REGISTERED MATERIAL
For Use In
Organic Agriculture
Washington State Dept. of Agriculture

ORO®-RZ

ROOT ZONE

ADJUVANT FOR IMPROVING THE PERFORMANCE OF SOIL-APPLIED PESTICIDES & FERTILIZERS

ORO®-RZ Boosts the Performance of Soil-Applied Pesticides

ORO®-RZ Adjuvant should be added to the spray tank with all your soil-applied herbicides, fungicides, insecticides and nutrients. It improves the penetration and uniform distribution of applications in the soil profile to deliver better pest control and plant nutrition.

ORO-RZ can boost pesticide and fertilizer performance by:

DISTRIBUTING PRE-EMERGENT HERBICIDES EVENLY

The key to outstanding pre-emergent weed control is to create an uninterrupted blanket of herbicide, horizontally and vertically, within the soil profile where weed seeds germinate. Any breaks or areas left untreated allow weed germination that will probably require an additional post-emergent application to control. ORO-RZ, with its excellent penetrating and spreading ability, will distribute a pre-emergent herbicide application uniformly within the soil to prevent gaps in protection.

SURROUNDING THE VULNERABLE IN-SOIL PORTION OF A CROP

Most crops have an in-soil portion that is the target of a disease or insect attack. A fungicide or insecticide application needs to surround these plant parts in order to protect them against infestation. ORO-RZ, with its ability to distribute a spray application thoroughly throughout the soil profile, envelops these portions of the plants with the pesticide solution to protect them against attack.

ELIMINATING HYDROPHOBIC SOIL DEAD SPOTS

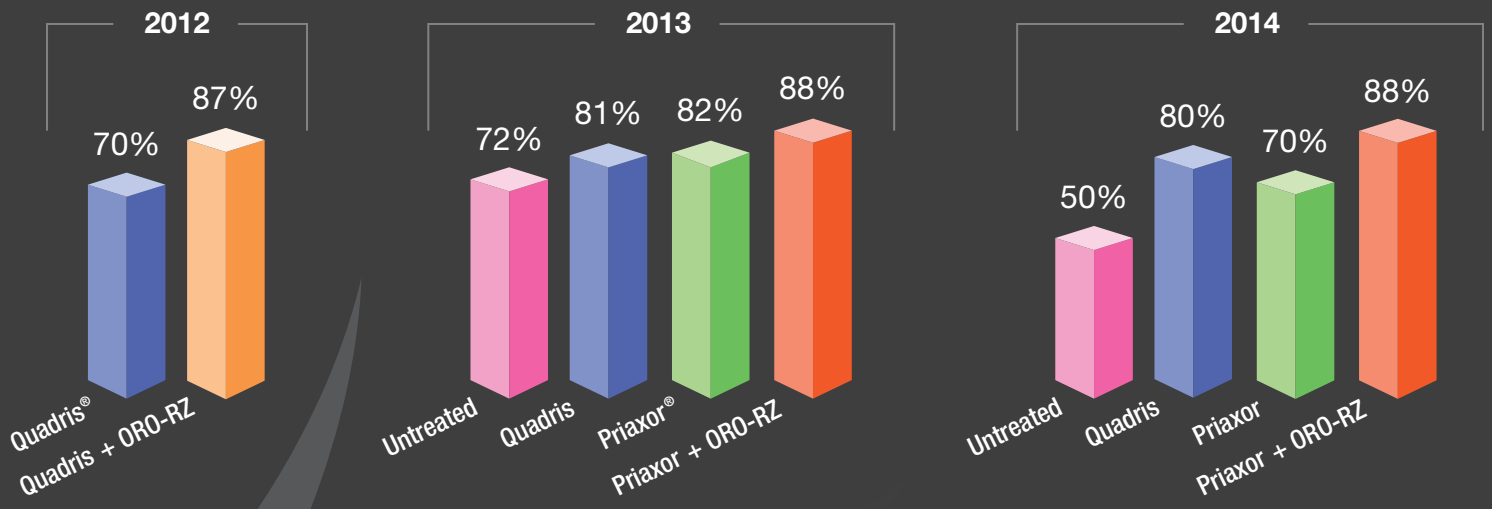
The OROWET® technology used in ORO-RZ allows the spray solution to penetrate hydrophobic soil areas to deliver pesticides to areas that can harbor diseases, weed seeds and insects. Without ORO-RZ these areas of soil would repel the pesticide solution, leading to possible weed germination and disease and insect infestation.

