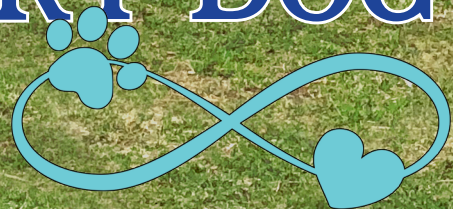


Idaho Farm Bureau. Quarterly

Summer Issue • Volume 22 Issue 3



DIABETES
ALERT DOG



Conserving threatened and endangered species



On each trip I take around the country, I'm not only impressed with the work farmers and ranchers are doing, but I'm also blown away by the beautiful landscapes and wildlife we encounter.

Being surrounded by nature is part of why I love farming. And I know that's the case for most farmers and ranchers across the country.

While we work the land to produce food, fiber and fuel, we also recognize the important role our land plays in sustaining wildlife.

For generations, farmers and ranchers have

worked to do more with less. We've voluntarily placed 140 million acres of land in conservation programs, which helps provide wildlife habitat.

Farmers want to be partners in conserving our natural resources and the wildlife that we share those resources with. We especially want to be partners in conserving threatened and endangered species.

When Congress passed the Endangered Species Act, our representatives recognized that each species plays a role in maintaining a healthy and

See **DUVALL**, page 6

The President's Desk

By **Bryan Searle**
President Idaho Farm Bureau Federation

Major CAFE project officially under way



Long talked about and hoped for, University of Idaho's \$45 million CAFE project is officially under way.

Several Idaho Farm Bureau Federation staff and volunteer members were on hand June 30 for the official groundbreaking for the project, which is called the Idaho Center for Agriculture, Food and the Environment (CAFE).

The project will include the nation's largest research dairy, a 1,200-acre demonstration farm adjacent to the dairy, an outreach and education center in Jerome County that will teach people

about agriculture, and a food processing research facility located on the College of Southern Idaho campus in Twin Falls.

The 2,000-cow research dairy will be extremely valuable to Idaho's important dairy industry, which ranks third in the nation in milk and cheese production.

The current research dairies in the nation are much smaller than that and the Idaho research dairy will more accurately reflect the average size of most dairies in Idaho.

See **SEARLE**, page 6

Inside Farm Bureau

By **Zak Miller**
CEO Idaho Farm Bureau Federation

What if they listened?



I love the parable of the elephant and the blind men. In the parable, six blind men who have never heard of an elephant before meet one for the first time.

Each man touches a different part of the elephant and uses their touch to describe the elephant.

The first person, whose hand landed on the trunk, said, "This being is like a thick snake." For another one whose hand reached its ear, it seemed like a fan. As for another person, whose hand was upon its leg, the elephant is a pillar, like

a tree trunk.

The blind man who placed his hand upon its side said the elephant "is a wall." Another who felt its tail described it as a rope. The last man felt its tusk, stating the elephant is that which is hard, smooth and like a spear.

The lesson, as I understand it, is the elephant is so large and diverse from one end to another that each person that touched it was right and wrong all at the same time.

Each blind man needed the experiences of the
See **MILLER**, page 7



Idaho Farm Bureau.

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COVER: Hayven Chase plays with her dog, Scentinel, who is trained to alert Chase, who has type 1 diabetes, when her blood sugar levels get too high or low. See story on page 8. (Photo by Sean Ellis)



Photo by Sean Ellis

Surrounded by FFA students, Idaho State Department of Agriculture Director Celia Gould draws the grand prize winning ticket June 17 during the 12th annual Idaho FFA Foundation Scholarship Raffle drawing. To her right is Sid Freeman, who started the raffle program in 2010 along with his wife, Pam.

East Idaho farmer wins FFA raffle grand prize

By Sean Ellis

Idaho Farm Bureau Federation

MERIDIAN – East Idaho farmer Justin Place buys tickets each year for the Idaho FFA Foundation’s annual raffle program.

Like many people around the state who purchase FFA raffle tickets, he doesn’t expect to win.

Place views the tickets he buys as a donation to the state’s FFA program since the raffle raises money for FFA student scholarships as well as the state’s 95 FFA chapters.

This year, one of Place’s tickets floated to the top and, to his shock, he was the grand prize winner, nabbing a 2021 Can Am Maverick side-by-side.

He was stunned when he received a call from FFA officials noti-

fying him that he had won.

“I was kind of in disbelief; I thought there was no way I’d would win that sucker,” said Place, who farms wheat, barley, hay and mustard in Hamer.

The fact Place had this year’s winning ticket is even more surprising considering he purchased his tickets this year – 10 for a total of \$200 –at the last moment after almost forgetting to do so.

Place said FFA has treated him well – he was a member while attending West Jefferson High School – and he views his annual ticket purchases as donations to the program.

“I totally didn’t expect to win anything,” he said.

Place said he was planning to trade in his old side-by-side for a new one this summer.

“I’m excited,” he said of his new side-by-side. “We’re going to use it on the farm.”

Place’s name was drawn by Idaho State Department of Agriculture Director Celia Gould June 17 during the 12th annual Idaho FFA Foundation Scholarship Raffle drawing.

The grand prize for the first 10 years of the raffle program was a refurbished tractor but the main prize the last two years has been a side-by-side.

Next year’s grand prize is a 2022 Yamaha Wolverine side-by-side. Tickets for the 2022-2023 raffle go on sale July 1.

FFA members from across the state sold a record 6,509 tickets for this year’s raffle at \$20 a piece, raising a total of \$130,180.

Half that money goes directly back to the chapters that sold the tickets while the rest is used for scholarships for FFA members.

Since the raffle program began, it has raised \$641,751, according to Idaho FFA officials.

Of that total, \$475,660 is from ticket sales, \$157,555 is from in-kind contributions from businesses and citizens and \$128,650 is from banner sponsorships from Idaho businesses.

The program has resulted in a total of \$217,000 in scholarships being awarded to 211 students throughout the state.

Before drawing this year’s winning tickets, Gould said the money raised through the raffle program is being well spent.

“The best days in my job are the days I get to spend with these blue jackets,” she said in reference to the iconic blue jackets worn by FFA members. “I get to see firsthand what a huge, huge contribution they make to our state and, in particular, to agriculture. What I see astounds me.”

Gould thanked all the people and businesses that have supported the raffle program through the years.

“I so appreciate the people that have worked on this program because these FFA members are the future of agriculture,” she said. “This is what we’re investing in. These kids are our future.”

The raffle program was started in 2010 by Caldwell farmer Sid Freeman and his wife, Pam. The first tractor, a 1940 International Farmall H, was donated by the Freemans and raffled off in 2011.

Freeman, who is an Idaho Farm Bureau Federation member, said he and his wife wanted to raise money to fund a program they believe strongly in.

That turned out to be the state’s FFA program.

Freeman said statistics show that students who participate in FFA are far more likely to graduate from high school, go on to receive a post-secondary education and then come back and be leaders in their communities later.

“My faith in the ag ed programs and the

FFA in the state of Idaho and throughout the nation is just tremendous because these students statistically have a higher success rate than any other student in our secondary education system, bar none,” he said. “That’s a fact.”

The reason for that success, he added, “is because of the lessons they are being taught in their ag ed programs and the leadership skills they gain through the FFA. If I’m going to support something, this is what I’m going to support.”

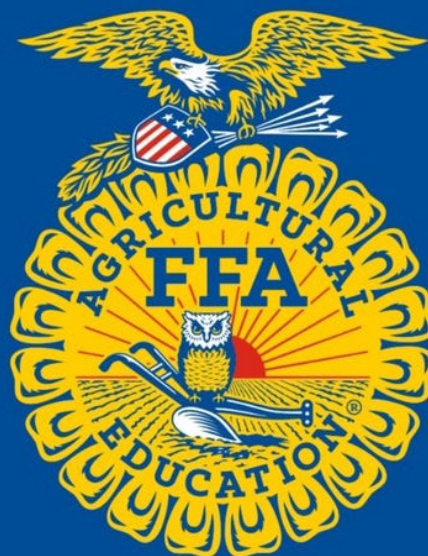
Besides raising money for FFA students, Freeman said, the raffle has become a visual symbol of Idaho’s FFA program and helped educate people about the importance of agricultural education and FFA.

“The No. 1 thing with the raffle is we try to raise money and we’ve done that,” he said. “But we’ve found that the secondary benefit of this whole scholarship program is the promotion of the ag education and FFA programs.”

The second-place winner in this year’s raffle drawing was Dustin Grooms of Nampa, who won a Traeger Grill.

Third place went to Matt Ineck of Nampa, who won a Cordova cooler filled with BBQ essentials.

