

## Effects of herbicides on fungal phytopathogens

### ABSTRACT

Herbicides are inevitable inputs to control excessive weed in crop land, particularly where modern agricultural practices such as conservation tillage, are opted. Intensive farming has increased the market value of herbicides among the other pesticides. Although herbicides are effective in controlling weed population, administration of this synthetic chemicals may alter the soil microbial community causing potential increase of plant pathogens. Moreover, herbicides may also have nontarget effects on the cultivated crops making them more susceptible to diseases. Actions of herbicides in soil that either stimulate microbial growth or wipe out some microbial population may create space for the thrival of opportunistic fungi. Previous studies showed that white rot fungi are more tolerant to herbicides as they produce lignin degrading enzymes that are highly oxidative, non-specific and are able to transform a wide range of herbicides. Besides that, this group of fungi can grow on agricultural waste substrates. Influence of these herbicides on soil microbial ecosystem and interactions of plants and pathogenic white rot fungi modulate disease development in plant hosts.

**Keyword:** Herbicide; Lignin degrading enzymes; Soil microorganisms; White rot fungi