For more detailed information go to **oro-rzusa.com**

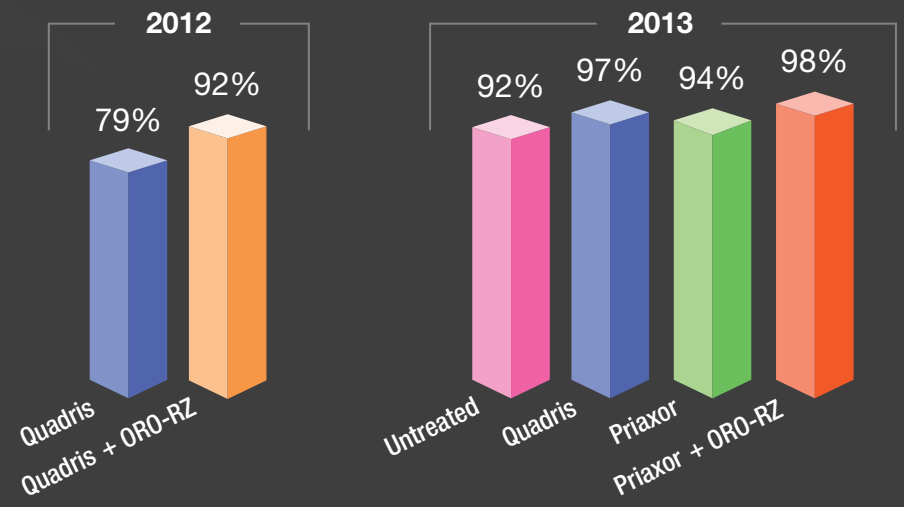
Disease Control: *Rhizoctonia* in potatoes

Fungicide treatments for controlling *Rhizoctonia* can be improved with the addition of ORO-RZ. Its excellent ability to penetrate even hydrophobic soils and uniformly distribute the fungicide within the soil profile will help surround the potato seed in a protective “blanket” to improve disease control.

