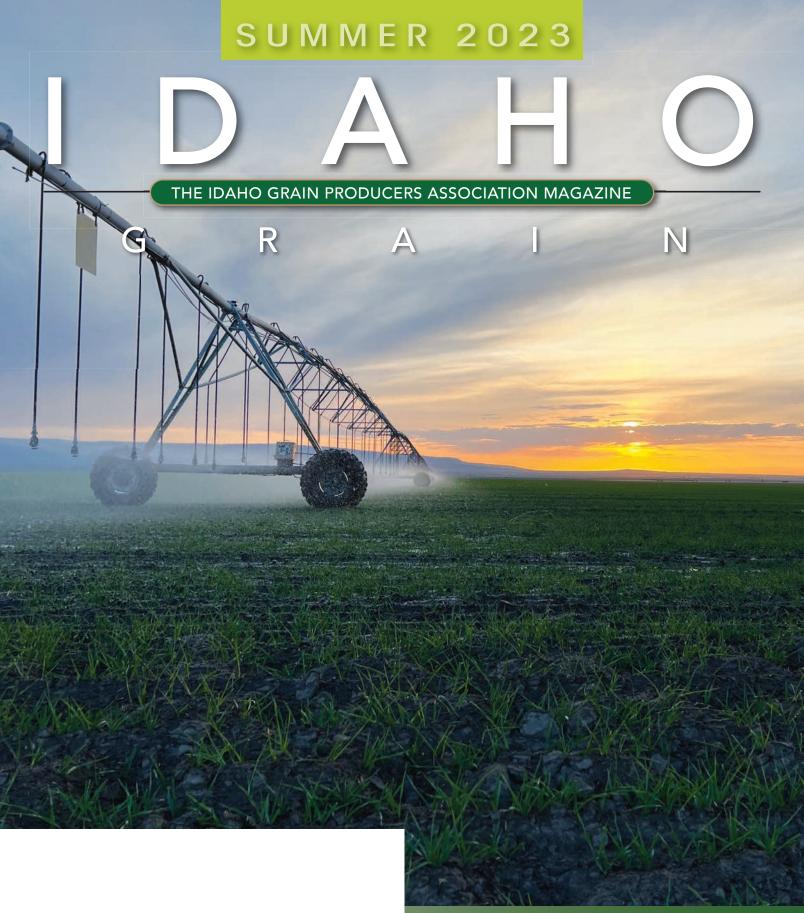
Idaho Grain Producers Association 821 West State Street, Boise, Idaho 83702-5832

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BY TY IVERSON PRESIDENT

Last month, as we said goodbye (or good riddance) to the 2023 legislative session in Idaho, I was reminded of the saying that "politics makes strange bedfellows". That has certainly rung true the past couple of years as we have fought to support Idaho's grain growers.

I never would have predicted that a Republican Congressman from Idaho would support breaching the dams that are so important to our infrastructure, and that we would need to rely on the support of Democrats from neighboring states to recognize the value that these dams provide for transportation and power.

I also never would have expected to see a grazing bill supported by the Idaho Cattle Association, Idaho Grain Producers, and Idaho Farm Bureau have more support from Democrats in Urban Boise than from far-right Republicans in agriculture hubs of Idaho such as Moscow and Twin Falls.

But that seems to be the political climate right now. More than ever, I am grateful for the leadership of Stacey Satterlee and her relationship with other ag groups around the state. By reaching across the isle and working with unlikely partners, they have been able to navigate through the political theatrics and bring home some great accomplishments for the grain growers of Idaho.

While things may be calming down in Boise for a bit, our work on your behalf marches on. We are continuing to work with our national affiliates, the National Association of Wheat Growers (NAWG) and the National Barley Growers Association (NGBA) to get a Farm Bill passed in Congress this year. This June, in partnership with the Idaho Wheat Commission, we will be hosting state legislators in Portland to tour the Wheat Marketing Center and educate these lawmakers on the importance of the river transportation system. At this meeting, we will also be working on setting IGPA's budget for the upcoming fiscal year.

Spring has sprung in Idaho, and it brings me great joy and pride to see all of the tractors and sprayers busy in the fields as our state's farmers work hard to feed a state and nation that depends on us. I wish you all a safe and productive spring season and am hopeful that we all get the timely rains we will need to produce the high-quality grain crop that Idaho is so famous for. As always, feel free to reach out to myself or any fellow board members if you have any suggestions or concerns.

