

**Gaining Ground on Invasive Annual Grasses - New Options to Rehabilitate Our Natural Areas.** Harold Quicke\*<sup>1</sup>, D. Sebastian<sup>2</sup>, S. Nissen<sup>2</sup>. <sup>1</sup>Bayer CropScience Vegetation Management, <sup>2</sup>Bioagricultural Science and Pest Management Department, Colorado State University, Fort Collins, CO, USA. \*harry.quicke@bayer.com.

Invasive winter annual grasses are spreading at an alarming rate across the western US, out-competing native vegetation, degrading wildlife habitat, reducing diversity and fostering more frequent, more intense wildfires. During the winter and early spring, the annual grasses exploit moisture and nutrients before native plant communities break dormancy. This results in dense stands of winter annual grasses invading disturbed areas and significant reductions or elimination of desirable perennial grass, forb and shrub species. In 2016 a new option for controlling annual invasive grasses became available with expanded labeling of Esplanade<sup>®</sup> 200 SC herbicide (indaziflam) (supplemental label not approved in California at the time of writing). Results from field and greenhouse studies document the potential to provide multiple years of control of invasive annual grasses such as cheatgrass (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), medusahead (*Taeniatherum caput-medusae*), ventenata (*Ventenata dubia*) and feral rye (*Secale cereale*). After removal of the annual grass competition, remnant perennial populations quickly start to recolonize allowing for a return of diversity, improved wildlife habitat and reduced threat of damaging wildfires. Preliminary results also show the potential for reseeding perennial warm and cool season grasses into areas where remnant native populations are too low for effective recolonization. In addition to controlling annual grasses, field studies document that Esplanade can be effective as a tank mix component when targeting established biennial and perennial weeds. With Esplanade in the tank, reinvasion of weed seedlings can be inhibited.