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Cover crop did not affect yields or net returns in water-limited environment

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Cover crops emerging in a continuous cotton system.

Cover crops have numerous potential benefits although adaptation in water-limited environments has shown mixed results on cash crop yields that are planted directly after cover crops. Crop performance and economic returns are often used by producers to gauge the feasibility of adoption as is potential soil water use by cover crops.

In an article soon to be published in *Agronomy Journal*, researchers report on a six-year study under pivot irrigation in the Texas Rolling Plains where climatic conditions are highly variable with recent periods of prolonged drought. Two different types of cover crops were evaluated: a wheat cover crop and a multi-species cool-season mixture consisting of grasses and legumes.

The team found that lint yields were not affected by cover crop in no-till compared with no-till and conventional till systems without cover crops. Only one of six years reported significant effects when cover crops resulted in greater yields than systems without cover crops. Over six years, cover crops increased yields by about 9%.

While cover crops greatly increased total input costs, there were no differences for net returns among treatments. Under irrigated conditions in the Southern Great Plains, cover crops could provide ecosystem services without negatively affecting lint yield or net returns in continuous cotton systems.

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DeLaune, P. B., Mubgumba, P., Fan, Y., and Bevers, S. (2020). Cover crop impact on irrigated cotton yield and net return in the Southern Great Plains. *Agronomy Journal*, *112*. **https://doi.org/10.1002/agj2.20135**

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