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EDITOR'S NOTE



BY STACEY KATSEANES SATTERLEE EXECUTIVE DIRECTOR

What a tumultuous spring we've had – between the legislative session, which adjourned sine die on April 6, to the record-breaking moisture much of the state received late into the spring, it's been a doozy.

One of the things we've been tackling this spring is getting a new database and communications system up and running. To help you visualize where we were – our old database was held together with baling twine and duct tape. And lots of our data is out of date. So, we got a new system and along with it came some hiccups – maybe you've seen some of them, like duplicate mailings and the appearance of outdated or incorrect contact information. First, apologies! And second, please know we're working on it – it's a behemoth undertaking, updating our enormous database. But every day, we're making progress, we're learning the system, and frankly, we're tackling things that have never been tackled in terms of our database.

It was a long and hard winter for a lot of reasons. My family experienced some losses – early this year, my Grandma Rodonna passed away. Growing up, I spent a lot of time with my grandparents and have a lot of memories with them as a result. So many memories of annual trips to Island Park for fishing opening weekend at Henry's Lake. And memories of mixing up pretend recipes in my grandma's kitchen in Blackfoot and on the farm on long summer afternoons – and of making cookies and baking cakes. She taught me an important baking lesson – you can cut a small square out of the corner of the cake before you frost it and eat it. Then you put frosting right over the top and no one will know. I still love warm, unfrosted corners of cakes.

Then in April, we had to say goodbye to our sweet dog Spud. Spud was a special dog, the perfect dog for our family for over 14 years. My husband and I adopted him shortly after we got married, while we were living in Washington, DC (and we knew he was the one – as a native Idahoan, and a dog named Spud was surely meant to be mine). Spud was there with me while I was pregnant and on home rest with twins, and he was so good with the babies when we brought them home (and another one five years later). He made the cross-country trek when we moved back to Idaho, and he loved it here – he could often be found lying in the sun in the backyard while the kids played out back, and he adored playing in the snow in the winter and in the water in the summer and taking long walks. Spud had the softest ears and the warmest brown eyes. We are sad but grateful for all our years with Spud.

And so, we're ready to turn a corner, ready for longer, sunnier, happier days of summer. My daughter is playing tennis, my boys are playing golf, and we're ready to get outside for some adventures. Hopefully I'll see many of you along the way at field days, grower days, and county events.

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Jamie Kress, Newly Elected NAWG Secretary

To know Jamie Kress is to know a hard-working woman who gets things done and doesn't take no for an answer. Which is why Jamie has been so successful in her career as a farmer and in the variety of leadership roles she has taken on within the ag community. Jamie served as the President of IGPA during 2021 and from there has moved into more leadership roles including serving on NAWG's Board of Directors, Budget Committee, the Domestic & Trade Policy Committee, including serving as Chair of that committee, and now as NAWG's Secretary—a position that will take her through the ranks and eventually up to president over the years. It goes without saying that having a grower from Idaho in such a position is great for wheat growers in our state.

"I am thrilled to have Jamie Kress on the NAWG officer team," said NAWG President and Oregon wheat grower, Brent Cheyne. "Jamie is a natural born leader who possesses an uncanny ability to always be able to give the spot-on answer. Jamie is going to help take the wheat industry to the next level with her national knowledge of wheat's complexity grown throughout the United States. Welcome to the team, Jamie!"

Jamie and her husband Cordell own and operate an 8,500 acre dryland farming operation in the Rockland Valley of eastern Idaho. Their farm is comprised primarily of winter and spring wheat, along with a variety of rotational crops including canola, safflower, mustard, and dry peas. They farm in a high desert



environment at 5,000-6,200 ft. elevation with a relatively short growing season. The Kress's have adopted no-till production, a diverse crop rotation, and continually focus on improving yields and soil health.



As a wife and business

partner, Jamie is active in the day-to-day farm operations including office management and accounting as well as being wife to Cory and mom and to their two kids Tyson (18) and Hailey (15). Family is a priority for Jamie and she is always working to make her home a solid place amid the busyness of farming.

"As many of you have likely experienced, our personal hobbies have shifted as the kids have grown There simply isn't time to pursue a lot of additional things. So I find joy in our daily life and opportunities. As a family we value regular family dinners, lively debates, and adventure. Mountain biking is a shared family passion. We ride year-round, migrating from red rock desert to pine filled mountains throughout the year.

