

## *Knowledge is Power for Blackfoot Area Potato Farmer*

If eastern Idaho is a potato kingdom, I am now standing in one of its castles. All around me potatoes whirl down conveyor belts, rumble into packages, and roll through cleaning devices. The air at Liberty Gold Potato Company, a fresh packing shed in Blackfoot, Idaho, is thick with the earthy aroma of the potatoes, and nowhere can one look without seeing thousands of spuds. Big spuds.

I see bags of potatoes, boxes of potatoes, truckloads of potatoes. Fifty workers in front of me pause only briefly to smile, quickly resuming various tasks of watching these big tubers roll past.

Dave Jackson, manager of Liberty Gold Potato Co. and eastern Idaho potato farmer, is giving me a tour. Given the setting, one of Jackson's statements seems almost too obvious. "The best way to make money here is to raise large, good quality potatoes," he says, looking out over 10,000 pounds of large, blemish-free potatoes.

But, as anyone who farms potatoes knows, Jackson's statement is more complex than it first appears. Raising quality potatoes takes a significant amount of

money in inputs. When prices fluctuate, these input costs can cut substantially into profits, even if the potatoes are of the highest quality. As a result, it is not just quality that counts: It is quality *and* keeping costs down.

Which is why I am standing today in the midst of mountains of potatoes at Liberty Gold Potato Co. I wanted to investigate whether one possible way of lowering costs was by reducing fumigation for pests in potato fields. My question: Can potato farmers still produce large, high quality potatoes while substantially reducing their use of fumigants?

I am not the only one asking this question. Many farmers, including Jackson, are beginning to ask it themselves.

Their answer may help keep more potato farmers economically viable in eastern Idaho. It could also have considerable environmental benefits by greatly reducing the use of pesticides.



*Dave Jackson, eastern Idaho potato farmer and manager of Liberty Gold Potato Co., describes how he has significantly reduced the use of fumigants in his potato operation.*

### *A risk worth taking*

Jackson raises 500 acres of potatoes each year in eastern Idaho, with approximately 120

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acres of that operation being on land he owns. Like many farmers in the area, he leases the remaining acres from the Shoshone Bannock Tribes on the Fort Hall Indian Reservation.

Potato operations like Jackson's are important to the economy of the Fort Hall Indian Reservation. But the chemically intensive nature of potato farming also raises important environmental concerns. Tribal members worry about the agricultural enterprise compromising clean water, human health and wildlife habitat.

One of the methods for controlling potato pests is fumigation, a soil pesticide treatment used to kill soil-dwelling nematode pests and the verticillium fungus. Jackson began fumigating his crops in the late '80s with Telone and then Vapam. Farmers using that technique for the first time found that it dramatically increased yields. Some increased their yield by 100 sacks per acre, an almost unfathomable increase for agricultural crops.



*Potatoes being unloaded at the packing shed.*

However, many farmers found that the net increase seemed to go down over the years. And fumigation costs can be quite high, about \$100 an acre on Jackson's farm. With price fluctuations in potatoes he needed to find a way to cut costs.

Jackson knew this well. "I was tired of spending money," he says. "If I didn't control cost, I was going to be out of business."

To help him find solutions, he turned to John Taberna Jr., an agronomist for Western Laboratories in Parma, Idaho and research agronomist for Western Ag Research in Blackfoot, Idaho. Taberna ran various biological and nematode tests on the soil through Western Labs and due to the test results he made a rather unconventional recommendation: Eliminate fumigation

from a substantial number of the fields.

Jackson listened. He immediately chose not to fumigate some fields, a bold move for a farmer who had come to rely on the fumigants. He did not make the decision lightly.

"I wasn't comfortable," he says. "I was worried sick all year. But it's a risk I had to take."

### ***Testing soil health***

Taberna does not make such recommendations lightly, either. Western Labs depends on providing farmers with advice that they can use to decrease costs and retain high yields. His goal is to provide a service that allows the best crop with the least amount of inputs.

Taberna's consultation covers irrigation scheduling, nutrient management, pest management and precision agriculture. For farmers willing to look into ways to decrease costs, Taberna has adopted a process developed by Western Labs to help discern whether or not they can decrease input costs, a process based on his more than 22 years of experience.

He first starts with soil samples in the field, testing for soil fertility levels, active fungi, active bacteria, verticillium and nematodes. He then decides the appropriate chemical program to match what he finds. The crop nitrate levels are monitored all season long, and soil moisture is monitored five days per week. He then coordinates the irrigation schedule.

"Year in and year out, we've found that fungi thrive in a humid environment," he says. He has found that irrigation scheduling can reduce the need for fungicides.

Farmers benefit from the intensive monitoring program. They have access to all the results, with Western Lab's interpretations, on a web site within 24-72 hours.

Taberna is quick to point out that each field must be treated differently. By analyzing the results of each field he can advise farmers on fields that should be fumigated, as well as fields where it is unnecessary.

His advice is not always taken. Some farmers are reluctant to alter a practice that seems to be working, even if it will substantially reduce costs. Some are skeptical that they can still have a good crop by lessening inputs. But Taberna perceives a shift.

"There is still a fear of change in much of the agricultural community," he says. "I do think farmers are becoming more aware that they have to better control the costs of inputs per

acre. And there's not a grower out there who, if something is shown to work, won't adopt it."

