



Research concerning the influence of minimum soil tillage systems on weed density and crop yields of soybean, wheat, potato, rape and corn

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The researches carried out in Cluj-Napoca between 2000 and 2004, have confirmed the influence of minimum soil tillage systems on weeding and on crop productions of soybean, wheat, potato, rape and corn. In comparison with the classic soil tillage system (tilt furrow ploughing), the tillage systems with chisel, paraplow and rotary harrow lead to an increase of weeding and change of floral composition. Weeding owed to annual monocotyledonous species is growing with 15-19 % for chisel and paraplow variants and with 33% for rotary harrow. In the case of annual dicotyledonous species the growth is of 5-16% for the chisel variant, 7-20% for paraplow and 22-36% for rotary harrow. The maximum weeding growth rate is registered for perennial dicotyledonous weeds (*Convolvulus arvensis* and *Cirsium arvense*): 23-25 % for chisel, 27-30% for paraplow and 41-44% for rotary harrow variant. The minimum soil tillage variants ensure crop productions practically equal to those obtained in the conventional system, except the potato and corn crop. The rotary harrow variant can be used for rape and wheat cultures.