"Our life has certainly been an adventure - one that I wouldn't change and never regret. I often forget how rare it is to work alongside your spouse on a common goal and to be engaged daily with work you love. I won't say it's been easy. We've experienced the heartache, frustrations, setbacks, and exhaustion that only farmers know. That said, the sense of pride, accomplishment, and satisfaction that comes with farming, as well as being grateful stewards of our operation, keep us marching ahead."

"Jamie Kress has held leadership roles with NAWG for a while, starting as a board member, to committee chairwoman roles, and now an elected officer," said Chandler Goule, NAWG CEO. "She has a firm grasp of our policy, and I am confident will do an excellent job representing wheat growers from around the nation. We are looking forward to having Jamie join our leadership team during a Farm Bill year, where she can use her expertise to help form a beneficial piece of legislation for all wheat growers."

Stacey Satterlee, IGPA Executive Director, has worked with Jamie since she first came on IGPA's executive board seven years ago. "It's clear that Jamie values hard work and team collaboration. She will make the call or write the letter or hop on a plane if it's good for the wheat industry. This is the kind of leadership we need at the national level within NAWG—someone like Jamie who is prepared to step up and lead. As her friend and colleague, I am so excited to see what the future holds for Jamie and her family with this new role of hers. IGPA will be supporting her and cheering her on all the way."

About her new NAWG position, Jamie says: "To be able to serve as a NAWG officer is an honor for me. I want to make an impact; I want to leave the organization better than I found it. I am excited to work with my counterparts from across the country to make that happen. I'm often reminded of a quote I heard once, 'When you drink from the fountain, don't forget those who dug the well.' I suspect being connected to the past through farming causes most people in agriculture to feel the same way and I hope to continue to honor the past as we all move ahead together into a bright future."



Jamie says she is excited to work on Farm Bill priorities which include maintaining crop insurance and obtaining more funding for USDA's Market Access Program and Foreign Market Development program. "In my work with IGPA, I've been representing Idaho, and now I have a broader responsibility to represent the nation," she said. "My work is their work. My job is to make sure all U.S. wheat growers are well represented."



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IGPA GROWER PROFILE Jeff and Chantel Kaufman

Tell us about your farm: size, what you grow?

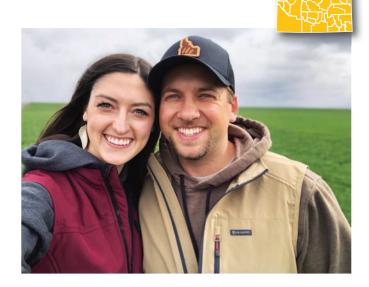
My brother Steve and I operate an 8,000 acre dryland farm throughout the Lewiston Valley. We grow mostly winter wheat with 3,000 acres of fallow but rotate some spring wheat, garbanzo beans, and canola. The Kaufman family also raises the next generation with Fred and Doris Kaufman (Dad and Mom) having 4 sons: Joe (Jen); Steve (Christina); Phil (Jeanene); and Jeff (Chantel) and 12 grandchildren!

How was your operation established and how did you get into farming?

The Kaufman family came to Idaho in 1899. My Grandfather Cletus Kaufman farmed and operated a custom harvesting business staffed by his many children. Most of his kids stayed involved in agriculture either as farmers/ranchers, farm hands, or farm supplier employees. My dad worked with several of his brothers throughout his career, building and operating his own farm. Local farmer Ralph Nichols noticed my dad and his brother's work ethic and integrity and chose them to take on his farm when he retired. Fred and his brothers, Ed and Cletus Jr., all continued to farm in the Lewiston Valley until my brothers and I started to come back looking for opportunities to farm on our own.

