Effects of chlorsulfuron on soil microbial population

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The sulfonylurea herbicide chlorsulfuron [2-chloro-N-[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]-benzenesulfona mide] is effective used in wheat (Triticum aestivum L.) to control a wide spectrum of weeds and has low toxicity to humans and animals. Chlorsulfuron control weeds by inhibiting acetolactate synthase (ALS), an enzyme required for leucine, valine and isoleucine biosynthesis in plants and microorganisms. Tolerance of wheat to chlorsulfuron is based on its ability to metabolize this substance to herbicidally inactive conjugate. Different concentrations of chlorsulfuron ranged from 31.5 to 56.7 mg/l were used and his effect on the soil microflora was investigated. The influence of chlorsulfuron on the existing microbial population in soil (Gram positive bacteria, Gram negative bacteria and micromycetes) was measured every seven days for a month. The objective of this research was to determine the influence of chlorsulfuron on the total number of microorganisms, on the relationship between the main groups (bacteria and fungi), and on the micromycetes spectrum determined in each variant of our experiment.