



Weather and soil influences on maize yield in the eastern Croatia

J. SOSTARIC - University J. J. Strossmayer in Osijek, Croatia
M. JOSIPOVIC - Agricultural Institute, Croatia

The eastern Croatia occupies about 22% state territory and participating 40% maize harvested area. Grain yield of maize for 30-year period (1961-1990) under less favorable soil conditions (pseudogley) of Podr. Slatina area was for 31 % lower than on more fertile soils (eutric cambisol) of Vukovar area. Depending on water regime there were found considerable differences of maize yields among years. The higher influences of precipitation on maize yields were found for Vukovar municipality area (20 % lower yield under drought stress in comparison with 30-year mean) while in Podr. Slatina area it was less influencing factor of yield. This phenomenon could be to explain with more aerated soils of Vukovar area and lower migration of subsurface water to the higher soil horizons. Weather differences among individual growing seasons are more responsible factor of maize yields for a short period. Especially low maize yield in the region in 2000 (34% lower in comparison with four previous years) is mainly influenced by water shortage. For example, the amount of precipitation in Osijek for the period May-August in 2000 was 107 mm or only 40% in comparison with 30-year mean (1961-1990). The 2003 growing season was also unfavorable for the spring crops growing. For example, precipitation in 4-months May-August period was only 162 mm (the data of Osijek Weather Bureau) and it is for 40% lower in comparison with 30-years mean. Under these conditions, maize yield in Eastern Croatia was only 4.49 t ha⁻¹ or 38% lower in comparison with previous year.