Science Societies

Wheat Declines After Canola in Pacific Northwest

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A large-scale and long-term cropping systems study near Ritzville, WA. Canola acreage is rapidly increasing due to the crop's yield potential and market value. However, to date, field studies in the Pacific Northwest drylands have shown that wheat yields following canola are reduced compared with wheat grown after another cereal. Photo by Bill Schillinger, Washington State University.

Farmers in Mediterranean climate regions are increasingly growing canola in wheat‐based systems to control diseases and weeds and enhance crop marketing opportunities.

Including canola in crop rotations has been widely reported to improve grain yield of the subsequent wheat crop in numerous field experiments conducted around the world. However, no such enhancement of wheat yield following canola has yet been seen in the inland Pacific Northwest of the United States.

A team from Washington State University and USDA‐ARS conducted a six‐year rainfed field experiment to measure the effects of canola, winter wheat, and winter triticale on three parameters: soil water use; overwinter soil water gain after harvest; and yield of spring wheat after each crop. They found that overwinter soil water gain in canola stubble was significantly reduced compared with water gain in the stubble of winter wheat and winter triticale. Stored soil water content in the spring was closely correlated to spring wheat grain yield.

The article, published in *Agronomy Journal*, provides the first report in the literature of decline in wheat yield after canola due to reduced overwinter soil water storage versus soil water after wheat or triticale.

Adapted from Schillinger, W.F., Paulitz, T.C., & Hansen, J.C. (2023). Canola rotation effects on soil water and subsequent wheat in the Pacific Northwest USA. *Agronomy Journal*, *115*, 314–324. https://doi.org/10.1002/agj2.21248