Sciences and Humanities in Siedlce. In the years 2000–2004 the effect of precipitation and air temperature in the vegetation period on selected components of seed yield (the number of clusters per plant, length of a cluster (circle), length of the productive part of cluster, the average number of pods in a cluster, the mass of pods on the shoot, the number and mass of seeds and the mass of thousand seeds) was studied. Samples were taken randomly at the end of July in the period of full maturity of pods on shoots. The results were summarized and compiled by calculating the mean and coefficient of variation, and resulting means were compared using Student’s t test at significance level of $p \leq 0.05$. The yield structure parameters were determined by multiple regression equations describing the effect of studied hydro-thermal conditions on the seed mass yield. Multiple regression showed the largest, significant effect of hydro-thermal conditions on the differentiation of yield components in February, March and May. Significantly positive impact on the number of pods per shoot and the number and mass of seeds was exerted by larger precipitation in March, but higher than average rainfall in July significantly limited the number and mass of seeds per shoot. The greatest response to changes in hydro-thermal conditions was noted in the number of pods per shoot and the mass of one thousand seeds.