Forage Production of Sainfoin Across an Irrigation Gradient. (C03-peel165807-Poster)

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Abstract:

The presence of a legume can increase forage production and quality in intensively managed pastures. Our objective was to evaluate the relative forage production of sainfoin (Onobrychis viciifolia Scop.), a nonbloating legume, compared to alfalfa (Medicago sative L.) under varying water levels. Thirteen sainfoin cultivars and 'Deseret' alfalfa were evaluated for relative forage yield at four water levels and four harvests for two years under a line-source irrigation system combined with a rainout shelter. The four water levels (WL1, WL2, WL3 and WL4) received 783, 658, 349, and 83 mm of water, respectively. Annual production of sainfoin at WL1, WL2, WL3, and WL4 was 11.6, 11.4, 9.6, and 8.9 Mg/ha, respectively, whereas, production of Deseret was 20.7, 18.5, 18.0, and 16.3 Mg/ha, respectively. Yield trends for both species across water levels were linear with parallel slopes. Average yield of sainfoin at Harvests 1 through 4 was 5.5, 2.1, 1.5, and 1.3 Mg/ha respectively. Yield of Deseret at Harvests 1 through 4 was 5.9, 5.3, 4.7, and 2.4 Mg/ha. At Harvest 1 yield of sainfoin and Deseret did not differ; however, Deseret out yielded sainfoin at later harvests. The linear trend with a small slope in production of sainfoin across water levels indicates tolerance to dry conditions. With a high production potential from early growth sainfoin should be targeted for situations where early growth is desired.

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