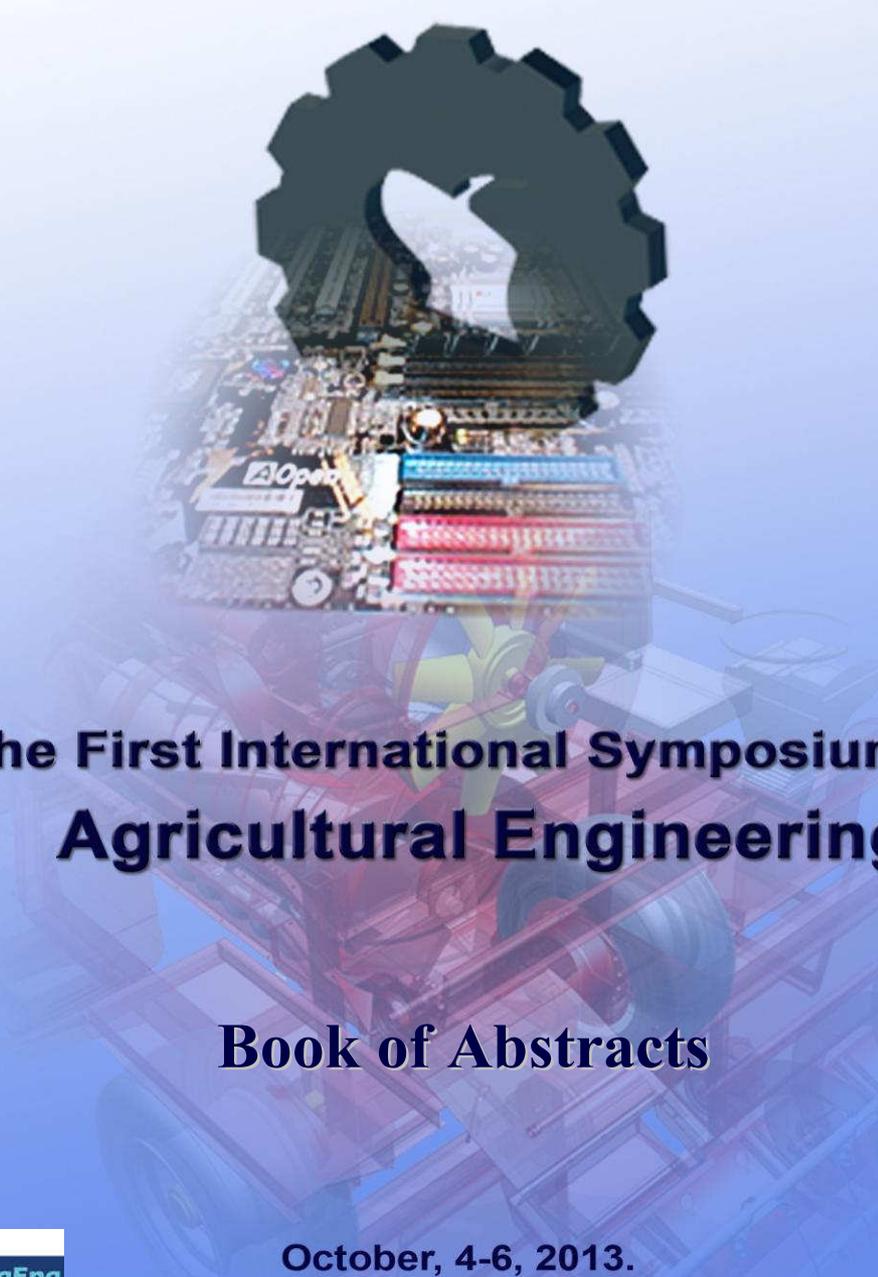




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EFFECTS OF CONSERVATION SOIL TILLAGE SYSTEMS ON YIELD OF MAIZE, WINTER WHEAT AND SUNFLOWER IN SREM REGION

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Abstract. The paper presents comparison of two soil tillage systems in maize, winter wheat and sunflower growing in Srem region, Serbia, during 2008-2011. Tillage systems and implements were: conventional system (CT) - plough, disc-harrow and combined implement, and conservation system (ST) – vibratory subsoiler, disc-harrow and combined implement. The aim of testing was comparison of different tillage systems energy consumption and its influence on yield and profit. Results indicate that conventional tillage (CT) system was the lower energy consumer with 433.18 MJ·ha⁻¹, or conservation (ST) system spent 10.08% energy more. In the first season the greatest yield of maize, 7,083 kg·ha⁻¹, achieved conservation tillage (ST) system while conventional tillage (CT) system achieved 9.92% lower yield. Second season the greatest yield of winter wheat, 4,525 kg·ha⁻¹, achieved with conservation tillage (ST) system with regard to conventional (CT) system with 3,577 kg·ha⁻¹. Third season the greatest yield of sunflower 3,011 kg·ha⁻¹, achieved conservation tillage (ST) system again, with regard to conventional (CT) system with 8.56% lower yield.

Key words: *soil tillage, conventional tillage, conservation tillage, energy consumption, yield, profit.*