

Crop rotations influence on ecological wheat yields

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Abstract

One of the agrotechnical rules favorable to agriculture is the promotion of crop rotation. Depending on the evolutionary stage of economic requirements, field plants can follow such a rule, permanently adapted to the farmer's needs. In this context, long time of experiments (in the last 47 years) bring some contributions to the possibilities offered by the farming of zonal agriculture systems in such rotations. The results obtained with wheat were obtained both in short rotations (1-2 years) and in medium ones (4-6 years). In the monoculture of wheat (W), the average production was 13.7 q/ha, with annual fluctuations between 5.7 and 26.9 q/ha. In some years, the average yields were 5.0-8.0 q/ha, as minimum levels that could express the natural potential of the soil. In the 2-year maize-wheat (M-W) rotation, wheat produced an additional 1.8 q/ha, against the background of soil fatigue. In the 4-year rotation, wheat-maize-peas-wheat (W-M-P-W) wheat produced an additional 6.3 q/ha. In the multi-year rotation, the 6-year, wheat-clover-wheat-maize-maize-sunflower (W-C-W-M-M-SF) rotation contributed to the formation of an additional average wheat production of 8.2 q/ha. The results demonstrate the possibilities of increasing wheat production over time, as well as the promotion of agriculture with new, ecological rules, and under the conditions of the albic luvisol in the south of the country.

Keywords: crop rotations, natural soil condition, yields, wheat