I worked my first harvest in 2007 and haven't missed a one since. I fell in love with the challenge of pushing myself to the maximum of my abilities and the constant opportunities to learn and do better. I was able to attend the University of Idaho and earn a bachelor's degree in Agricultural Systems Management. During my college years two of my brothers, Philip and Steve, came back to Lewiston and started taking on operator roles in farms. When I graduated in Spring of 2016 my dad was ready to step back from the daily responsibilities of operating his farm. Steve needed a partner to step into that role. Steve had spent 10 years before coming back to farm in the agricultural finance business with Northwest Farm Credit Services. I had stayed current on day-today field operations. We made a great team of knowing the financial and field needs of the farm. Together we took over for one of my uncles and our father the first year. After the first year one more uncle was ready to step back, so we took on his land and equipment. More local farmers took notice of the job we were doing

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LEWISTON, IDAHO

and approached us about taking on their farms as they slowed down or retired. We have been blessed with great weather, good crop prices, and many opportunities as we started out. Steve and I like to joke that we have never farmed the same amount of land with the same equipment two years in a row. It has been a constant learning and growing experience.

Tell us about your family; who's on the farm?

My wife Chantel, myself, and our yellow lab Gus live at the main farmstead in a house built by my dad with the help of his brothers. Dad and his brother bought the farm on 95% credit while in their 20s and have replaced every building on the site since then. Steve and Christina live in town overlooking much of the farm to the south. Steve and Christina have three boys: Ben, Will, and Tom.

What is your upbringing/childhood?

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Having three older brothers who had dirt bikes and firearms made for an exciting environment to grow up in. I could usually be found tagging along with them on the front of dirt bike seats or pulling the cable on the clay pigeon thrower. I spent hours farming the floors of the house and building custom farm machinery out of Legos. Dad and I spent many summer days together in the cab of a combine listening to the Seattle Mariners and classic country on the AM radio. We did not have many nearby neighbors, so I spent a lot of time hiking or dirt biking, entertaining myself around the farm.



How did you meet your spouse?

My first year back farming (2017) Steve and I had finished up field work with a few days to spare before harvest started. Over that weekend Grangeville was hosting their Border Days 4th of July Celebration and I had several friends from college that would be there. I told Steve I'd be back Monday bright and early to get things cleaned up and put away before harvest. My friends and I were hanging around after the rodeo talking on Sunday night and this pretty gal came up to our group knowing one of my friends and asked if we were going to be at the bar tonight. Once she walked away, I looked at my friends and said, "We are going to the bar!" I knew I didn't have all night to stay out as I'd told Steve I'd be back for work early Monday morning. I looked and looked for her but couldn't find her. Defeated, I closed my tab and started to walk out. I saw her out of the corner of my eye a few steps from the door. We exchanged phone numbers, and I invited Chantel out for a first date combine ride later that week.

What do you do for fun?

I thoroughly enjoy farming. I enjoy overcoming the many obstacles farming throws at you. I have a hard time leaving Continued on next page



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the farm during the growing season but if I do it is for family functions (BBQs, afternoon fishing trips, birthdays, holidays). In the winter I can get away to the mountains for snowmobiling. That has been a great fit for the schedule of farming. My wife, brother Phil, and I regularly go together from December till around the first part of March, then it's back to the field for another gamble with mother nature. Occasionally Genesee Joe Anderson invites me to join him for a crop tour in his plane. I enjoy being able to see every acre of the farm in an hour and spend some time in the air with good company.

How do you market your grain?

We deliver directly from the field to the Port of Lewiston for our wheat at harvest. We try to have one third of our average crop forward contracted with HTAs (Hedge to arrives) and cash contracts. We sell one third of the crop during the harvest months to minimize storage and interest costs. The remaining third we sell whenever we think the market is paying enough to let us do this again next year.





What are the biggest challenges in your operation?

There are many challenges, but that is part of the job I find rewarding. The more difficult ones to solve are the skyrocketing costs of new equipment and occasional lack of parts or mechanics availability. This has made covering more acres difficult to budget. We stay proactive on our maintenance and look for ways to make a slightly older piece of equipment more efficient at a lower cost. Another challenge is grassy weeds that are becoming more difficult to control. We are going to need more tools to combat them that can be implemented over many acres effectively.

What conservation practices do you employ?

We seed most all our crops with a no-till hoe drill. On fields with differing soil quality, we have started variable rate fertilizing. We have a few terraces, and erosion catch basins in higher risk fields. On our sprayer we have a Pulse Width Modulation (PWM) system that cuts our overlap down to as low as 1%. We tried out a Redekop seed destroyer on a field last year to see if that might be a useful tool in managing herbicide resistance. We have some CRP for high erosion risk ground and the poorest soil quality.

What challenges face the U.S grain industry and the grain industry in Idaho?