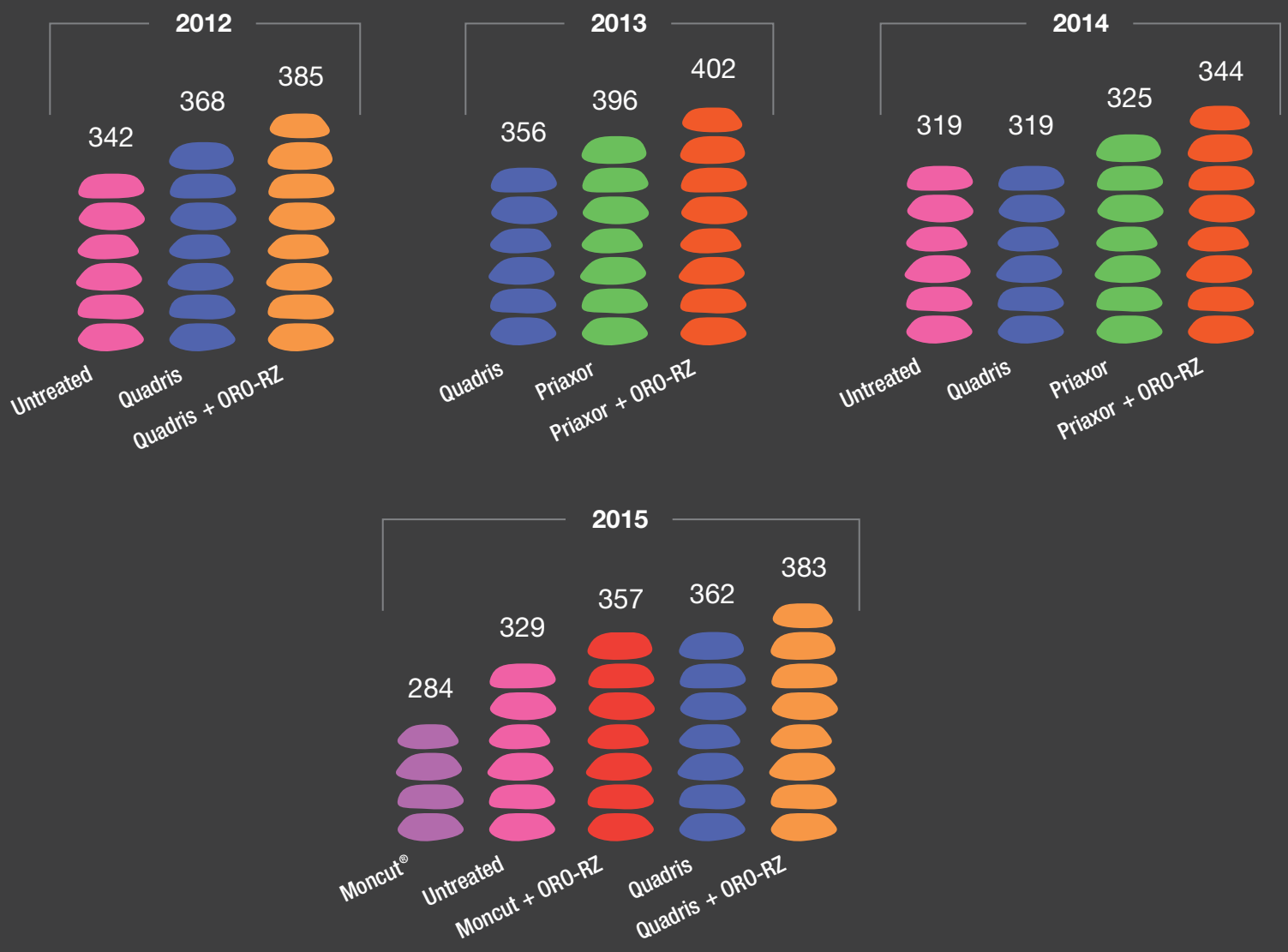
Rhizoctonia Control (Stolons) with Quadris and Priaxor



