



Skip-Row Planting Is Potentially Beneficial in Rainfed Cotton

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A cotton flower from the skip-row study at the USDA-ARS Grassland Soil and Water Research Laboratory in Temple, TX, which provided the photo.

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Cotton (*Gossypium hirsutum* L.) is an important crop in Texas and the southern U.S. Improving management to sustainably increase productivity in rainfed cotton is a goal of cotton research. Fertilization with foliar potassium (K) could potentially improve cotton quality and growth, and skip-row arrangements can conserve resources and reduce drought stress, which is a problem particularly in rainfed cotton, by reducing the planted area.

A recent study in *AgroSystems, Geosciences & Environment* tested the effects of both foliar K fertilization and row spacing on cotton yield, quality, and nutrient uptake from 2017 to 2020. Researchers at the USDA-ARS facility in Temple, TX set up a field experiment with full-row treatments, where all rows were planted, and skip-row

treatments where every third row was skipped. They also tested foliar K, applying K (0, 5, and 10 kg ha⁻¹) during the blooming stage at two-week intervals. Foliar K application had no effect on yield or quality while the skip-row treatment increased yield and quality in the driest year and had no effect in the wetter years.

Skip-row configurations can be used to improve quality and yield and decrease production costs in rainfed cotton in drier climates.

Adapted from

Menefee, D., Smith, D. R., Zwonitzer, M., & Collins, H. P. (2023). Effects of row spacing and potassium foliar applications on yield of cotton. *Agrosystems, Geosciences & Environment*, 6, e20432. <https://doi.org/10.1002/agg2.20432>

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