The fourth-place ticket was held by Steve White of Caldwell, who won a \$250 gift card to D&B Supply. ■



Continued from page 2

Equally as important, the research done there will be conducted in the arid conditions that most of the state's dairies operate under.

So, more so than at any other research dairy in the nation and world, the research conducted at the U of I dairy will more accurately reflect the real-life conditions of Idaho's commercial dairy operations.

That research will seek to help dairies around the state, and nation, solve some of their biggest environmental and agronomic challenges.

Researchers will also seek to find new economic opportunities for dairies.

The dairy project has the support of the Idaho Dairymen's Association, which has committed \$2 million toward it.

Dairy is the state's No. 1 agricultural sector when it comes to farm-gate receipts and Idaho's 400 dairies bring in about \$3 billion in farm-gate revenue each year.

Add in the state's many milk-processing facilities and the dairy industry is worth billions of dollars to Idaho's economy each year.

CAFE's research dairy should be a big blessing to Idaho's dairy industry long into the future.

But the CAFE project should provide a big assist to Idaho's entire agricultural

'CAFE's research dairy should be a big blessing to Idaho's dairy industry long into the future.'

industry, not just the dairy sector. It's designed to do research that will benefit all of agriculture, crop as well as livestock.

That's where the demonstration farm comes in.

A host of agronomic related research will be conducted at the demonstration farm, including on water use and efficiency, soil health and fertility, labor management, precision agriculture, crop rotations, animal genetic improvement and forage cropping and agronomy.

Members of the state's dairy industry first began discussing the possibility of a major research dairy with U of I officials way back in 1995. Since then, the idea has blossomed into what CAFE is today.

As the idea has grown and matured, it has attracted the backing and financial support of a lot of organizations that represent the state's 25,000 farms and ranches.

A long list of agricultural groups, including Idaho Farm Bureau Federation, are supporting the project financially.

IFBF will contribute \$100,000 toward

the CAFE project.

Farm Bureau members believe this project will pay big dividends for Idaho agriculture and CAFE's size and scope are reflective of the important and large role that farming and ranching play in the state's overall economy.

As I wrote in a previous letter of support for the project, "CAFE will enhance a national and international reputation that will reflect the size, quality and importance of the industry it represents and strengthen Idaho's position on the map as a center for agricultural and food innovation and technology."

It should be noted Idaho legislators have approved a significant amount of state funding for the project as well and it has turned into a three-way partnership between the university, the ag industry and the state.

CAFE is truly an investment in the future of Idaho's agricultural industry and Farm Bureau is proud to be a supporter of this forward-looking project. ■

Continued from page 2

thriving environment. And while our society and the technology we use have changed a lot in the 50 years since the Endangered Species Act was passed, Congress hasn't passed significant updates to reflect the realities on the ground.

Instead, government agencies like the EPA and Fish and Wildlife Service have created confusing rules that give unelected bureaucrats the power to dictate what Americans do on their private property, and individual judges make sweeping decisions that have national impacts.

Endangered Species Act protections have brought some animals back from the brink of extinction, such as the bald eagle. But today, there are over 1,600 listed species in the United States, with thousands of pages of complicated rules around these listings.

'Just as each species plays a role in a healthy environment, we all play a role in ensuring a healthy and safe future for our planet and the people we share it with.'

That makes it very confusing for farmers, ranchers, and other landowners to determine what they can do on their land.

The previous administration attempted to bring some clarity for landowners and other stakeholders by writing new rules to clarify

what habitat really is and what protections apply to which types of listed species.

But now the current administration wants to return to the old system of case-by-case decisions made by bureaucrats in Washington, and a single judge just repealed several of the clarifying rules.

We simply cannot have this tug-of-war with regulations where farmers and ranchers are left guessing what's next.

Endangered Species Act regulations affect daily practices like crop protection as well. EPA officials often put in place limitations on how pesticides can be used based on broad-sweeping species maps and without realistic assumptions of how a product is used.

Despite what EPA officials might think, farmers use only the amount of pesticides we need to get the job done, which is often significantly less than the maximum amount allowed.

We also need these products to utilize environmentally bene-

ficial practices like no-till farming that prevent soil erosion and runoff.

We are as careful and efficient as possible, for the safety of our families, communities and wildlife. Making decisions based on the best science available brings both clarity and certainty to landowners and other stakeholders.

Just as each species plays a role in a healthy environment, we all play a role in ensuring a healthy and safe future for our planet and the people we share it with.

We also know that when we work together as partners, through voluntary agreements, and with ample opportunity for farmers to provide their perspective to inform each agency's decisions, we can achieve so much more.

That's why we need the government to treat us as partners and focus on science and common sense. The survival of our nation's wildlife and our farms and ranches depends on it. ■

MILLER

Continued from page 2

others to truly understand what an elephant is. If they worked together, they could know an elephant.

If they distrusted one another and refused to listen, they walked away wrong and were very frustrated. In most versions of the parable, the men would not believe each other because of the differences in their experience, and none learned what an elephant really is.

We all can learn a personal lesson from parables like this one.

Individuals can be stubborn like the blind men, but rarely does an individual compare in obtuseness to that of a bureaucracy, especially a governmental one.

We see examples far too often of governmental overreach and imprudence that result in failures to serve the citizenry and excessive withdrawals from the treasury because one agency only focused on the "trunk" from their vantage and refused to listen to other voices also touching the elephant.

A case in point is a series of listening roundtable sessions throughout the country hosted by the Environmental Protection Agency and U.S. Army Corp of Engineers to receive feedback regarding how the federal government will administer the Waters of the United States rule, known as WOTUS.

The EPA and Army Corps of Engineers have proposed rulemaking that would broaden the definition of Waters of the United States in such a way that it would greatly expand the federal government's regulatory reach over private land and allow it to regulate ditches, ephemeral drainages and low spots on farm land and pastures.

This WOTUS issue has been a burr under landowners' and land managers' saddles for quite some time.

The Obama administration started the discussion, the Trump administration appeared to resolve it, and now the Biden admin-

'Individuals can be stubborn like the blind men, but rarely does an individual compare in obtuseness to that of a bureaucracy, especially a governmental one.'

istration has decided it needs to be reconsidered, leading us to the before-mentioned roundtables.

On the surface, a roundtable discussion to receive information from stakeholders sounds good. It would appear to mean our federal government is listening.

Perhaps asking that agriculture, conservation and environmental groups, developers, drinking water/wastewater management, industry, and other vital interests in that region be represented at the roundtables will ensure that all points of view are heard.

Of course, never mind that all the same groups participated in offering comments when the Trump administration addressed this exact same issue less than three years ago.

Of all the flaws in the roundtable format for addressing WOTUS, the most egregious error the EPA and Army Corps of Engineers made was this:

After 10 roundtables held throughout the U.S., the EPA and Army Corps made it clear that these roundtable sessions would not be considered in the rulemaking process.

Such a statement begs the question: What was the point of the entire roundtable exercise?

Using the parable of the blind men and the elephant as an example, we are left to ponder this fundamental question: What could we accomplish if we really listened to each other? ■



Photos by Sean Ellis

Hayven Chase is shown in her Athol home with Scentinel, a dog that has been trained to alert Chase when her blood sugar levels get too high or low.

Scentinel, the diabetes alert dog

By Sean Ellis

Idaho Farm Bureau Federation

ATHOL – Scentinel is not your average dog.

His owner, Hayven Chase, 18, was diagnosed with type 1 diabetes when she was 8 years old. Scentinel is a diabetes alert dog that has been trained to alert Chase when her blood sugar levels are

too high or low.

“He does an amazing job and I’m really thankful for him,” says Chase, who plans to attend University of Idaho and pursue an agricultural business degree.

‘Scentinel’ is a play on words that combines the definition of sentinel with the dog’s keen sense of smell.

“I chose Scentinel because it’s a guard standing watch and that’s

“Being diagnosed with type 1 diabetes was a life-changing event. I had to learn a lot of different things, but it made me into who I am today.”

—Hayven Chase

his job,” Chase says.

Chase is a heavy sleeper who does not wake up when her blood sugar levels fall. Scentinel will wake her up by literally jumping on her if that happens.

There can be grave danger involved if a sleeping diabetic does not wake up when their blood sugar level falls.

“The danger of low blood sugar at night is that you never wake up,” says Reed Chase, Hayven’s father.

“Scentinel literally keeps her alive and safe,” says Roxanne Chase, Hayven’s mother.

Until Scentinel came along, Roxanne and Reed used to take shifts to watch Hayven at night.

“For us, it gives us a peace of mind knowing that he’s there to watch her at night when we can’t be,” Roxanne Reed says.

Type 1 diabetes is a 24/7, 365 days a year disease, she adds. “It’s definitely one of those things where she always has to pay attention and Scentinel helps her pay attention.”