Where Taberna once could expect a dozen or two farmers at Western Labs workshops, he now sees 70-200 attendees. "It's a long public awareness campaign," Taberna says. "Farmers are starting to look at our business and what we can offer. It can be a slow educational process. It isn't for every field. We win as a company when we have less chemical inputs per acre than other conventionally farmed fields," Taberna adds, "We believe that all farmers can benefit from sustainable ag practices."

### *Financial and environmental savings*

That's what Jackson had hoped for when he enlisted Taberna's services. Despite the risks, despite the sleepless nights, he now knows it was worth it.

Jackson has reduced fumigation by 80% on his farms. Not only has he been able to save about \$100 per acre in fumigating costs, he perceives other benefits as well.

"I sometimes think by not fumigating, we are actually decreasing fertilizer use and costs," he says.

"Using less fumigants also gives you more control on what's going on in the fields," he continues. "Just like anything in life, the more you know, the better decisions you can make. You have to pay more attention to what's going on as far as irrigation practices, tillage, and fertilization."

He also believes this can be positive for the environment. "We're finding out groundwater is becoming contaminated. Residues are being found in food," he says. "We're being forced to think about it."

But Jackson is pragmatic, and pragmatically speaking, the way to get other farmers to reduce fumigants like he has done is by showing them the decrease in costs. "The number one reason for farmers to reduce the use of fumigants is cost," he says. "It's questionable whether fumigation works on the Fort Hall land. Fumigating is expensive. We need to keep costs down, so this makes sense."

Taberna agrees. "This is primarily an economic consideration. Farmers are interested in reducing fumigants to be competitive," he says.

Jackson knows not all potato farmers will be convinced. Change can come slowly, and it can go against practices that seem to work. "Sometimes it just comes down to an unwillingness to change," he says. "A potato farmer will



*Soil moisture sensors in an eastern Idaho potato field.*

often dwell on something that worked *once*, when in reality that was just a chance. Mother Nature has more of an effect than you think."

### *Satisfying results*

Jackson may not be able to convince everybody, but he is satisfied with his decision. He lowered his costs, while maintaining his potato quality and size. As current manager of a packing shed for Liberty Gold—which packages and distributes potatoes for twelve area growers—Jackson knows a high quality spud when he sees one.

The pay to each grower is based on the quality of his or her potatoes, so it is important to have the highest quality spuds possible.

As he glances at the boxes of his potatoes rolling off the line in the warehouse, an obvious look of pride flashes across his face. Hundreds of large, perfect potatoes stretch out before us. His decision to not fumigate some fields has paid off.

"The basic goal of the farming operation is to make money, to run the best business possible," he says. "If there's anything we can do to even the ups and downs of farming, we're interested. For me, reducing fumigants was a way to do just that." ♣

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## Resources

**Conservation Security Program Fact Sheet #1 CSP: Get Paid for Real Conservation** and **Conservation Security Program Fact Sheet #2 CSP: Resources of Concern**, The Land Stewardship Project, 2002. These publications provide an introduction to the Conservation Security Program (CSP), which was established by the 2002 Farm Security and Rural Investment Act. Available from the Land Stewardship Project, 2919 E 42<sup>nd</sup> St., Minneapolis, Minnesota, 55406 for free at [www.landstewardshipproject.org](http://www.landstewardshipproject.org) or call (612) 722-6377.

**The New American Farmer – Profiles of Agricultural Innovation**, USDA-Sustainable Agriculture Research and Education (SARE) program, 2001. Sustainable Agriculture Publications, 210 Hills Building, University of Vermont, Burlington, VT 05405-0082, (802) 656-0484. This 160-page book features 48 creative farmers and ranchers from throughout the United States.

**The Biological Farmer**, Gary Zimmer, 2000. This book emphasizes common sense and biological soundness to reduce input costs and to increase profits while improving soil conditions and livestock health. Available for \$25 through Acres USA, P.O. Box 91299, Austin, Texas 78709. Or call 1-800-355-5313.

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**Managing Cover Crops Profitably**, Sustainable Agriculture Network, 1998. Available for \$19 from Sustainable Agriculture Publications, Hills Building, Room 10, University of Vermont, Burlington, Vermont 05405-0082.

**Greenbook '98 -- A Diversity of Tools**, covers a wide array of on-farm production and marketing projects for both crops and livestock. From the Energy and Sustainable Agriculture Program of the Minnesota Department of Agriculture, 90 West Plato Boulevard, Saint Paul, Minnesota 55107. (651) 296-7673.

**The Farmer Exchange** is produced by the Northwest Coalition for Alternatives to Pesticides (NCAP), which works to protect people and the environment by advancing healthy solutions to pest problems. The purpose of this publication is to foster communication among growers about sustainable agriculture practices and programs.

For more information on NCAP's sustainable agriculture program you can contact Jennifer Miller at (208) 850-6504 or [millerjen12@aol.com](mailto:millerjen12@aol.com). The address for the NCAP office in Idaho is: 219 N. Straughan Ave., Boise, ID 83712. The address for NCAP's main office is: P.O. Box 1393, Eugene, OR 97440-1393. You can find us at [www.pesticide.org](http://www.pesticide.org).

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