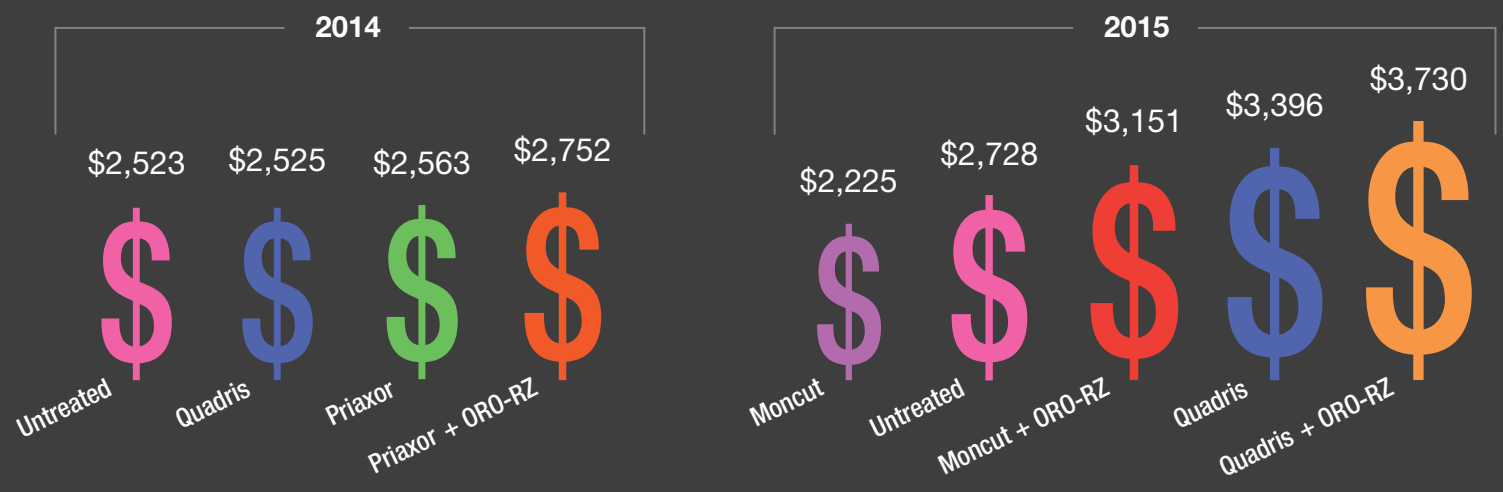
Rhizoctonia Control (Girdled Stolons) with Quadris and Priaxor



Yield (cwt/acre) with Quadris, Priaxor and Moncut



ROI/Acre with Quadris, Priaxor and Moncut



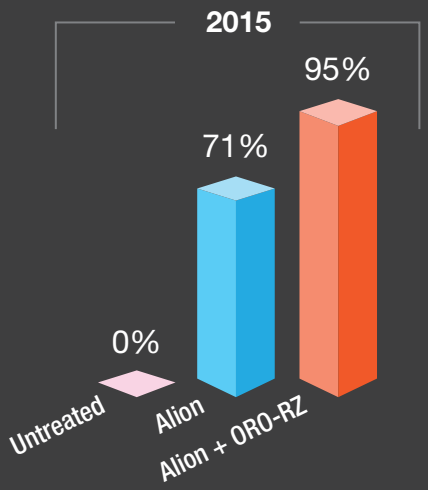
Weed Control: Broadleaf Weeds

Because broadleaf weed seeds are typically deeper in the soil profile than grass weed seeds a pre-emergent herbicide may not penetrate deep enough to be in close proximity to the seeds. Adding ORO-RZ to your pre-emergent herbicide application will help move the herbicide into the soil to maximize contact with germinating broadleaf seedlings.

Pre-Emergent Control of Broadleaf Weeds with Alion

Alion is a popular and effective pre-emergent herbicide used for grass and broadleaf weed control in tree nut, citrus, grapes and other tree fruit crops. In 2015, a third-party trial was conducted in an almond grove in Sanger, CA to determine the effect ORO-RZ has of the level of control of a wide variety of broadleaf weeds.

The ORO-RZ boosted the efficacy of Alion over 33% compared to the Alion treatment alone.



Alion® @ 3.5 oz/a

Alion @ 3.5 oz/a
ORO-RZ @ 32 oz/a

Weeds present in this trial:
- Annual Sow Thistle
- California Burclover
- Common Chickweed
- Fleabane
- Little Mallow
- Marestail
- Redmaids
- Redroot Pigweed
- Redstem Filaree
- Shepherd's Purse
- Spotted Spurge