Hayven recently graduated from high school and will now work toward a degree in agricultural business.

She fell in love with horses when she began riding them at her aunt’s ranch near Coeur d’Alene at the age of 5.

“I’ve been obsessed with them ever since I was little,” she says.

Her love of agriculture developed after becoming involved with FFA when an ag teacher told her she could judge horses. She had no idea what FFA was at first but her involvement opened her eyes to the many opportunities available in the agricultural industry.

“Especially through FFA, my eyes have been opened to how many different opportunities that there are in agriculture,” Hayven says. “There is a lot that interests me in agriculture and having an agricultural business degree, there are so many different pathways that I can go.”

“There is so much to learn within agriculture and it’s something that keeps me very interested,” she adds.

Hayven has also competed in Idaho Farm Bureau Federation’s Discussion Meets, which are designed to help young people hone their public speaking and problem-solving skills during a competition that is meant to simulate a committee meeting rather than

a debate.

“I had a lot of fun at the Discussion Meet,” she says. “I fell in love with it.”

Reed Chase says he’s excited about Hayven’s desire to be involved with agriculture.

“I’m excited because it’s a passion of hers and any time your kid can find a career in something they are really passionate about, you just want to see them excel in it,” he says.

Scentinel is a Golden Labradoodle; his mother is a Goldendoodle and his father is a Labrador.

Scentinel alerts Hayven to low or high blood sugar levels by pawing her and he can detect them 20-30 minutes before Hayven’s glucose monitor does.

“Having that extra time helps me get ahead of it,” Hayven says.

Scentinel has also been trained to fetch Hayven a juice box if she’s feeling particularly weak.

Hayven got Scentinel when he was 12 weeks old and the dog



Scentinel, a diabetes alert dog, with his owner, Hayven Chase.



was going to school with her full time when he was six months old.

“At school, he knows he’s working,” Hayven says. “He knows that he has a job to do and he’s not really distracted by anything.”

Being diagnosed with type 1 diabetes was a life-changing event, Hayven says. “I had to learn a lot of different things, but it made me into who I am today.”

Reed Chase says his daughter determined early on that having diabetes wouldn’t stop her.

When Hayven was 8, he says, “She said, ‘Oh, God never gives me anything I can’t handle,’ and that’s always been her attitude throughout the whole thing.”

“We’ve always been determined that it wasn’t going to stop her from doing anything and she’s grown into that determination,” Roxanne Chase says.

Sc Sentinel plays a big role in helping Hayven achieve her goals, she adds.

“Reed and I have had dogs our whole life but I have never seen a dog like this; he’s pretty amazing,” Roxanne Reed says.

One “drawback” of Sc Sentinel is that he draws a lot of attention from strangers.

“Me and my mom always joke that my next service dog needs to not look so cute,” Hayven says. ■



You can follow Hayven Chase’s adventures with her dog, Sc Sentinel, on Facebook by searching online for “standing watch with Sc Sentinel.”

TOP: Hayven Chase rides a horse while her dog, Sc Sentinel, runs alongside. Sc Sentinel has been trained to alert Chase, who has type 1 diabetes, when her blood sugar levels get too high or low.

LEFT: Hayven Chase, 18, pets Sc Sentinel, who has been trained to alert Chase when her blood sugar levels get too high or low. In the background are Chase’s parents, Reed and Roxanne.

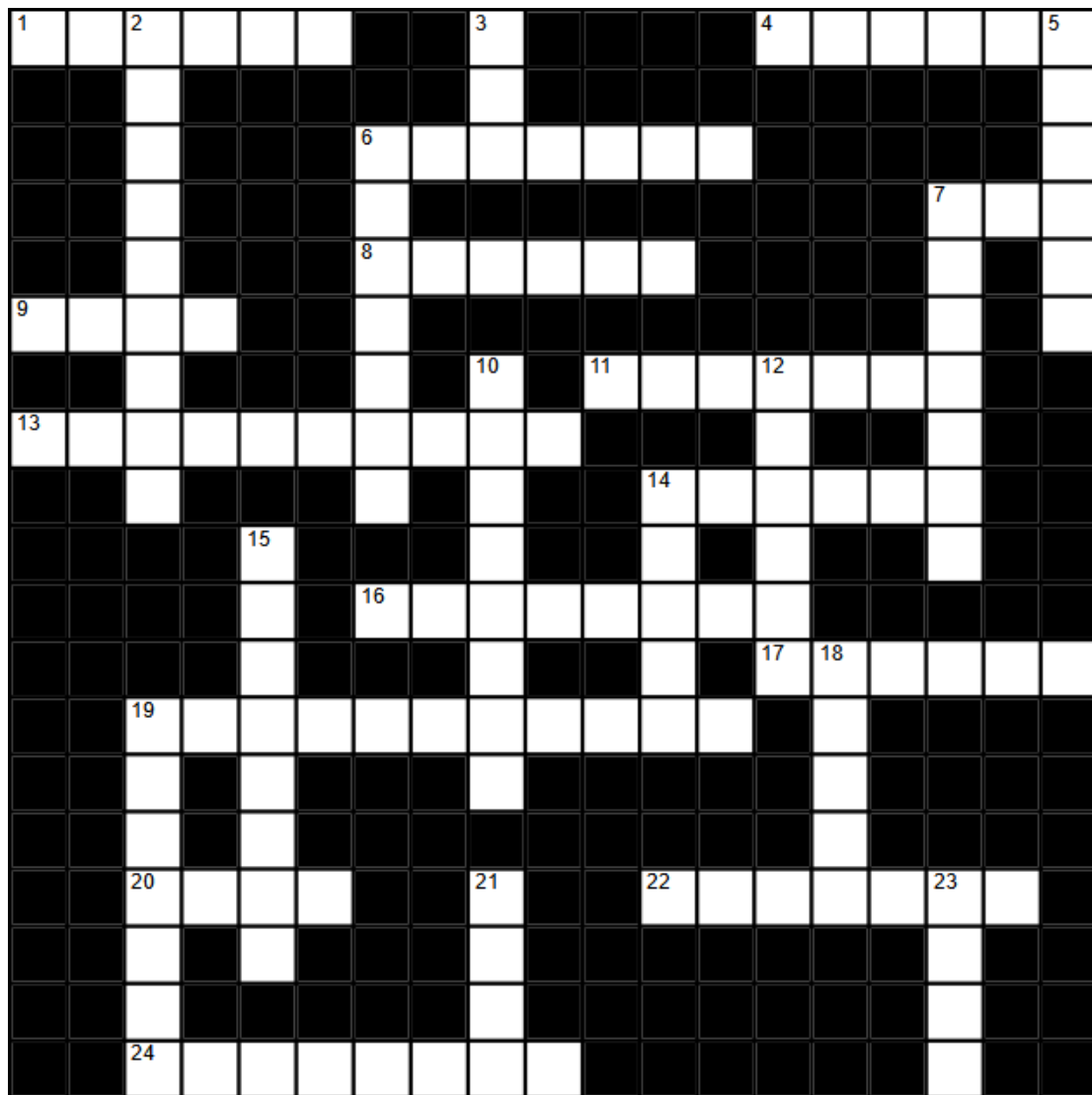
Crossword Puzzle

Food in Gardens

Answer key on page 36

Across

1. Cultivated for its pungent compound bulbs used in cookery
4. New growth of a plant
6. Orange summer squash, carving
7. Long green pods containing edible green seeds
8. Pungent usually crisp root of the mustard family usually eaten raw
9. White cylindrical bulb and flat dark-green leaves
11. A common garden vegetable whose succulent leaves are used especially in salads
13. Juicy edible usually red fruit of any of several low-growing temperate herbs
14. An orange spindle-shaped edible root
16. A smooth cylindrical usually dark green summer squash
17. An edible tuber
19. Compact edible head of usually white undeveloped flowers
20. Round red root vegetable
22. An Asian herb cultivated for its edible leaves which form a dense basal rosette
24. Shiny skin typically dark purple



Down

2. Red edible berries that are rounder and smaller than blackberries
3. Sweet potato with deep orange flesh
5. Mildly acid red or yellow pulpy fruit
6. Aromatic herb with flat or curly leaves
7. The principal salad peppers
10. Plant with dense clusters of tight green flower buds
12. Large flashy edible white or yellow root
14. Perennial having hollow cylindrical leaves used for seasoning
15. Cylindrical green fruit with thin green rind and white flesh
18. Rounded edible bulb
19. Brassica oleracea grown for their edible leaves or flowers
21. Edible seeds of plants of the family leguminosae
23. Tall annual cereal grass bearing kernels



Photo by Sean Ellis

More than 150 people attended a June 30 groundbreaking ceremony for a \$22.5 million research dairy that will be the largest of its kind in the nation. It will be part of the University of Idaho's \$45 million Idaho Center for Agriculture, Food and the Environment project (CAFE).

