Halina DZIEŻYC, Kazimierz CHMURA, Zenobiusz DMOWSKI

DETERMINATION OF THE EFFECT OF PRECIPITATION ON THE YIELD OF VERY EARLY AND EARLY POTATOES IN SOUTHERN POLAND

Key words: complex of agricultural usefulness, early potato, precipitation, very early potato

Summary

The data were taken from SDOO located in southern Poland (Węgrzce and Nowy Lubliniec). Very early and early varieties of potatoes were grown on very good and good wheat soil complexes and on very good, good and poor rye soil complexes in the years 1986–2005. The effect of rainfall during April–May and June–July on the variability of tuber yield was examined using the regression model, separately for wheat or rye groups of soil complexes, taking into account time trend. The set of factors: April–May rainfall – 105 mm and June–July rainfall – 205 mm proved to be optimum for high tuber yields on wheat soils. The least favourable situation was when the highest rainfall in April–May (160 mm) was followed by the highest rainfall in June–July (255 mm). The difference of tuber yield between the two extreme cases was 8.14 Mg·ha⁻¹. Much greater differences in yield of very early and early potatoes were caused by rainfall on rye soils. The optimum set of factors was that which included high rainfall in both April–May (156 mm) and June–July period (255 mm). The lowest yield was obtained when the precipitation in both periods were the lowest – 90 and 105 mm, respectively. The difference in tuber yields between optimum and the least favourable conditions amounted 16.6 Mg·ha⁻¹. Under optimum precipitation conditions, tuber yields of very early and early potato grown in the wheat soil complexes were 49.71 Mg·ha⁻¹ and in the rye soil complexes – 46.74 Mg·ha⁻¹.