Susceptibility of Russian Wildrye to Acidic Soil / Aluminum Toxicity. (C01-hopkins121809-Poster)

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Abstract:

Our objective was to determine the effect of acidic and limed soils on seedling growth of tetraploid and diploid Russian wildrye(Psathyrostachys juncea) cultivars. Seedlings of Mandan and Tetracan (tetraploids), as well as Bozoisky Select and Mankota (diploids), were grown in sandy limed, sandy acidic, silt loam limed, and silt loam acidic soils in the greenhouse. Four total experiments, each with 8 replications as a split plot design, were conducted at Ardmor OK and Vernon, TX. Seedlings were harvested approximately 60 days after planting. Response to lime for shoot and root length, tiller number, as well as shoot and root weight was neutral or negative at Ardmore, whereas response to lime was in most cases positive at Vernon. Although entry by lime interactions were observed, no consistent differences were found for response to lime between tetraploids and diploids. At the conclusion of the experiment, soils from the Ardmore experiments were high in available nitrogen, whereas soils at Vernon contained high levels of sodium. Differences in tap water composition may have confounded any differences in seedling tolerance to acidic soil among Russian wildrye cultivars.

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