U of I breaks ground on \$45 million CAFE project

By Sean Ellis

Idaho Farm Bureau Federation

RUPERT – University of Idaho officials broke ground June 30 on a \$45 million project that will include the largest and most advanced research dairy in the United States.

More than 150 people showed up for a groundbreaking ceremony for the Idaho Center for Agriculture, Food and the Environment, which is commonly known as CAFE. Actual construction on the research dairy part of the project is expected to begin

within a few weeks.

Researchers attached to the CAFE project will address some of the main challenges facing Idaho's dairy producers and crop farmers.

CAFE has been envisioned and talked about for more than two decades and the \$22.5 million dairy research part of the project is now officially underway. The dairy will be built on 640 acres of land near Rupert, adjacent to a 1,200-acre demonstration farm where U of I scientists will conduct crop research.

The overall CAFE project will include a food processing

research facility located on the College of Southern Idaho campus in Twin Falls and an outreach and education center in Jerome County that will help teach people about Idaho agriculture and where their food comes from.

The 2,000-cow research dairy will be the largest of its kind in the United States and will help Idaho's important dairy industry solve some of its biggest challenges, including environmental ones.

"It will be the largest research dairy in the United States and clearly then the work done here will be impactful not only for Idaho but at the national and international level," said Michael Parrella, dean of U of I's College of Agricultural and Life Sciences.

Idaho ranks No. 4 in the nation in total milk production and No. 3 in cheese production and dairy is the top agricultural sector in the state in terms of total farm-cash receipts.

For Idaho dairies, one of the biggest benefits of the research dairy is that it will conduct research under the same arid conditions most of the state's dairies operate in.

Because it will have the capacity to milk 2,000 cows, it will also be much larger than other research dairies around the nation and more reflective in size of Idaho dairies.

Parrella said the dairy will be a mecca for researchers from all over the country.



University of Idaho photo

Michael Parrella, dean of University of Idaho's College of Agricultural and Life Sciences, speaks to more than 150 people who attended a June 30 groundbreaking ceremony for a \$22.5 million research dairy that will be the largest of its kind in the nation. It will be part of the university's \$45 million Idaho Center for Agriculture, Food and the Environment project (CAFE).

"We expect faculty from other universities to come here," he said. "Why? Because this facility is going to provide them the opportunity to do work they can do nowhere else."

Members of Idaho's dairy industry first approached university officials with the initial dairy research concept back in 1995. A lot of work and partnering have

occurred since then to make the project a reality, Parrella said.

"This is really a celebration (that has) been a long time coming," he said. "Today is certainly a significant milestone for the research dairy."

The Idaho Dairymen's Association, which represents the state's 400 dairies, has provided \$2 million toward CAFE. That represents the largest one-time contribution IDA has ever made to any project or cause, said IDA Executive Director Rick Naerebout.

The dairymen's association believes strongly that it needs to invest in research, he said.

"This is a huge moment for us," he said. "We have to have the science to back up what we do as an industry."

The research dairy is slated to be com-



LEFT: Idaho Dairymen's Association President Pete Wiersma speaks about the important research that will be done at a new research dairy near Rupert that will be the largest of its kind in the nation, June 30 during a groundbreaking ceremony near. The \$22.5 million research dairy will be part of University of Idaho's \$45 million Idaho Center for Agriculture, Food and the Environment project (CAFE). University of Idaho photo

pleted in 2023 and the goal is to be milking cows there in 2024.

“We’re excited to finally get to this point,” Naerebout said. “After two decades of talking about this concept, we’re actually going to execute and move dirt.”

IDA President Pete Wiersma, who has been in the dairy business in Idaho for 30 years, said the exciting part of the research dairy is that the work done there will help the industry tackle some of its biggest challenges.

“It’s an exciting day,” he said. “It’s exciting for me to know, and I think for most other dairymen as well, that we are going to have science and research and answers. It gives me a lot of encouragement as a ... dairy farmer that I am not alone trying to handle this stuff.”

The research results that come out of the dairy may not always be favorable to dairy operators, Wiersma added, “but that is OK because at least we know and we can adjust. This is a great, positive thing for the Idaho dairy industry and, I believe, for the national dairy industry as well.”

CAFE scientists will conduct cutting-edge research related to the dairy industry, including dairy-related research on lagoons, nutrient management and surface and ground water contamination, and odor and emissions control.

They will also conduct a host of agro-

economic related research on crops at the demonstration farm, including on water use and efficiency, soil health and fertility, crop rotations, forage cropping and agronomy, animal genetic improvement, labor management and precision agriculture.

CAFE researchers will also look at things like agricultural economics, animal health and productivity, food safety, food science and manufacturing, green energy production and value-added products.

“The research dairy is the main component of CAFE but there’s going to be broad benefits that all of Idaho agriculture will be able to reap,” Parrella said.

Studies will delve into the connection between animal and crop agriculture.

“The beauty of CAFE is the linkage between the research dairy and agricultural plant production,” Parrella said. “I feel like that actually makes this a unique facility in the United States.”

The dairy has already attracted significant research funding. A team of U of I faculty in 2020 secured a \$10 million USDA grant to enhance the sustainability of dairies while developing economic opportunities for the dairy industry.

The grant is currently funding work by 20 graduate students and postdoctoral researchers.

“We’ve already secured a \$10 million grant for this facility and we haven’t even

built it yet,” Parrella said.

Faculty from U of I’s Department of Plant Sciences and Department of Soil and Water Systems have been collecting soil samples at the demonstration farm for two years in order to conduct detailed soil analysis and establish baseline information for future research.

Parrella said the CAFE project is the result of a three-way partnership between the university, state and Idaho’s dairy industry and other agricultural partners.

“I don’t look at this as a University of Idaho project. I look at this as a partnership,” he said.

Idaho Farm Bureau Federation will contribute \$100,000 toward CAFE. IFBF President Bryan Searle, a farmer from Shelley, said the university’s vision for the project is exciting and it is a privilege for Farm Bureau to be involved with it.

In a letter of support for the project that Searle sent U of I, he said, “Projected to be the largest integrated research facility focused on dairy and allied industry in the United States, CAFE will enhance a national and international reputation that will reflect the size, quality and importance of the industry it represents and strengthen Idaho’s position on the map as a center for agricultural and food innovation and technology.” ■

The logo for Idaho CAFE is displayed in large, white, sans-serif font against a dark background. The text reads "Idaho CAFE" on the top line and "Center for Agriculture, Food and the Environment" on the bottom line. The background of the logo area shows a blurred image of a field with a fence line.

Idaho CAFE

Center for Agriculture, Food and the Environment

University of Idaho photo

U of I researchers aiding in development of solar-powered weeding robot

By John O'Connell
University of Idaho

A pair of researchers from University of Idaho's College of Agricultural and Life Sciences are partnering with a Washington company to develop a solar-powered robot that will rove autonomously through farm fields and eradicate weeds.

Jae Ryu, an associate professor in the Department of Soil and Water Systems, and Jerry Neufeld, Extension crops educator in Canyon County, are collecting data in Idaho farm fields to help the robot differentiate between weeds and two of the state's major crops – sugar beets and onions.

The company behind the project, Aigen, based in Kirkland, Wash., hopes to have a prototype of the robot finished by late this summer.

It will be adapted for use in other crops later.

The robot will have wheels and will be small enough to roll between rows in farm fields before crop canopies close.

A small arm will grasp and pull little weeds; the robot will emit an electric shock to fry the larger weeds.

Ryu said Amalgamated Sugar Co. has been interested in the project. He can envision several robots working sugar beet fields at once.

Idaho farmers plant sugar beet seed that's genetically modified to resist glyphosate herbicide, but kochia weeds in the state have already started developing herbicide resistance.

Ryu said the robots could provide an answer to Idaho farmers who have been unable to find enough field workers for simple tasks such as weeding.

He believes new technology will play an increasingly important role in addressing the farm labor shortage. In the near future, he expects drones will be spraying fields now treated by crop duster pilots.

"Maybe over the next few decades we're going to see a lot of this kind of autonomous vehicle everywhere," Ryu said. "Technology is improving so fast these days. We have to accept this technology to make our life easier."

Ryu said the robot could also fill a niche by providing weed control on organic farms.

"This is also very beneficial for environmental ecosystems," Ryu said. "Farmers are going to reduce their chemical applications."

Since April, Ryu and Neufeld have gone out into sugar beet and onion fields every five days, weather providing, to take photos of weeds.

