

# Influence of crop rotation on microbial activity and yield in Cerrado agroecosystem

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The influence of agricultural practices on land degradation is very related to organic matter degradation (carbon cycle). Microbial respiration and yield of no-tillage system with different crop succession in a field experiment on the south-west of Brazil were studied using classical techniques of soil biology. Soil samples (bulk soil) were taken in 1998 and 1999 from different crop combinations systems. The quotient between soil respiration and the biomass was presented as  $qCO_2$ . In 1998 yields were reduced by *Echinochloa* effects over the region, mainly related to a reduction of soil biomass at all studied systems. Although in 1999 it could be demonstrated that there were no differences on biomass among no-tillage with crop rotation systems, but the crop combination with maize, oats and soya showed higher yield associated with an increase of the microbial respiration.