

Pesticide seed treatments may decrease soil health, increase weeds, study finds

Use of seed coated with mixtures of fungicides and insecticides has exploded in recent years to protect most crops from soil pathogens and insects. But growing evidence suggests pesticides may inadvertently protect weed seeds in the soil from being attacked by naturally occurring invertebrate and fungal species, says UNH agroecologist Richard Smith.

Penn State researchers have been gathering data on the indirect effect on weed banks in corn and soybeans since 2013, according to Penn State entomologist John Tooker.

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A host of natural enemies — insects, fungus and other microbes — living in the soil perform beneficial services such as suppressing weed populations. By attacking weed seeds in the soil, these beneficial organisms help to reduce weeds that then need to be controlled via tillage or herbicides, explains Smith.

Preliminary data, according to Smith and Tooker, suggests that the insecticides and fungicides coated on most corn and some soybean seeds, generally referred to as pesticide seed treatments, can exacerbate the weed challenges faced by farmers. Penn State trials found 26 weed species. Compared to the control corn and soybean plots, density of germinable weeds in the weed seed bank was 32% to 40% higher during the two study seasons.

The GLP aggregated and excerpted this article to reflect the diversity of news, opinion and analysis. Read full, original post: [Seed treatments may hurt soil fauna, help weeds](#)