They manually push a cart fitted with an accelerometer to take two photographs of the ground per second while the cart is in motion. Aigen uploads the photos from their SD cards to build



Photo by Jae Ryu

Jae Ryu, an associate professor in University of Idaho's Department of Soil and Water Systems, collects data in a field to help an autonomous robot differentiate between weeds and sugar beet or onion crops.

the database the robot will use to tell the difference between weeds and crops.

"I'm also thinking to develop an education and training module to help farmers operate the ground robot safely and wisely in the farm field," Ryu said.

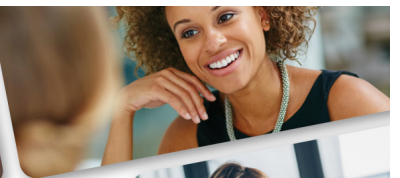
The researchers are uncertain how much each robot unit will cost to build or how much ground an individual robot will be capable of covering in a set amount of time.

Ryu has applied for an Idaho Global Entrepreneurial Mission grant through the Idaho Department of Commerce to fund development of a similar autonomous robot that would take the field photographs in lieu of manually pushing a cart. If the IGEM grant is funded, that robot could also be used to aid in ground truthing for some of his additional research involving drones.

One of those projects, funded by the Idaho Wheat Commission, entails flying a drone with multispectral sensors to detect the presence of wireworms in wheat fields.

Ryu has also researched using multispectral sensors to identify early symptoms of pink root disease in onions. ■

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Idaho farmers plant 25,000 fewer potato acres in 2022

By Sean Ellis

Idaho Farm Bureau Federation

POCATELLO – Idaho farmers planted 25,000, fewer potato acres this year, an 8 percent decrease compared with 2021.

Idaho farmers planted an estimated 290,000 acres of potatoes in 2022, down from 315,000 in 2021, according to USDA's National Agricultural Statistics Service.

Many people expected spud acres in Idaho to be down this year but the 25,000-acre decrease came as a surprise to

a lot of people.

“It was kind of a surprise to just about everyone,” said Oakley potato farmer Randy Hardy. “I personally thought acres would be down a percent or two or remain about the same.”

“That’s a huge drop,” said Ben Eborn, owner of North American Potato Market News. That’s especially true considering that farm-level prices for spuds were strong heading into this growing season, he added.

The decrease is a result of a combination of factors, according to potato farmers and industry leaders.

Idaho Farm Bureau Federation photo

Potatoes are harvested near Aberdeen in this Idaho Farm Bureau Federation file photo. Idaho farmers planted 25,000 fewer potato acres in 2022, according to USDA's National Agricultural Statistics Service. That represents an 8 percent decline compared with the 315,000 acres planted in Idaho in 2021.



Photo by Sean Ellis

Potatoes are planted in a Bingham County field last year. Idaho farmers planted 25,000 fewer potato acres in 2022, according to USDA's National Agricultural Statistics Service. That represents an 8 percent decline compared with the 315,000 acres planted in Idaho in 2021.

One of the biggest factors is that input costs are significantly higher this year for all crops. Even though farm-level potato prices are strong right now, potatoes are a high-input crop and that means some farmers could have decided to plant other, less risky crops, such as wheat and barley, that cost less to plant but are also fetching good prices.

With production costs up substantially this year, "Farmers are looking at reducing inputs and increasing net and the grains are looking good this year," said American Falls potato farmer Jim Tiede.

Potatoes are also a high-water crop and the possibility of facing drought conditions this year also likely weighed heavily in spud farmers' planting decisions, farmers said.

"Input costs are sky-high and there are a lot of other crops you can grow that require less inputs and less water," Eborn said.

Tiede said the reduced potato acreage in Idaho can mostly be attributed to water concerns and competition from other crops.

"I think it's mostly those two big things," he said.

Hardy said some potato growers had a difficult time getting seed this year.

"A combination of all of those things is probably why acres are down so much this year," he said.

Even though total potato acres in Idaho are down by 25,000 this year, the state's farmers will still produce plenty of spuds in 2022, said Idaho Potato Commission President and CEO Jamey Higham.

Idaho potato acres in 2021 were up 6 percent compared with 2020 and 2022 acres are down only 3 percent when compared

with 2020, he pointed out.

"We expect strong pricing and we will have potatoes to sell this year," Higham said.

Average yields for Idaho potatoes were down significantly last year due to the severe drought conditions that made farming in the state difficult during the 2021 growing season.

If spud yields return to near normal this year, total potato production in Idaho will be above the three-year average, Eborn said.

"We're expecting a much higher yield than we had last year and much better quality," Higham said. "We're going to have potatoes to sell. We are going to be in business this year."

According to NASS, Idaho farmers planted 300,000 acres of potatoes in 2020, 310,000 acres in 2019, 315,000 in 2018, 310,000 in 2017 and 325,000 in 2016.

Including 2022, the 10-year average for potato acres in Idaho is 311,650.

The last time Idaho potato acreage was below 290,000 was in 1965, when they totaled 283,000. However, it should be noted that potato yields in Idaho have risen substantially over the years and Idaho farmers now produce a lot more spuds on less land.

Despite the 8 percent reduction in spud acres, Idaho will remain the No. 1 potato-producing state in the nation this year.

Washington ranks No. 2 behind Idaho in total potato production.

According to NASS, Washington farmers planted an estimated 165,000 acres of spuds this year, up 3 percent from 2021.

Nationally, total potato acreage is estimated at 910,000, down 3 percent from last year. ■



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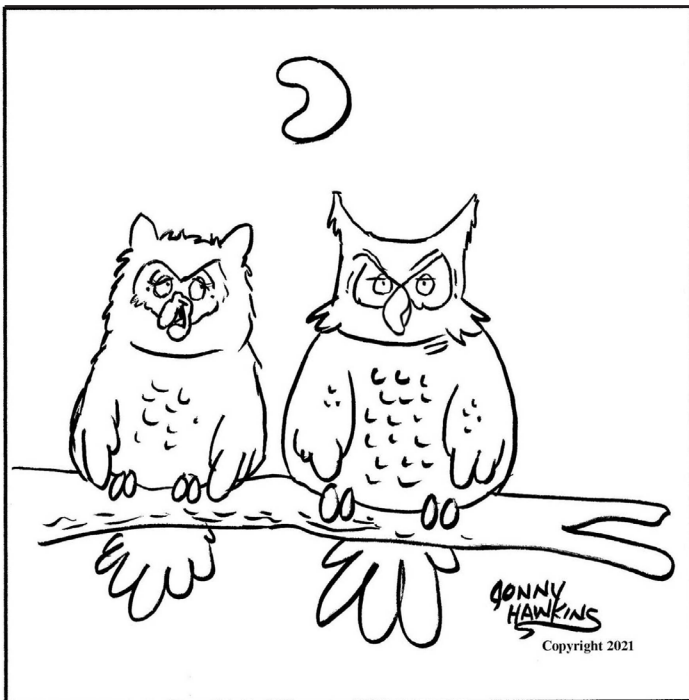
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Country Chuckles

By Johnny Hawkins



"Does your milk taste heavenly because you're a holy cow?"



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Pines have needles in packs

By Randy Brooks
University of Idaho

I am blessed to direct and teach at the University of Idaho Extension Natural Resource Camp each June. After a two-year hiatus, we were able to hold the camp for 45 youth this June.

The camp is located 17 miles north of Ketchum in the Sawtooth National Recreation Area and looks directly at the Boulder Mountains. Perhaps now you see why I say I am blessed.

While there, campers learn about forestry and fire, range, wildlife, soils, and water from experts in each of these fields in an outdoor, hands-on learning environment.

The goal is to teach sustainable management to our next generation of natural resource managers and leaders. Many of the youth are

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Forest

sponsored by our local Idaho Soil and Water Conservation Districts.

You're probably wondering what the title of this article, "Pines have needles in packs," has to do with the camp. Well, my philosophy is that if you're going to learn anything about forestry, you need to be able to identify trees.

When I'm talking about trees, it's usually the commercial coniferous species that I'm teaching students to identify. So, over the next few issues, I'll be talking about how I teach students to identify trees.

I'm a simple person so I like to keep teaching simple! That's why I teach the youth at camp and in my Introduction to Forest Management class on the University of Idaho campus that pines have needles in packs.

When you look at the branch of a conifer, see if it has individual needles attached to the branch or needles in packs (also

called bundles or fascicles). For the most part, only pines have needles in bundles.

Most trees and shrubs fall into one of two categories: deciduous and coniferous. Deciduous trees have leaves that fall off yearly, but for this issue, I'm going to focus on conifers.

So, what is a conifer? Any of an order of cone-bearing (typically) trees and shrubs that usually have needle-shaped or scale-like leaves and are often evergreen (versus deciduous) and they retain their green foliage year-round.

