Abstrakt

Heavy metals are part of us life for many centuries. Some of them are for living organism neccessary, but in large amount they have toxic effects. So we should decrease amount of heavy metals in the Environment. We have many way to do it. A relatively new way are the phytoremediation. If we would use the phytoremediation, we should know, what they do in plants. We must use specific plants, which are tolerant to certain heavy metal. If we would select a suitable plant, we have to try, how heavy metals in soil solution are toxic to plants.

Zinc is no expection, although it is important part of many proteins. In plants it make rusty leaves and reduct aboveground and root biomass production. In hydroponic experiment I investigated that mallow *Malva verticillata* was very sensitive to low additon of $Zn(NO_3)_2$. The toxic efect appeared in 2 weeks. In sorghum *Sorghum bicolor* zinc show expressive toxic effect at concentration 1 mmol/l.

I studied six cultivars of Sorghum bicolor, DSM 14-535, Expres, Honey Graze BMR, Nutri Honey, Sucrosorgho 506 and Sweet Virginia. According EC_{50} I assessed that the most sensitive was Sucrosorgho 506 and very tolerant were Nutri Honey and Sweet Virginia. Cultivar Nutri Honey was characteristic. It had the highest ratio concentration in shoot to concentration in root.

I studied take accumulation in sorghum *Sorghum bicolor* with using EDTA and GSH. This chelators had no effect to translocation zinc to shoot, but GSH could increase concentration of zinc in roots.