For Idaho, and specifically my part of Idaho, the risk of losing the Columbia-Snake River System is a constant worry. It's easier to propose something and say it will work than to defend a plan already in place. It takes a lot of time to understand all the pieces of this issue. Farmers already have a full plate with their own farm



so studying up on this issue naturally gets pushed off to fix the next wheel bearing or spray the next weed patch. Without being educated, it's hard to be a voice in the conversation of why the river system works. North Idaho grain producers overwhelmingly agree that these dams provide a huge benefit to our area and that they are irreplaceable. Communicating that story to the public is important but difficult.

Being exporters, we have a tough time competing with costs of production for other producers throughout the world. We have high environmental standards and reliable supply chains here, but those add costs to every bushel we produce. We also have a high standard of living in the US and that adds costs to our labor. Speaking of labor, we have a need for more people with experience or the dedication to learning how to produce food. Farms continue to get bigger, but our labor pool seems to be shrinking. Not every job can be scaled up in efficiency by equipment. Jobs like spraying roadsides, walking fields for rye and goat grass, and maintaining field roads and access take just as much time as they did 10 years ago. Stretching fewer farmers across more acres is coming at a cost to our families and our health, physically and mentally. We need to learn how to reconcile these things while keeping farms profitable.

IGPA GROWER PROFILE Rylee and Madison Reynolds CASTLEFORD, IDAHO

FIRST PLACE WINNERS OF THE NATIONAL WHEAT FOUNDATION'S WHEAT YIELD CONTEST 2022

Tell us about your farm.

We farm in Castleford, Idaho where we raise corn, beans, peas, and hay on 2,500 acres.

How did you get into farming?

We are truly a family business. I've been on the farm my whole life on the same plot of land my Grandfather started in 1957. As a 3rd generation farmer, it's honestly just in my blood. I've always loved this life. My Dad still lives in the house I grew up in. I attended Boise State University and received my degree in business and quickly figured out that city life just wasn't for me and I wanted to go to back to the farm. I couldn't imagine living life any other way than where I am. It's where I want my kids to grow up and have the kind of childhood I had.

Tell us about your family; who's on the farm?

My wife Madison (who holds this whole thing together) and our two boys Baker is 2 ¹/₂ and Rawley 6 months. They're at really fun ages, especially Baker, where he can go with me in the tractor and is interested in everything. I'm sure Rawley will be the same. I was raised on the farm and that was an amazing way to grow up and I want the same for my kids.

Who has had the biggest influence in your life?

The biggest influence in my life is my Grandpa Dean who will be 80 years old this fall. He was the



ultimate life coach and teacher for me. He's taught me everything I know; I can honestly say I wouldn't be anything without him. He has given me all the opportunities I could ever want and helped me to build this beautiful life I love.

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How did you meet your spouse?

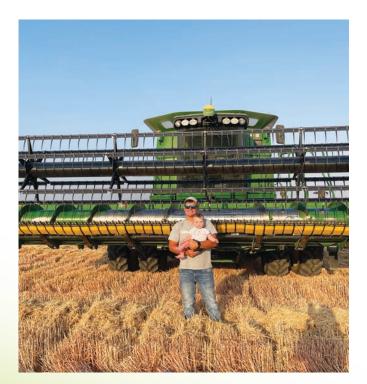
We met up at BSU, actually on our very first day of class. We had freshman English together, our first time on college campus, our first class ever, and I meet my wife. It's crazy. We survived the ups and downs of dating in college and ultimately made it through. We got married after we graduated in 2019.

What do you do for fun?

We like to go camping in the summer when we can actually get away. We try to take a vacation every year some years that just doesn't happen. But Commodity Classic was our big vacation for this year so that was nice to tie in some business with pleasure on a trip. No matter what, we try to go somewhere warm in January or February when things are slow, just to get out of the cold slump of winter that everyone hates. We also raise baby calves in the winter so by February or so my attitude is generally "I don't' care where we go as long as it's warm." That was especially true this year with the 99th day of January and the longest winter ever on record in Idaho. I'm sure I'm not the only one who felt that way!

How do you market your grain?

Well, the market is so volatile, it's so hard to know what the best method is. I feel like the last few years, as soon as I sell it goes up 50 cents the next day so I don't think I am a strong marketer. I could do it for someone else.





It always happens. I try to contract 2-3 times a year so that's helped.

