



WASHINGTON STATE  
UNIVERSITY  
EXTENSION



## WHEAT ACADEMY

### BY THE NUMBERS

- 75 attendees (50 crop consultants and 25 growers).
- Presentations on 12 dryland crop production issues.
- 95% of 2014 academy participants used information on soil/herbicide interactions, which impacted 696,152 acres.
- 91% used information on wheat development and growth, impacting 673,112 acres.
- 91% used information on soil acidity, impacting 153,861 acres.
- 85% used information on micronutrient dynamics in soils and plants, impacting 135,010 acres.

## 2016

### ISSUE

Growers make a lot of decisions during the growing season, including what crop to plant, what crop varieties to use, what pest control strategies to use, how much fertilizer they need and when to apply it, and when to sell their grain. Educational events for this audience had been poorly coordinated and often lacked informational depth.

Dryland crop production in eastern Washington is a challenging enterprise and knowledge is necessary for success.

### RESPONSE

The Extension Dryland Cropping Systems Team formed in 2013 to efficiently coordinate and deliver non-biased, research-based educational information and resources to dryland crop producers in eastern Washington. As part of its efforts the team created the Wheat Academy in 2014. The second Wheat Academy occurred at Washington State University on December 15-16, 2015. Attendance was limited to 75 people to keep class size small enough to allow for quality, hands-on activities. Fifty spots were reserved for crop consultants and 25 for growers. Presentations included information on:

- Understanding the mechanisms of herbicide resistance;
- Variety development of wheat cultivars in the Pacific Northwest;
- The nitrogen cycle in the soil-plant-atmosphere system, what happens to nitrogen fertilizers after application, and how form, timing, and rate of nitrogen application, tillage, and residue management affect yield and protein;
- Monitoring soil pH and implementing a liming program;
- Differences between wheat and canola management, and the best strategies for a successful transition to growing canola based on current research;
- Wheat price formation and the potential benefits/challenges of actively managing price risk;
- Nutrient content and the value of wheat and other crop residue;
- Crop rotation;



## QUOTES

"The Wheat Academy is the best training opportunity of the year. I would like to thank all of the presenters for their considerable time and effort expenditures to make the Wheat Academy such a powerful learning and networking event."

"This was my first academy, and I thought it was great! Great instructors, topics, meals, and social hour. Can't wait to come back next year."

"We very much appreciate all you guys do for our industry!"

"The WSUWA was the best agronomic event I attended last year (out of 8 training events and conferences) with the most real-world information."

"Very valuable program. If it were offered twice a year, more could benefit!"



- Comparing and contrasting three diseases with different methods of spread—Eyespot, Stripe Rust, and Soilborne Wheat Mosaic—and how management options differ for each as a result;
- The essential nutrients for plant development including some of the problems resulting from deficiencies and toxicities of certain nutrients; and
- The use of optical remote sensing (drone-, satellite-, or field-based) and soil electrical conductivity mapping to complement yield maps and digital terrain models in the delineation of management zones.

The success of the inaugural Wheat Academy created more demand for this program than the team could accommodate using its current model. The team is studying ways to increase capacity without diminishing quality.

## IMPACTS

While all the 2015 Wheat Academy topics received praise in the post-meeting survey, the three topics that were mentioned the most frequently were:

- Herbicide resistance, presented by Dr. Ian Burke
- Small grains economics, presented by Dr. Randy Fortenbery
- Epidemiology of eyespot, stripe rust, and soilborne wheat mosaic, presented by Dr. Tim Murray

In the post-meeting survey following the 2014 inaugural Wheat Academy, survey respondents were asked if they used the information they learned at the academy during the 2015 growing season. Following is the percentage of respondents who said they used information from the presentations, ranked from most to least used. The number in parentheses is the acreage participants estimated were impacted.

- 95%—Soil/Herbicide Interactions: Understanding Herbicide Persistence in the Inland PNW – Alan Raeder, graduate student, WSU (696,152 acres)
- 91%—Wheat Development and Growth – Dr. Ron Rickman and Tami Johlke, USDA-ARS (673,112 acres)
- 91%—Soil Acidity: It's Not Just Soil pH – Dr. Jim Harsh, WSU (153,861 acres)
- 85%—Micronutrient Dynamics in Soils and Plants – Dr. Rich Koenig, WSU (135,010 acres)
- 73%—Biology and Management of Wireworms in Cereals – Dr. David Crowder and Aaron Esser, WSU (285,900 acres)