

# Idaho Innovators

## Preserving the world's small grains

Harold Bockelman maintains unique collection of 143,000 types of grain

By JOHN O'CONNELL  
Capital Press

ABERDEEN, Idaho — USDA has made ordering seed from its vast National Small Grains Collection similar to shopping for merchandise online.

Since 1898, the facility has preserved more than 143,000 types of wheat, barley, oats, rice, rye, triticale and wild relatives originating from throughout the world, maintaining a pool of genetics to help scientists tackle some of the great challenges facing agriculture.

Harold Bockelman, the collection's curator of more than 30 years, explained crop researchers may search his online database for specific numbered lines, or by desired traits. The grain types, called accessions, are paired with descriptions and photographs. Map coordinates accompany some of the land-race accessions, which were cultivated over thousands of years, to show their place of origin.

Shoppers fill a virtual cart upon making their selections, though Bockelman's service is free of charge.

"It looks more like an Amazon site than it used to," Bockelman said.

In an average year, Bockelman and his staff mail more than 50,000 envelopes, each containing 5 grams of seed, to roughly 800 domestic and international crop research-



Harold Bockelman, curator of the National Small Grains Collection in Aberdeen, Idaho, with variety plots from the collection.

**Harold Bockelman**  
Age: 68  
Education: Undergraduate degree from Purdue University and a Ph.D. in plant genetics from University of California-Davis  
Hometown: Aberdeen, Idaho  
Job: Supervisory agronomist with USDA and curator of its National Small Grains Collection  
Innovation: Maintaining USDA's National Small Grains Collection for more than 30 years and helping to make accessing its materials more convenient

ers and cereal breeders.

Breeders have found plenty of hidden gems in the collection, such as PI 178383, a land-race wheat line originating in Eastern Turkey with resistance to dwarf bunt, stripe rust and other diseases. It was used as a parent in many modern crosses.

Frank Curtis, chief operating officer at Limagrain Cereal Seeds of Fort Collins, Colo., said the collection has provided his company with invaluable genetic material. Most recently, Curtis said Limagrain propagated seed from about 2,000 of the collection's barley lines, hoping

to cross them with European varieties to develop early maturing, drought-resistant malt lines adapted for Northwest conditions.

"It's a wonderful initiative," Curtis said of the collection. "Anything that has been in the gene pool and has potential use is preserved for all time."

For several years, varieties from the collection have also been sent to Kenya and Ethiopia, where they're being evaluated for resistance to a destructive stem rust found there, based on the concerns that it could spread.

The collection includes about 50,000 wheat, 33,000 barley, 20,000 oat, 19,000 rice, 2,000 rye and 2,000 triticale accessions, plus wild relatives. Each spring and fall, Bockelman and his staff plant a few thousand of the collection's accessions to replenish seed and evaluate them in research fields at Aberdeen. Accessions are planted in 10-foot strips, separated by "guard rows" of unrelated crops. The staff uses a Japanese rice binder to harvest them.

Seed at the facility is stored at 42 degrees and 25 percent humidity and remains viable for up to 25 years. The collection is backed up by seed frozen in liquid nitrogen in Fort Collins, Colo., where it can be stored for up to 100 years. New accessions are added periodically. Bockelman now plans to add a wild barley collection obtained through an exchange by a Minnesota scientist.

"We still look out for possibilities to obtain other collections from throughout the world, but not so much now because our collection is fairly complete," Bockelman said.

This story was first published Oct. 17, 2017.

## In support of women in ag

By CAROL RYAN DUMAS  
Capital Press

TWIN FALLS, Idaho — Laughter and lively banter dominate at a recent gathering of women passionate about agriculture.

They are members of She Grows Idaho, a fledgling organization focused on supporting women in agriculture and educating consumers.



Karma Metzler Fitzgerald

The group is the brainchild of Alison Hurwitch, a veterinarian with Elanco, and Karma Metzler Fitzgerald, a writer and agricultural advocate. Its inspiration was twofold — to provide a social and supportive network for young women in agriculture and to educate consumers about food and agriculture.

The approach is three-pronged: to educate, empower and enrich, Fitzgerald said.

There's been an influx of young women in agriculture to the Magic Valley over recent years and there was no organization to help them find out about resources or connect to other women in ag, she said.

"There is a void; there's no way for them to network," she said.

Agriculture can be a really lonely place for women, whether they're on the farm or working in traditionally male roles, she said.

### Women's struggles

Hurwitch said she knows the struggles young professional women face. She came to the Magic Valley as a single mother in 2008, juggling career, family and a little gender bias. The first time she went to a dairy to pull a calf, she was met with "Where's the vet?"

Women farm owners face the same frustration when people ask, "Where's the owner?" she said.

"We wanted get the group together so women feel supported," she said.

Women are taking up non-traditional roles in agriculture — a great opportunity that comes with growing pains.

"We want them to be excited and happy about choosing a path in ag," she said.

For those college-bound women, the group wants to encourage them to pursue the degree they want — even if it has been traditionally male-dominated, she said.

"It's a mentoring thing," Fitzgerald said.

Her daughter is majoring in agricultural technology and production management at Washington State University and belongs to the university's dairy club, whose quarters were designed for young men.

The vast majority of club members today are female, all working on dairies, yet the club's quarters didn't even have a women's bathroom until recently, Fitzgerald said.

While women have always

### She Grows Idaho

Founded: October 2016

Co-founders: Alison Hurwitch and Karma Metzler Fitzgerald

Membership: 105 and growing

Mission: Empowering women involved in all aspects of food production, from field to fork.

Email: info@shegrowsidaho.com

Website: http://www.shegrowsidaho.com/

Motto: "Lead by serving, learn by giving and nurture by feeding our families, our communities and our world."

had a strong role in agriculture, they haven't been recognized or appreciated. With today's young women now working more, "We want them to know they have a support system," she said.

They're bound to have frustrations, and She Grows Idaho offers a safe place to air those issues and find solutions. It's a forum for empowerment and education where they can find support, she said.

It's also a means to connect women in the industry and help them be a voice in agriculture and for agriculture, Hurwitch said.

"There's a lot of misinformation out there about food, labels and what's going on in agriculture. We wanted to have an opportunity to educate anyone and everyone we can on what things mean, such as GMO or hormones," she said.

The group is also meant to further the education of women in agriculture, from production and marketing to how to give farm tours and handle public-relations issues, she said.

### Varied backgrounds

The group spans the spectrum of backgrounds — from Ph.D.-level researchers to traditional farm wives, from young women just entering agriculture to those closer to retirement and from staunch conservatives to determined liberals.

The constant is their female perspective and their passion for agriculture.

"Being able to hang out with women who have the same agricultural passion" is what drew Shayna Wilks to the group.

She's part of a multi-generational dairy in Gooding County and said there are a lot of men in dairy. She Grows Idaho gives her the opportunity to be with like-minded women and provides resources as well.

"It's reassuring to hang out with people (women) from the same walk of life," said Kristina Reitsma, the only female on her multi-generational family dairy. Katy Jo Fitzgerald, in her first year of ag studies at Washington State University, joins the group when she's in town.

People think she can't handle ag work because she's female, and she enjoys being with women who do "handle it," she said.

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