Coniferous and evergreen are not synonyms as evergreen refers to the nature of a tree's leaves or needles.

There's always an exception to the rule, it seems, and larch is one exception. It is a deciduous conifer, but more on that in a



later column.

Idaho mainly has three commercial species of pine. The first is our state tree, Western White pine (*Pinus monticola*).

This is a tall pine (upward of 200 feet) which is found mainly in northern Idaho forests. It is most easily distinguished by its banana shaped cones and needles in packs of five.

The needles have a very pale stripe, which might be the reason it is called “white” pine. It is generally sawn into lumber and is popular for windows, doors, matches, boxes, etc.

The higher-grade materials can be used for applications such as siding, interior and exterior woodwork, and millwork. The boughs are often used in Christmas wreaths. The bark is mainly brownish-grey and is broken into small rectangular blocks.

The second pine on our list is Ponderosa pine (*Pinus ponderosa*). I once read it was named for its heavy (ponderous) wood and I have heard loggers and landowners refer to Ponderosa pine as p pine, black pine, bull pine, blackjack pine, or western yellow pine.

Ponderosa pine is the most widely distributed pine species in North America and can grow to heights of over 200 feet with big trunks 3-4 feet in diameter. It can be found growing on the south facing drier slopes.

Ponderosa is readily identified by its needles which have three in a pack/fascicle and are longer (5”-10”) than the other pines found in Idaho. Its pinecones are easily recognizable as well and remind me of small pineapple shaped cones.

They drop thousands of needles each year, so you typically will not see much of anything else growing around the base of the trees.

Ponderosa pine also has a very thick bark with deep, large furrows and grooves, making it less susceptible to fire damage.

Ponderosa pine wood has a soft texture and light color which distinguishes it from southern pines. Because of its texture and somewhat uniform cell structure, it stains and finishes well.

Knotty pine paneling that is popular for a “country” look comes from this pine. It also has the same basic uses as any other softwood lumber, including general carpentry, custom millwork, furniture-making, and home construction applications.

The third pine I want to talk about is Lodgepole pine (*Pinus contorta*). Lodge pine has two short needles in a pack/fascicle and smaller cones.

The needles are often twisted, or contorted, hence the name “contorta.”

Another reason for the name lodgepole is that its bole is used as poles for lodges, homes and buildings. Lodgepole is excellent for lumber, plywood, and paneling. The bark is thin (making it susceptible to fire), orangey-brown to grey and finely scaled.

Lodgepole pine is a highly adaptable tree that can grow in all sorts of environments, from water-logged bogs to dry, sandy soils. It's one of the first trees to sprout up after a wildfire and can grow

PREVIOUS PAGE: Lodgepole pine needles and cone. Lodgepole has two needles per fascicle. Photos by Randy Brooks

RIGHT: Western white pinecone and needles. The needles occur in packs of five. Also called fascicles or bundles of five.

in “dog-hair” thickets.

The cones can be protected by a seal of pitch that requires fire or heat to release the seed. The term for these types of cones is serotinous cones. Because of this, the seed may stay on the tree or on the ground for many years until a disturbance provides suitable growing conditions.

One note about wood from pines is that when the Mountain Pine Beetle attacks a pine tree, the beetle carries a fungus on it that then infects the sapwood and causes a blue stain.

This tends to soften the wood and makes it easier for the beetle to burrow in and lay its eggs. This blue stain (try googling “blue stain pine”) is actually a defect when it comes to selling logs infected with the fungus.

However, when milled it can be quite attractive, especially the tongue and groove boards.

There's a lot more I could say about these three pines, but there's not enough room in this column to talk about it all. This was a quick overview of how I teach the youth to identify our three main species of commercial pines in Idaho.

Stay tuned for the friendly firs and spiky spruces.

Back to the Natural Resource Camp mentioned at the beginning of this article – if you want more information, go to our website and check it out at www.uidaho.edu/extension/natural-resource-camp. We will be setting the dates for 2023 in the next month, so please encourage a youth in your life to attend and learn how to sustainably manage our natural resources.

They will quickly learn that “pines have needles in packs.”

Randy Brooks is a University of Idaho Extension forestry specialist. He can be reached at rbrooks@uidaho.edu. ■





Submitted photo

Weston rancher Jason Fellows herds cattle at his ranch in southeast Idaho.

Becoming an agricultural advocate for life

By Sean Ellis

Idaho Farm Bureau Federation

WESTON – Southeast Idaho farmer Jason Fellows is involved in a national program designed to help agricultural leaders greatly improve their role as advocates for agriculture.

American Farm Bureau Federation's Partners in Advocacy Leadership program is designed to help people develop the executive-level skills needed to become effective advocates for the farming and ranching industry in their communities and beyond.

Fellows has had a passion for agriculture since he was a little kid but the PAL program is helping him develop the knowledge and skills needed to put that passion into action.

"I think one of the reasons this program really reached out to me was that I've always loved agriculture and it's something I've wanted to be involved in since I was a kid," Fellows says.

"One challenge agriculture is really facing is, how do we be sustainable and productive in the future? And I think advocacy is a big part of how to do that. Being advocates for agriculture is what will help us be sustainable forever."

Fellows, 36, is a first-generation farmer, although he was raised in agriculture, working on his uncle's dairy farm growing up.

He bought his first set of beef cows in high school while involved in the FFA program and he and his brother started a beef cow operation 15 years ago. The operation now runs about 150 cows and sells about 1,000 to 1,500 tons of hay every year.

Fellows, who was raised in southeast Idaho, lives in Weston, which is just west of Preston, with his wife, Lacey, and daughter, Brooklee.

PAL is an intense two-year program for farmers and ranchers between the ages of 30 and 45 that requires a major time commitment from participants.

The goal of the PAL program is to personally develop participants to the point they have the expertise and confidence to successfully represent and promote agriculture in the media, in government, or on speaking circuits.

"Basically, our goal is to create advocacy rock stars for agriculture," says Johnna Miller, senior director of media and advocacy training and PAL coordinator for American Farm Bureau Federation.

“When you’re less than 2 percent of the population, you need all the advocates you can get, especially when the vast majority of Americans have never set foot on a farm,” she adds. “We want to give the PALs the tools to be able to tell their agriculture stories in a way that resonates with everyone, no matter where they live.”

Fellows grew up wanting to be a cowboy and has loved agriculture since his earliest years.

“There is just something about when the earth is tilled, there’s a special smell,” he says. “It’s really that connection with ... the earth that probably made me decide I wanted to be in agriculture.”

Fellows says one of the main lessons he has learned so far through the PAL program “is to live life with urgency. A lot of us, we wait for somebody else to do something and to truly be an advocate, we need to be the ones that are acting, realizing there’s an urgency in everything we do. We need to have a pep in our step and we need to be moving forward.”

Fellows was recommended for the PAL program by Idaho Farm Bureau Federation President Bryan Searle, a potato farmer from Shelley.

Fellows first got involved with IFBF by participating in a district-level speaking event known in Farm Bureau circles as a Discussion Meet.

“Ever since then, he’s not slowed down and he has a passion for agriculture and a desire to promote the industry,” Searle says. “He understands agriculture and the business side of things and he’s just very passionate for the industry.”

In addition to serving as Franklin County Farm Bureau President, Fellows has also served as statewide chairman of Idaho Farm Bureau Federation’s Young Farmers and Ranchers program and he currently serves on the IFBF board of directors, representing southeast Idaho.

The application process for the PAL program is intense, as candidates are evaluated on their knowledge of agriculture issues, leadership desire and the extent to which they offer leadership potential for agriculture’s future.

A panel of judges select a group of finalists who are interviewed and ranked based upon the interviews.

“It was an intense, tough interview,” Fellows says. “They wanted to see how you would do under pressure.”

The application process might actually be the easy part, as PAL participants commit to a two-year program that includes them attending and completing four separate multi-day training “modules.”

These modules include homework assignments and participants agree to become active members of AFBF’s grassroots outreach team and create informational outreach and consumer-engagement videos.

PAL graduates conduct media interviews, attend AFBF events and participate in Farm Bureau advocacy efforts.

Fellows attended his first training module in June and is committed to three more through September 2023. He says the training has already started to change him, for the better.

“It affected me a lot,” he says about the June training. “Like farming, to get a better product, we put in different inputs, and I think one thing I’ve learned from that first module is that I need



Submitted photo

Weston farmer Jason Fellows, shown here on his beef cow operation, is involved in an American Farm Bureau Federation program that equips farmers and ranchers with the executive-level skills to be effective advocates for agriculture.

to put different inputs in me to be able to grow personally. I need to start fertilizing myself in a little bit different manner to be able to get a better product.”

The first module was challenging and rigorous, Fellows says.

