

Industry At Work

Academic/Industry Combo Improving Crop Practices

FFF member and U of Idaho team up in conducting research on various crops

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Summary: The University of Idaho has developed over the past 100 years or more a series of Research and Extension Education Centers that focus on field research of irrigated cropland throughout Idaho. The Parma Research Station was established in 1925 with the following goal: meet the need for research and extension efforts to sustain and improve the productivity of crops grown in Southwest Idaho. Parma Research Station includes 200 acres and houses university faculty offices, as well as farm grounds where intense research is conducted for seed, potatoes, onions, corn, cereals, hops, and other local crops. Today, as an example, J.R. Simplot Company is one company, and a member of the Fluid Fertilizer Foundation (FFF), that has partnered with the University of Idaho to explore ways to develop a better understanding of crop responses to various farming practices and environments. The partnership has proved a fruitful relationship in providing answers for local farmers.



The current superintendent and professor of plant science, Dr. Mike Thornton, indicates that "The Parma Research Center is a special facility due to, among other reasons, its location in the heart of the Treasure Valley region. This location serves a unique role in that it is the only one in Idaho working with many of the high value crops grown in the Treasure Valley regions of southwestern Idaho and eastern Oregon." According to Thornton, research is conducted on a broad range of crops that includes alfalfa seed, sweet corn seed, hops, mint, onions, potatoes, apples, sugar beets, and table grapes.

Linking up

J.R. Simplot Company of Boise, Idaho, first became involved with the Parma Research Station in 2008 as a cooperative partner after funding shortfalls had this important research center on the brink of being shut down. At the time, Simplot was having internal discussion regarding the creation of a research farm mainly for potato production. Among the goals were to:

- Partner with an existing university or

- third party research group
- Develop technologies for improving fertilizer practices
- Develop a better understanding of responses to various crops or environments.

Over its history, Simplot has always relied heavily on various universities to conduct its research. So it is not surprising that the question would finally arise within its management, why not create a partnership with Parma Research Center that would meet both Simplot's internal needs as well as providing a vehicle for the University of Idaho to keep the research station open and serving the unique agricultural community within the Treasure Valley?

4 R's

"Nothing replaces research in providing a foundation for agronomic understanding," says Dr. Galen Mooso, Agronomy Manager with Simplot. "With the close working relationship that's being developed at Parma we cannot only direct small scale research trials, but also have a local resource where agronomic educational tours can be

conducted to allow a better understanding of our research efforts. This experience is also a great opportunity to showcase new fertilizer technologies that can improve efficiencies and better relate the fertilizer industry to nutrient management stewardship."

The Parma Research Center and Simplot have been effective in holding tours over the last four years with participants from over 20 countries attending agronomy training sessions. Lectures in a room are a must but nothing beats that "hands on" approach of going to the field and seeing for yourself the improvements or changes that can come from proper fertilizer:

- Timing
- Rates
- Forms
- Placement.

These are the 4 R's of nutrient management stewardship that Parma, Simplot and the rest of the fertilizer industry embrace.

Focus

For the University of Idaho the

opportunity to instruct students, hand-in-hand with industry, has been a huge advantage. "What has changed is that we have more direct industry input into our research and extension programs," Thornton explains. "This occurs through industry cooperators as well as other supporters like the Treasure Valley Agriculture Coalition that provides funding as well as advice on station operations. Another benefit is expanding the range of groups we are working with to conduct research. For example, several companies have brought products to us to get third party efficacy data due to our relationship with Simplot."

Currently, most of the research being conducted has focused on N and P fertilizer-use efficiency. By allowing a greater proportion of these fertilizer products to be accessed and used by a particular crop, the less likely they are to be used in excess and lost to the environment.

An additional focus of time and resources at Parma has been addressing solutions to help address the global food security crisis. One of the specific projects is long-term and deals with corn production. In an attempt to push yield goals by incorporating seed varieties, organic inputs (compost) have improved P and N fertilizer efficiency materials as well as plant populations, which allows addressing the seriousness associated with improving food security issues before the world is faced with food deficiencies in the future.

Feedback good

"This is our fourth year of working with Simplot and the feed-back from local growers has been positive regarding this unique cooperation between our University and private industry," says Thornton. "Growers tell us the research conducted here is very important in keeping them competitive in terms of

production costs and quality required in a global market. We help them use water, fertilizer, and pesticides more efficiently, as well as adopt new varieties and cultural practices."

Simplot is currently cooperating in soil fertility research trials on potatoes, corn, wheat, and onions. This also includes support in potato variety trials as well as improved genetics on potatoes. Trials are developed in a coordinated manner, input costs are covered for each trial by Simplot, while the trials are maintained (tillage, planting, irrigation, and crop protectants) by the University faculty and staff. The educational environment Simplot has at Parma simply couldn't be better. While not all the answers are available for these complex issues, the relationship between Simplot and the University of Idaho can help provide local answers that may very well be used both on a national and global scale in the near future.

Dr. Tindall is Senior Agronomist for the J. R. Simplot Company in Boise, Idaho, and also member of the Fluid Fertilizer Foundation Board of Directors and its Editorial Committee.

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