

International Agrophysics

Polish Journal of Soil Science

Acta Agrophysica

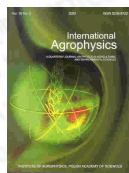
Instytut Agrofizyki

International Agrophysics

General information

Issues

Search



International Agrophysics

publisher: Institute of Agrophysics
Polish Academy of Sciences
Lublin, Poland

ISSN: 0236-8722

vol. 22, nr. 3 (2008)

[previous paper](#) [back to paper's list](#) [next paper](#)

Effects of herbicides, lucerne meal, and zinc on microbial activity and aggregate stability of soils

[\(get PDF\)](#)

B.-M. Wilke, M.Fuchs

Technische Universität Berlin, Institut für Landschaftsentwicklung, Albrecht-Thaer-Weg 4, D-14195 Berlin, Germany

vol. 10 (1996), nr. 4, pp. 257-262

abstract In laboratory experiments aggregates (1-2 mm) of a loamy colluvial soil and a silty luvisol soil were treated with the herbicides Gramoxone and Goltix WG, the active agent of Goltix WG Metamitron, lucerne meal and zinc. Lucerne meal clearly enhanced the aggregate stability of both soils. At dosages 10 and 50 times those of the recommended application rate also Goltix WG slightly enhanced the stability of aggregates 1 - 2 mm in both soils in the first experiment. There were no differences between Goltix WG and its active agent Metamitron. The stabilization of aggregates can be attributed to an increased metabolism of easily degradable organic substances. It was assumed that by this process stabilizing metabolic products were formed. The recalcitrant herbicide Gramoxone and zinc destabilized soil aggregates by reducing microbial activity at dosages 10 times the recommended application rate (Gramoxone) and 240 mg kg⁻¹ (Zn), respectively. Aggregate stability was more reduced in the colluvial soil showing lower aggregate stability than in the loamy colluvial soil.

keywords aggregate stability, microbial activity, herbicides, zinc, lucerne meal

Instytut Agrofizyki PAN
ul. Doświadczalna 4
20-290 Lubline-mail: sekretariat@ipan.lublin.pl
tel.: +48817445061
fax: +48817445067