“The homework is intense and it’s making me stretch a lot and grow,” he says. “It is definitely a life-changing experience and it’s something that we decided as a family is worth doing.”

Fellows says one of the biggest things he hopes to get from the training is the ability to take action and encourage others to do so also.

“We need to realize that we all need to take action,” he says. “Through this program, I want to be able to advocate and help others believe in themselves that they need to take action.”

He also embraces the fact that PAL graduates are expected to be agricultural advocates for the long-term.

“I think this is a team you’re on for life and hopefully I can share my experiences and truly be a voice for agriculture,” he says. ■

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Photos by Sean Ellis

A sugar beet field near Rupert is irrigated June 30. Yields, and total production, for most of the major crops grown in Idaho are expected to be up significantly this year compared with last year.

Idaho crop yields should be up significantly this year

By Sean Ellis

Idaho Farm Bureau Federation

POCATELLO – Yields and total production for most of Idaho’s major crops are expected to be substantially higher this year compared with last year.

Total production for the state’s wheat and barley crops, in particular, should be way up in 2022 compared with 2021.

In Idaho, the big difference between 2022 and 2021 when it comes to farming is

the water situation.

While conditions this year are drier than normal, most of the state faced severe drought conditions last year, which, coupled with a brutal early season heat wave, resulted in yields for almost every crop grown in the state declining significantly.

For example, total wheat production in Idaho last year was down 32 percent compared with 2021 and total barley production was down 21 percent.

But this year looks to be a very different

story because of the improved water situation. Although water supplies will be tight this year, the situation is not expected to be nearly as bad as it was last year.

During recent meetings, member of the Idaho Wheat Commission and Idaho Barley Commission said the state’s grain crops are looking good so far in 2022.

Idaho leads the nation in barley production and total barley production in Idaho this year should be up significantly from last year.



Dry beans are planted in a field near Parma in spring 2022. Yields, and total production, for most of the major crops grown in Idaho are expected to be up significantly this year compared with last year.

Idaho farmers planted an estimated 600,000 acres of barley this year, up from 520,000 acres last year, according to USDA's National Agricultural Statistics Service.

Based on current crop conditions, barley yields in Idaho should return to near normal this after falling substantially last year.

"Generally, Idaho's barley crop is in good shape," said Jason Boose, who serves as an industry representative on the IBC. "There are little bumps along the road but everything is setting up pretty well. Idaho in general is in better shape than the other barley-growing states in the U.S."

Compared to some of the other major crops grown in Idaho, barley is a low-input and low-water crop, said IBC Executive Director Laura Wilder. With farm production costs up significantly, she added, that made barley an attractive choice for a lot of Idaho growers this year.

All of the major barley processing companies that purchase from Idaho contracted more barley acres in the state this year, Wilder said.

"Barley supplies are tight and there is a lot of demand for malt barley in particular," she said.

According to NASS, Idaho farmers planted 1.26 million acres of wheat this year, a tad bit more than last year. Idaho wheat yields should also return to near normal this year, which means the state's wheat crop should be significantly higher this year compared with the 2021 crop.

"It looks like a big crop coming," said North Idaho farmer Bill Flory.

Idaho wheat farmers are also reporting that crop looks to be in good shape right now.

"The wheat crop looks good," said wheat farmer Wayne Hurst, who farms in south-central Idaho. "I think we'll see a lot of 160-bushel wheat in our country."

According to NASS, Idaho farmers planted 1.26 million acres of wheat this year, up slightly from 1.23 million acres last year, and they planted 600,000 acres of barley, up 15 percent from 520,000 acres last year.

Idaho growers expect to harvest 1.29

million acres of hay this year, up from 1.24 million acres last year.

Idaho potato acreage in 2022 is estimated by NASS at 290,000, down 8 percent or 25,000 acres compared with 2021.

NASS estimates sugar beet acreage in Idaho at 172,000 acres, down from 173,000 last year.

Corn for grain acreage in Idaho is estimated at 360,000 in 2022, down from 380,000 in 2021, and total chickpea acreage is estimated at 80,000 acres, up 1,000 acres from last year.

Idaho farmers planted an estimated 56,000 acres of dry beans this year, down from 58,000 last year.

Dry bean prices are near record highs, like they were last year, but unlike last year, dry beans this year faced competition from a lot more crops that are also seeing significantly increased farm-level prices, said Darren Krzesnik, production manager for Treasure Valley Seed Co. in Homedale.

"Beans faced more competition from other crops this year," he said. "It's a great problem that farmers had this year." ■

Agricultural Profile

Teton County



Photos by Kaden Driggs

One of the biggest challenges Teton County farmers and ranchers face is preserving the farmland that still exists in the county.

Teton County — what's next for agriculture?

By Allyson King

For Idaho Farm Bureau Federation

Because of the relatively short growing season in Teton County, farmers here don't have a lot of choices when it comes to growing crops.

However, a sizable amount of some of the state's main crops, including barley, hay and potatoes, are still grown here.

One of the biggest challenges the county's farmers face now is preserving the farmland that still exists in Teton County.

According to the 2017 Census of Agriculture, there were 277 farms and 117,404 total acres of farmland, with an average farm size of 424 acres, in Teton County in 2017.

However, those numbers were as of the 2017 census year and because of the significant population growth occurring in Teton

County, they likely have changed, downward.

The rapid population growth occurring in the county is both good and bad, said Dr. Todd Tibbitts, a Teton County Farm Bureau member and large animal veterinarian.

"It helps the economy in some ways, but it makes it a little tough to have agriculture in other ways," he said.

As the population has grown, it has changed what agriculture looks like for the county.

"I think the number one challenge is just people moving in and taking over the land," said local rancher Kayden Driggs. "You can't blame a farmer for selling all his land for millions of dollars, but what's hard is to see all that land people used to run cows on or used to be a dairy just being turned into subdivisions."

The local county Farm Bureau has also seen this struggle.

"That county used to be all ag. ... there have been lots of people

who have moved in, and lots of growth and it has really changed the dynamic and the culture of the county,” said Camron Hammond, a regional manager in east Idaho for Idaho Farm Bureau Federation. “So that’s one thing we have been talking about with Farm Bureau, is what we can do to preserve some of that ag land.”

Tibbitts said the main focus of the Teton County Farm Bureau right now is the proposed Teton County land development code.

While it is still in the discussion process, he said, many agricultural producers in the area are concerned with how it will impact their operation and property rights if it moves forward and is approved.

“They want everybody to live in town and then have the land be scenic,” Tibbitts said. “I don’t need a house on every acre, but I also don’t like people telling me what I can do with my property either. So there has to be a happy medium there.”

Along with ag land preservation, educating the public, especially the newcomers, about the vital importance of agriculture is another focus Teton County Farm Bureau members hope to focus on.

“The other thing will be just getting awareness out to people — especially younger people — about agriculture and how food doesn’t come from a grocery store,” Tibbitts said. “Most young people are raised in urban areas, and they just don’t get exposed to agriculture and see how food is produced.”

Despite the challenges the county’s fast-growing population is creating, farmers here are continuing to produce, with the top crops being barley at 28,706 acres and hay coming in a close second at 26,927 acres, according to data from the 2017 Census of Agriculture.

There were also 5,158 acres of wheat and 4,302 acres of potatoes grown in the county in 2017.

According to the census, Teton County ag producers brought in \$45 million in farm-gate revenue that census year.

The county’s farmers and ranchers are able to take advantage of a relative abundance of moisture, at least compared to other parts of arid southern Idaho. On average, the Teton County area receives around 20 inches of rainfall per year, almost double what other parts of southern Idaho receive.

Because of the moisture, “I think we grow really good grass,” Tibbitts said. “My yearlings gain two pounds a day every year just like clockwork.”

The majority of farmers in the county flood irrigate and with an elevation of about 6,200 feet, it makes for a short growing season, according to Driggs. Most farms get one cutting of hay — two if they are lucky.

New niche agricultural markets have also sprung up in the valley, such as the Grand Teton Distillery, which specializes in potato vodka. Other unique ventures include crops of quinoa and bison and elk farms.

Although many ag producers here worry that there is a push to limit agriculture in Teton County, there is still an attitude of ambition in those who are a part of the ag lifestyle.

“I think the future is uncertain right now ... but if we can get people in those positions that want to help and have a good heart and want to lead it the right way, to try to build and educate and improve, I think there is a lot of hope in this county,” Driggs said. “And that’s what is coming. I think there are a lot of people who see what’s happening and they want to step up to the plate.” ■



According to the 2017 Census of Agriculture, there were 277 farms and 117,404 total acres of farmland, with an average farm size of 424 acres, in Teton County in 2017.