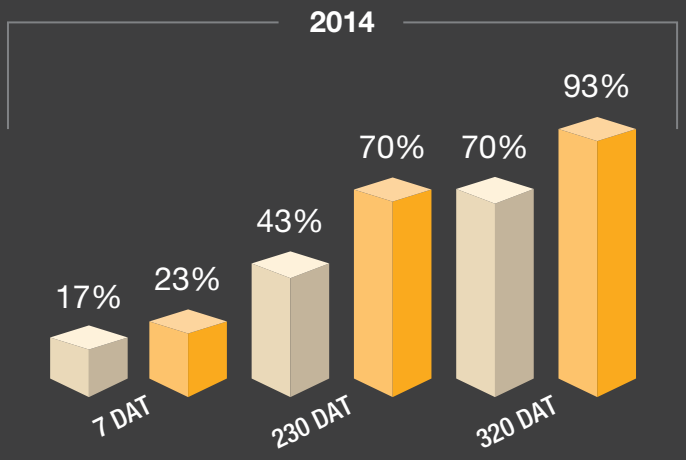
Pre-Emergent Control of Marestail

Marestail has become a serious problem in row crops throughout the country. Its development of resistance to post-emergent herbicides has researchers and Cooperative Extension specialists recommending growers implement a vigorous pre-emergent herbicide program to help control the weed and reduce the reliance on post-emergent treatments.

A challenge has been the early germination of marestail often does not allow a spring pre-emergent application to be made before planting. Looking for an alternative to a spring application, trials were conducted at a midwestern university to investigate a fall-applied, pre-emergent treatment. Applications, with and without ORO-RZ, were done post-harvest in the fall and soybeans were planted in the plots the following spring. Authority XL, an effective marestail pre-emergent herbicide was used in 2013-2014 and 2014-2015 trials. An alternative application of Sencor and Weedmaster (dicamba and 2,4 D) was also made in the 2014-2015 trials.

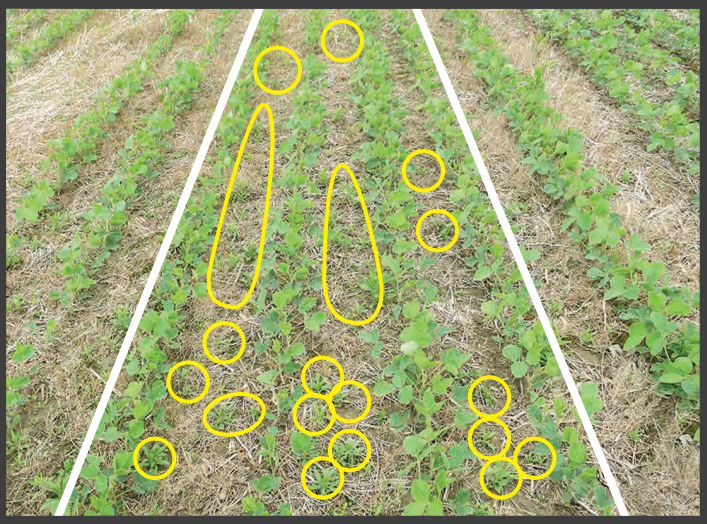
The addition of ORO-RZ significantly improved the control of marestail in all plots across all applications. The difference in weed control was visually evident throughout the growing season: from spring, not long after crop emergence; in-season; and at harvest.

2013 - 2014 Pre-Emergent Herbicide Control of Marestail



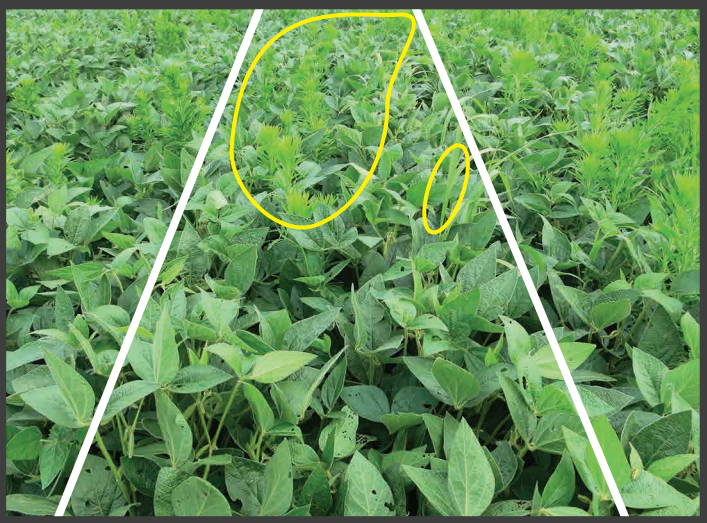
- Standard Application:
  - Authority® XL @ 3 oz/a
  - 2,4-D Ester @ 16 oz/a
  - Roundup® PowerMax @ 22 oz/a
  - N-PAK® AMS @ 48 oz/a
- Standard Application + ORO-RZ @ 16 oz/a

