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ASA, CSSA, & SSSA International Annual Meeting
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American Society of Agronomy | Crop Science Society of America | Soil Science Society of America

Start **284-7 Water and Radiation Use Efficiencies in Soybean Affected By Cover Crops.**

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Soil and crop management affect water use efficiency by crops especially on surface energy balance. No-till and integrated crop-livestock systems are soil and crop management strategies very well recognized to increase soil and crop productivity, and soybean radiation use efficiency and water use efficiency under integrated crop livestock systems are not wide investigated. Soybean production in Northeast Cerrado region in Brazil (Tocantins state), have been increased in areas under degraded pasture with the purpose to implement integrated crop-livestock systems. The most used method to implement ICLS is seeding forage right after soybean harvest to further use as cover crop prior soybean planting. However, we have seen that growers are reducing their potential to increase the number of animal per area due the water limited conditions after forage seeding. Oversowing cover crop into soybean at R5 have been used in some regions to anticipate the forage to beef production. We aimed to investigate soybean water and radiation use efficiencies affected by oversowing cover crops. Oversowing cover crops increased soybean yield in about 40% compared to soybean-fallow. Radiation use efficiency increased 35%. Water use efficiency increased 45%.

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