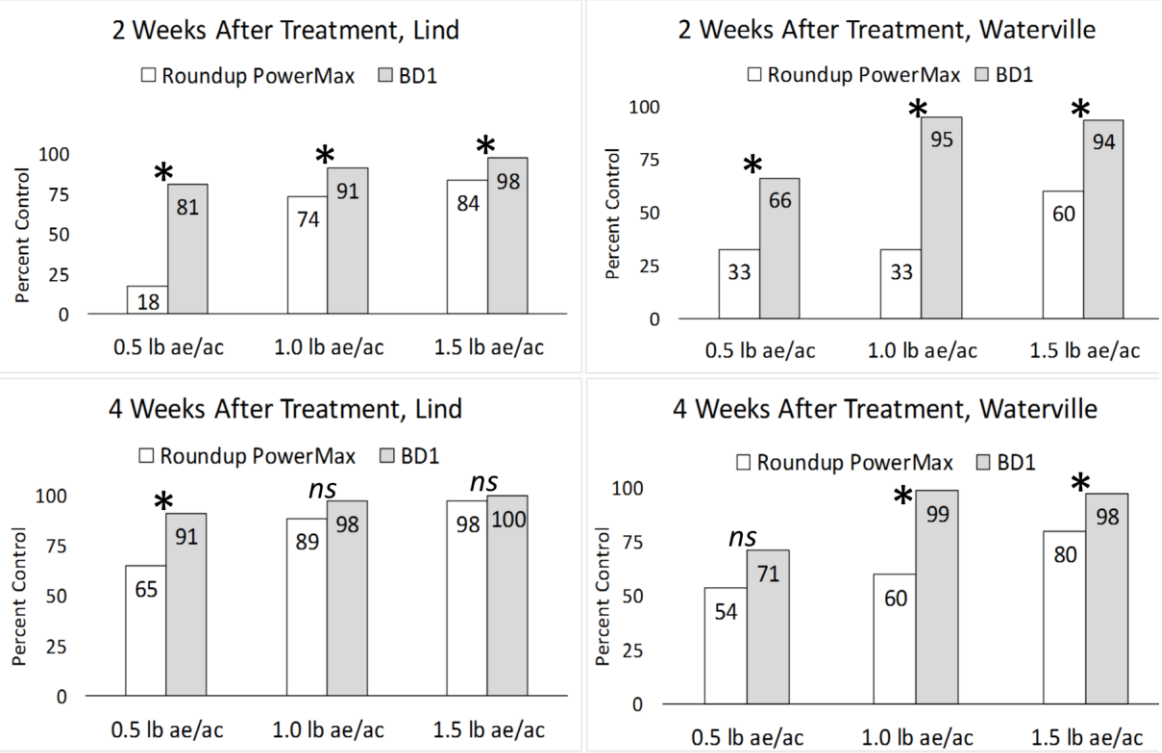
**Comparison of BD1 and Roundup PowerMax Formulations of Glyphosate for Control of Russian-thistle**

Field studies were conducted at the WSU Lind Dryland Research Station near Lind, WA, and near Waterville, WA to compare the performance of the experimental glyphosate formulation BD1 (Two Rivers Terminal, LLC) to equivalent rates of Roundup PowerMax (Monsanto Corp.) for control of Russian-thistle. Rates tested were 0.5, 1.0, and 1.5 lb acid equivalent per acre of each formulation.

At the Lind site, applications were made to a heavy population of Russian-thistle in conventionally tilled fallow on June 1, 2016 using a CO2 backpack sprayer calibrated to deliver 10 gpa at 2.3 mph and 44 psi through Teejet 11002XR flat fan nozzles. Plants were approximately 2-3 inches in height and 3-6 inches in diameter at this time. Applications were made from approximately 12:00 to 12:30 pm with an air temperature of 85 F, soil temperature of 64 F at 4 to 6 inches, relative humidity of 23%, and wind 4 to 6 mph. At the Waterville site, applications were made to a moderately dense population of Russian-thistle in chemical fallow on June 29, 2016 using a C02 backpack sprayer calibrated to deliver 10 gpa at 3 mph and 22psi through Teejet 11002 Turbo Teejet nozzles. Plants were 3-5 inches in both height and diameter at this time. Applications were made from 2 to 3 pm, with air temperature 94 F, soil 67 F at 4-6 inches, 20% relative humidity, and wind 2 to 6 mph.

At both sites, control was rated on a scale from 0% (no damage) to 100% (complete plant death) at 2 and 4 weeks after treatment.

Plants treated with BD1 showed herbicide symptomology more quickly than those treated with Roundup PowerMax, with BD1 providing significantly higher control at 2 weeks after treatment at all rates at both sites. At 4 weeks after treatment, the difference between the level of control provided by the two formulations was less, but still present in many cases. At Lind, performance of BD1 was statistically indistinguishable from that of Roundup PowerMax for the higher rates. At the Waterville site, however, control from BD1 was significantly higher than that from Roundup PowerMax for the higher rates. Overall, BD1 performed at least as well as PowerMax for control of Russian-thistle at the rates tested, and often gave better control. Activity was much faster with BD1.




Rates/timings where the percent control from BD1 is statistically different from [higher], than that from Roundup PowerMax are marked with *. Rates/timings where differences are not statistically significant are marked *ns*. Significance testing performed using Welch's t-tests within each rate/site/timing combination with alpha=0.05.

**Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to $7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.**