Standard Application
June 12, 2014



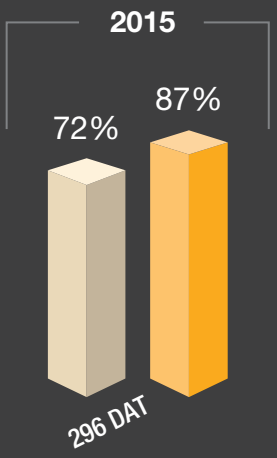
Standard Application + ORO-RZ
June 12, 2014

Standard Application
August 5, 2014



Standard Application + ORO-RZ
August 5, 2014

2014 - 2015 Pre-Emergent Herbicide Control of Marestail



- Standard Application:
  - Authority XL @ 4 oz/a
  - 2,4-D Ester @ 16 oz/a
  - Roundup PowerMax @ 22 oz/a
- Standard Application + ORO-RZ @ 16 oz/a

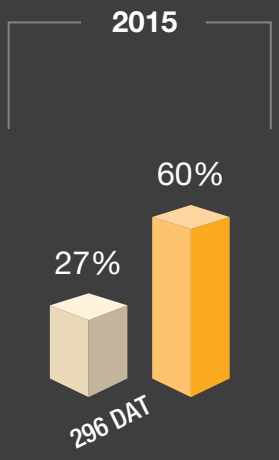
Standard Application
June 4, 2015

Standard Application + ORO-RZ
June 4, 2015

Standard Application
July 21, 2015

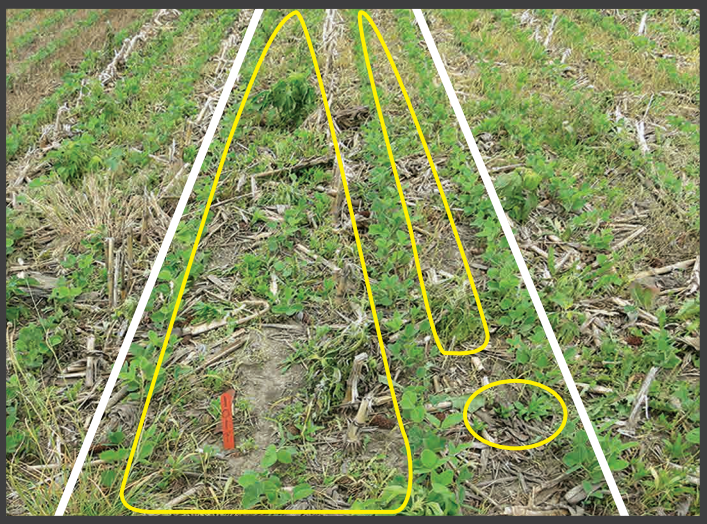
Standard Application + ORO-RZ
July 21, 2015

2014 - 2015 Pre-Emergent Herbicide Control of Marestail



- Standard Application:
  - Sencor® 75 DF @ 6 oz/a
  - WeedMaster® @ 32 oz/a
  - COC @ 12.8 oz/a
- Standard Application + ORO-RZ @ 16 oz/a

Standard Application
June 4, 2015



Standard Application + ORO-RZ
June 4, 2015

Standard Application
July 21, 2015

Standard Application + ORO-RZ
July 21, 2015

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