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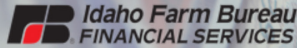
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U of I researcher detects two fungal diseases in Idaho cereals amid cool season

By John O'Connell
University of Idaho

IDAHO FALLS – A cool and wet spring has created ideal growing conditions for Idaho cereal crops, but the weather has also favored a pair of important fungal diseases affecting grain, a University of Idaho researcher warns.

Stripe rust, which can be identified by the yellow-orange color of its spores, was recently spotted in a test plot in the Magic Valley.

Strawbreaker foot rot is widespread in irrigated fall wheat throughout eastern Idaho.

Juliet Marshall, a professor of plant pathology who heads U of I's Department of Plant Sciences, explained strawbreaker foot rot has been especially prevalent in fields in which growers planted at a heavy seeding rate in hopes of boosting yields.

"I have been visiting a couple of fields and getting several phone calls and pictures from different growers and consultants that show some odd discoloration in the crop," Marshall said of strawbreaker foot rot.

Marshall has already seen lodging – when plant stalks grow too tall and tip over – in winter triticale and expects lodging will also surface as a rampant problem in fall wheat and barley, especially in heavily seeded fields.

Prime conditions have helped eastern Idaho cereal crops grow vigorously, but competition has caused them to become too tall and thin – at the expense of developing a robust root system – in heavily seeded fields.

This makes the plants highly susceptible to lodging on windy days. Strawbreaker foot rot, commonly known as eyespot, can also thrive in dense stands with poor airflow. It's characterized by a browning of the lower stem and yellowish, eye-shaped lesions on stems and leaves.

"The fields where I see the worst problems are the fields that were overly, heavily seeded," Marshall said. "I'm hearing as much as 150 pounds of seed planted per acre of winter wheat and barley. It absolutely doesn't need to be planted that heavily because it will increase diseases and lodging."

Marshall emphasized that there's no yield advantage to a heavy seeding rate, as plants can produce additional stems off of their main shoot, called tillers, to compensate for light seeding.

When the weather turns hot, Marshall also expects to see wilting and burning of flag leaves, with necrotic and chlorotic spots on foliage, in densely seeded fields.

The leaf damage results from the inability of plants with poorly developed roots to keep pace with evapotranspiration.

"People might think it's a leaf disease. It's not a leaf disease; it's roots that can't keep up with plant growth when the temperature rises," Marshall said.

The stripe rust infection was confirmed on a breeding line in a test plot near Filer.

The breeding line was significantly infected but infections were not widespread throughout the research field.

Although cereal crops are progressing about 10 days to two weeks behind last season's pace,

Marshall warned most fall-planted fields are already past flowering and are past the window for applying fungicides.

She said spring wheat fields will be most at risk of stripe rust infection, and fungicide applications will likely not be required for moderately resistant and resistant varieties.

"With the spring weather perfect for small grain production, it is no surprise that stripe rust was finally confirmed in southern Idaho," Marshall said.

Cool and wet conditions are also conducive to the spread of a third important fungal disease of grains – take-all.



Photo by Juliet Marshall

Strawbreaker foot rot is widespread in irrigated fall wheat throughout eastern Idaho.

Marshall hasn't seen take-all in fields yet, but she'll be watching closely for it. Take-all causes a blackening of the stem base.

Marshall's research plots in eastern Idaho are all lush and healthy.

She expects this will be an exceptional season for growers who diversify their rotations, follow sound agronomic practices and avoid crop diseases.

"Most of us agree it's going to be a very good-yielding year," Marshall said. ■



University of Idaho photo

Gustavo Teixeira, the new assistant professor and potato postharvest physiologist with University of Idaho's College of Agricultural and Life Sciences.

New U of I potato storage researcher aims to minimize post-harvest losses

By **John O'Connell**
University of Idaho

MOSCOW, Idaho – Gustavo Teixeira knows the best way to supply more food to a growing population is by wasting less of it.

As a new assistant professor and potato postharvest physiologist with University of Idaho's College of Agricultural and Life Sciences, Teixeira will use advanced scientific techniques to help Idaho potato growers, processors and shippers waste fewer of the spuds they harvest.

His position was made possible by a \$1 million endowment, thanks to Wayne and Peggy Thiessen, the Idaho Potato Commission, Northwest Farm Credit Services and McCain Foods.

Teixeira, who started working at U of I's Kimberly Research and Extension Center on April 11, took the job because he liked the challenge it afforded, in addition to the opportunity it provided him to help the potato industry tackle real-world problems.

"Sometimes we can conduct research and the research is not connected with the industry. I figured I was missing that in my career," Teixeira said. "To have this hand-to-hand collaboration is

really important, not just to collaborate with industry, but to have research that will benefit the state economy and save resources.”

He and his wife, Izabelle Teixeira, moved to Idaho from Brazil. She, too, has joined the CALS faculty, working with the Department of Animal, Veterinary and Food Sciences.

She'll be involved in the Idaho Center for Agriculture, Food and the Environment (CAFE) and will work closely with the Idaho Dairymen's Association.

He earned a bachelor's degree in agronomy at the Federal University of Lavras in Brazil in 1998. He then earned a master's degree in 2000 and a Ph.D. in 2005, both from Brazil's São Paulo State University (UNESP).

In pursuit of his doctorate, Teixeira did part of his studies at the Department of Primary Industries, Queensland in Australia, focusing on the control of browning in fresh-cut carambola.

He also took several postharvest courses abroad, including those organized by the Universidad Politécnica de Cartagena in Spain, by the Volcani Center in Israel and by the Malaysian Agricultural Research and Development Institute in Malaysia.

From 2017 through 2019, he did a sabbatical at Virginia Tech University in Blacksburg, Va. There he researched the use of mycosporine-like amino acids to control photo-oxidation of tea.

He also studied the quality of apple fruits produced using conventional and organic production systems, which is influenced by the microbial communities on the surface of apples, to find ways to stimulate healthy communities for benefits in both commercial and organic fruit production.

After the sabbatical, Teixeira returned to Brazil to be an associate professor at UNESP. But he was impressed by American agricultural research and his experience in the U.S. sparked his desire to join a land grant college. He began seeking positions in the U.S.

Even before his first day on the job in the Magic Valley, Teixeira started writing research grants. His team has already been approved for a grant through the Northwest Potato Research Consortium to evaluate respiration rates of different potato varieties in storage at three different temperatures.

The respiration rate correlates with the amount of heat spuds put off in storage and is also one of many factors affecting the duration for storing potatoes before quality deteriorates.

Teixeira's findings should help guide future management decisions, including if growers should avoid storing certain varieties in a common cellar.

“Right away he's going to cue in on something where there's a gap of knowledge. ... We have varieties we're growing in the Northwest and we don't know respiration values for them,” said University of Idaho Extension Potato Specialist Nora Olsen, who will work closely with Teixeira.

Since 2010, Teixeira has conducted a lot of research using near-infrared spectroscopy, which uses the near-infrared region of the electromagnetic spectrum and can help evaluate food quality without destroying it.

The technology has been commonly used in Europe. Teixeira plans to partner with a Ph.D. student in Brazil who has been using the technology to assess purple-and orange-fleshed potato varieties based on their content of nutrients such as anthocyanins



Photo by Joel Benson

Potatoes are stored in spud storage facility in East Idaho. Gustavo Teixeira, the new assistant professor and potato postharvest physiologist with University of Idaho's College of Agricultural and Life Sciences, will use advanced scientific techniques to help Idaho potato growers, processors and shippers waste fewer of the spuds they harvest.

and carotenoids.

The student will soon travel to Idaho, where Teixeira will test his models on varieties of importance in the Northwest.

Shippers may use the data to make a nutrition claim about certain varieties, potentially enabling them to charge a premium. The same technology can also be used to identify diseased spuds without damaging them.

Despite his full research plate, Teixeira has agreed to help organize and convene the International Symposium on Postharvest Technologies to Reduce Food Losses as part of the 31st International Horticultural Congress scheduled for Aug. 14 in Angers, France.

“I love organizing congresses and events,” Teixeira said. “I think it's a nice opportunity for us to get to know people and to talk to students. For me, it's one of the best opportunities of our careers.”

The Thiessens proposed the endowment for Teixeira's position and challenged the IPC to match their initial contribution.

“I think the issue of optimization of potato storage/management is a major concern for all potato industry segments. ... The goal is to minimize the losses which can occur during harvesting and storing and to deliver the optimal quality upon storage withdrawal to the end user,” Wayne Thiessen said.

Travis Blacker, industry relations director with the IPC, added, “Every year we harvest 13 billion pounds of potatoes and a majority of those go into storage, so it's very important that we're storing these in the best possible conditions to make them last when we take them out of storage and process them or fresh pack them.

“We need someone who studies storages all the time because there's a lot of money sitting in those storages.” ■

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