



Shelley, Idaho, farmer Bryan Searle shows an irrigation pump on his farm fitted with a magnetic device used to treat water molecules, breaking apart minerals that bond with them to make both the water and minerals more usable by crops. Searle says the device has saved him water and fertilizer.

# Idaho spud grower improves irrigation with magnetic fields

By JOHN O'CONNELL  
Capital Press

SHELLEY, Idaho — Running irrigation water through a proprietary device that creates a magnetic field has enabled Eastern Idaho potato farmer Bryan Searle to cut back significantly on both water and fertilizer use.

The “magnation” technology requires no maintenance and fits into a pivot or pump, magnetizing water as it flows through, said Searle, who is also the new president of the Idaho Farm Bureau.

Often, irrigation water binds with minerals, forming larger clusters that can’t be absorbed by plant cells. Mike Jenzeh, president and CEO of California-based Magnation Water Technologies, explained his company’s magnetic fields provide a charge that “pulverizes” the clusters, separating minerals within water droplets and keeping minerals in suspension while creating more uniform water droplets.

The system also spins and mixes irrigation water and creates turbulence to further break apart the mineral bonds with water.

Jenzeh cites research finding the process improves nitrogen absorption by 30 percent, for example, and herbicide absorption by 50 percent.

According to a study by Olds College in Canada, Jenzeh said, magnetic fields have been found to improve water-use efficiency by 20 percent.

“Water loses that frequency when it’s sitting,” Jenzeh said. “Mineralization becomes a lot more of a problem.”

Jenzeh said testing has also demonstrated water exposed to a magnetic field increases soil permeability and retention, boosts yield and plant size, contributes to more uniform seed germination and even increases milk production in dairy cows.

Jenzeh, who has sold his systems to more than 3,000 agricultural customers, mostly in Nebraska and California, said

a single unit sells for \$6,100 to \$8,400, depending on its size, and should last 10 to 15 years. Searle learned about the technology through his representatives at Spudnik Equipment in Blackfoot. Searle first tested it on a single pivot of potatoes six years ago. He found the soil was moist when he tested the field, though an adjacent spud field with similar soil and the same irrigation regime was dry.

That season was especially hot, but Searle managed to irrigate his test field about a week less than the adjacent field, on which pivots had to run constantly.

Petiole testing confirmed crops in the experimental field had absorbed far more nitrogen, phosphorus and potassium, he said. Searle estimates he cut his nitrogen applications by 30 units.

Searle is now using the devices on most of the fields he owns, though he hasn’t made the investment on leased ground.

“We’ve seen results and we’ve acted on those results,” Searle said.

He hasn’t tested the technology with herbicide applications, and he’s noticed no yield bump in spuds. But Searle, who has both well and surface water, believes the technology could come in handy for groundwater users who will be expected to curtail water use by 11 percent, on average, next season under the terms of a new water agreement.

“I think it could definitely be a tool that could help,” Searle said. “We’ve got to look for options.”

Dan Vache, vice president of supply chain management with United Fresh Produce Association, was intrigued by a white paper highlighting benefits of the technology. He’s asked Magnation to display at his organization’s annual convention, scheduled for June 20-23 in Chicago.

“I think it’s very timely,” Vache said.

For more studies on the technology, visit [www.rainlike-water.com](http://www.rainlike-water.com).

# Popular WSU wheat academy sold out

By MATTHEW WEAVER  
Capital Press

Some Eastern Washington farmers will get hands-on experience at Washington State University’s wheat academy, and the university is exploring ways to help even more.

Seventy-five people will participate in the academy Dec. 15-16 on the WSU campus in Pullman, Wash. The program sold out within three weeks of the start of registration, said WSU small grains and weed science professor Drew Lyon.

“It’s a high-quality program delivering information at a level that generally isn’t provided in a lot of these continuing education-type programs,” Lyon said. “We try to teach at a little higher level, get more in-depth in the science than some.”

During the program, WSU researchers and extension staff members work directly with farmers and consultants. Attendees select four of six available 90-minute courses each day.

“Last year, we had our sessions for an hour and 15 minutes, and we worried about that maybe being a little

**Online**  
<http://smallgrains.wsu.edu/wheat-academy/>

long to keep people’s interest,” Lyon said. “But one of the very common responses we had was, ‘These sessions weren’t long enough.’”

Lyon and his extension dryland cropping systems team, made up of county educators and extension specialists, consider the year’s events when selecting speakers and topics. Subjects include herbicide resistance, falling numbers, small grain economics and wheat-breeding science technology.

“I think people are interested in the science behind the recommendations we often make,” Lyon said.

Attendance was limited to 60 last year, the program’s debut. Because speakers offer hands-on activities, classes won’t be larger than 25 people, Lyon said.

Lyon hopes to open the program to more people to meet demand, but doesn’t want to risk reducing the quality.

He also has to coordinate with researchers’ schedules.

# Washington FFA teams earn high marks at nationals

Washington FFA members and teams placed high in career development events during nationals Oct. 28-31 in Louisville, Ky.

**Agricultural Communications:** 6th place-gold: Elma FFA chapter  
**Agricultural Issues:** Bronze-Reardan FFA chapter  
**Agricultural Sales:** 5th place-gold: Stanwood FFA chapter  
**Agricultural Technology and Mechanics:** 5th place-gold: Garfield-Palouse FFA chapter  
**Agromony:** Gold: Lind-Ritzville FFA chapter  
**Creed:** Silver: Collin Pittmann of Rosalia, Wash.  
**Dairy Cattle Evaluation:** Silver: Elma FFA chapter  
**Environmental and Natural Resources:** 3rd place-gold: Stanwood FFA chapter  
**Extemporaneous Speaking:** Bronze-Savannah Chadwick of Colton FFA chapter  
**Farm Business Management:** 4th place-gold: Lynden Christian FFA chapter  
**Floriculture:** Gold: Sedro Woolley FFA chapter

**Food Science and Technology:** 4th place-gold: Cashmere FFA chapter  
**Forestry:** 5th place-gold: Mount Baker FFA chapter  
**Horse Evaluation:** Silver: Tonasket FFA chapter  
**Job Interview:** Silver: Cameron Church of Longview FFA chapter  
**Livestock Evaluation:** Silver: Lynden FFA chapter  
**Marketing Plan:** First place-gold: LaCrosse FFA chapter  
**Meats Technology and Evaluation:** 2nd place-gold: Cashmere FFA chapter  
**Milk Quality and Products:** 5th place-gold: Lynden Christian FFA chapter  
**Novice Parliamentary Procedure:** 3rd place-gold: Garfield-Palouse FFA chapter  
**Nursery/Landscape:** Silver: Sedro Woolley FFA chapter  
**Parliamentary Procedure:** Gold: Asotin FFA chapter  
**Poultry Evaluation:** 9th Place-gold: Elma FFA chapter  
**Prepared Public Speaking:** Silver: Corrina Davis of Ferndale FFA chapter  
**Veterinary Science:** 4th place-gold: Ferndale FFA chapter

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50-1/#13

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49-2/#8