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Strategies help manage bermudagrass competition with alfalfa

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Forage accumulation in this study was assessed by harvesting the entire plot at a 10-cm stubble height, and botanical composition was performed manually to estimate the proportion of alfalfa, bermudagrass, and weed components in each plot. Photo by Esteban Rios.

Including forage legumes in grasslands enhances livestock production and can increase soil carbon storage while reducing greenhouse gas emissions and nutrient leaching. However, competition from vigorous, adapted grasses limits legume contributions to warm-climate grasslands.

As recently reported in *Agrosystems, Geosciences & Environment*, University of Florida researchers tested strategies for reducing bermudagrass grass competition to alfalfa, from time of planting the legume through two years of harvesting the mixture. The research team applied a low dose of grass-suppressing herbicide and clipped the bermudagrass to different heights prior to planting alfalfa.

Clipping grass closely (to 5 cm) favored the legume by suppressing grass growth during legume establishment. The herbicide did not affect legume response. Researchers also applied either zero or a low rate of nitrogen fertilizer to the mixture during two years of harvest. The nitrogen increased mixture and bermudagrass yield in the first year. But by the second year, alfalfa contribution was much greater with no fertilizer.

Successful alfalfa–bermudagrass mixtures are more likely if grass competition is controlled by clipping the grass closely prior to alfalfa planting in fall and avoiding use of nitrogen fertilizer during years of forage harvest.

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Harling, J.F., Sollenberger, L.E., Rios, E.F., Dubeux, J.C.B., & Wallau, M.O. (2022). Managing bermudagrass competition to overseeded alfalfa. *Agrosystems, Geosciences & Environment, 5*, e20279.

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