

Improving Seeding Recommendations for Annual Grass Management with Indaziflam

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What did we want to learn?

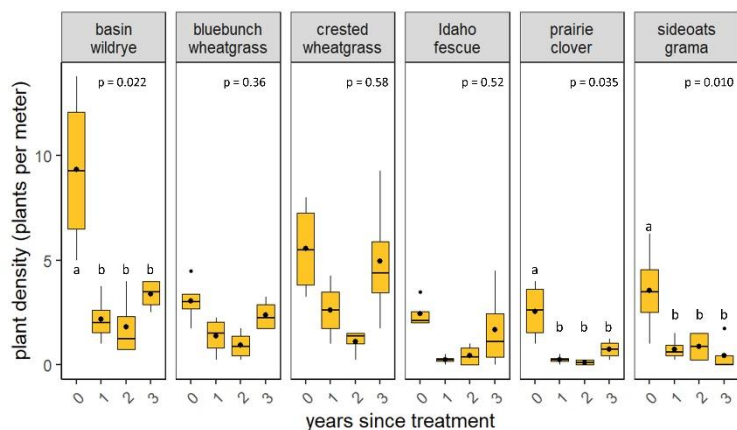
Indaziflam (Rejuvra™) is quickly becoming a standard for treating invasive annual grasses in rangelands. However, since it effectively kills most germinating seeds shallow in the soil, it makes seeding desirable species into degraded sites difficult. We wanted to know if **indaziflam tolerance varies among species** and whether **seeding depth and time between herbicide application** and seeding affect seeded species establishment.

Species Tolerance

We observed differences among species in their tolerance to indaziflam under field conditions. Species showing **potential tolerance** included basin wildrye, green needlegrass, prairie sandreed, western wheatgrass, dotted gayfeather, and desert biscuitroot. Species where establishment was **noticeably reduced** by indaziflam included blue grama, bluebunch wheatgrass, indian ricegrass, Sandberg bluegrass, sideoats grama, purple prairie clover, and prairie sunflower.

Seeding Depth

In controlled greenhouse studies, seeds placed deeper in the soil surface showed better emergence with indaziflam than when seeded more shallowly in the soil, particularly when species were capable of emerging from deeper (i.e. western wheatgrass, green needlegrass). Under field conditions, indaziflam reduced seeded species establishment at all depths, with differences being less pronounced when indaziflam was applied following seeding. It is important to note that we applied herbicide at the time of seeding and did not allow for a full replant interval to be met.



Time Since Application

We seeded six species into sites with different times since indaziflam application (1, 2, and 3 years since treatment, and never treated –shown as 0 in the figure to the left). Plant densities 60 days after planting were highest in non-treated plots across all species except crested wheatgrass, where plant density 3 years after indaziflam treatment was similar to the nontreated plots. For all other species except sideoats grama, plant density was higher 3 years after indaziflam application than 1 or 2 years after treatment, suggesting a 3-year replant interval may be best.