What are the biggest challenges in your operation?

Last year it was water for sure. We are on the Twin Falls Canal Company which has strong water rights. The drought affects us even on irrigated ground. That's why we raise wheat—we are usually done watering by July 4 then we can move over to beans and corn with the water. We are about ³/₄ gravity irrigated and ¹/₄ sprinkler irrigated. We keep wheat heavy on droughtlooking years.

What challenges face the U.S grain industry and the grain industry in Idaho?

I think when you talk wheat specific there's a lot of corn pressure. It seems like everyone wants chopping corn so some people in my area are raising less wheat and more corn. But there's always going to be other issues too so I'm glad we have people in place like IGPA to help sort through the issues.

Tell us about winning the Wheat Yield Contest - it's great to have the national winner from Idaho!

This was the first time I've come in first place. Last year I came in second and the year before I came in third, so Continued on next page

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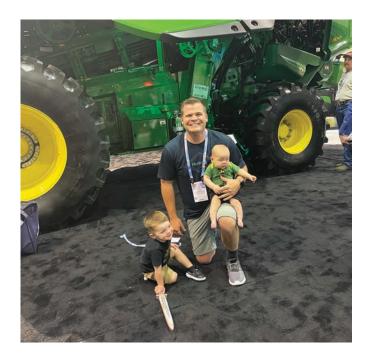
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it was fun to finally get the number one spot! Both my Dad and I have entered a few times. The whole thing really started with Rick Pearson who won it four years ago, and he told me I should enter. So we did and here we are!

A lot of people have asked what we do differently on that particular plot of land that we enter in the contest, but the truth is we don't do anything different to the wheat we submit to the contest than we do to the rest of the crop. It's all the same—this is just our wheat. Obviously, we pick the best spot in the field, but we don't treat it any differently. The only real rule is that you must have a two and a half acre plot minimum and it's all measured out by the official people who come out with their tape measures – we just start thrashing and pick a spot. I think contests like this push everyone to do a little better and work a little harder in the end, which is good for everyone.



Voice Your Support for the Columbia Snake River System

BY LESLIE DRUFFEL, OUTREACH DIRECTOR, THE MCGREGOR COMPANY

Roads, river, and rail are the proverbial three-legged stool supporting our Inland Northwest agriculture. Losing the Columbia-Snake River navigation system would cripple this multi-modal transportation system and cause great harm to farm families, rural communities, and businesses in north central Idaho and beyond.

We've all felt the pinch when utilizing road and rail systems – having already reached their peak capacity for shipping bulk agricultural commodities. Decades of deferred rail and bridge maintenance, diminutive capital investments, plus a shrinking workforce have severely constrained the opportunities of any measure to increase truck and train tonnage. Our river system is the one place that can more easily take on greater capacity. It's true, a boon of cruise ships has brought much needed tourism dollars to communities along the Columbia and Snake Rivers, but the Inland Northwest's marine highway is vastly underutilized when it comes to transporting bulk and container cargo. Unfortunately, this marine highway system is at risk with the unbalanced mediation taking place involving the Lower Snake River dams. This is one of those big, complicated issues that concerns all of us, where our individual advocacy efforts can quickly move to the back



burner when faced with more urgent matters: spring seeding, topdressing, prepping equipment, staffing up for harvest, school events, and committee meetings to attend – "life" I think is what they call it.

There is no shortage of effort being made by the team at Idaho Grain to advocate on your behalf to keep the LSRDs in place. A critical piece of this battle is IGPA's effective communication with Congress, with federal agencies, and the press – but adding individual voices is just as critical.

Life does get busy but waiting for an 'all clear' signal to get back in the fight is a dangerous approach. Idaho

growers can now take advantage of a new opportunity to send a message to the Biden Administration's Council on Environmental Quality (CEQ) about a more balanced approach to improving salmon and steelhead numbers – specifically without breaching the four lower Snake River dams.

The CEQ, government agencies, and parties to the litigation, got to hear the thoughts and ideas from approximately 150 people in 3-minute intervals during recently held public listening sessions (March 31, April 3, and May 25). Most speakers made it abundantly clear that the only solution to improving fish numbers is to breach the four lower Snake River dams. Sound science was not offered to explain how removing four dams could make such a significant change in fish survival when so much of a salmonid life is spent elsewhere. It is imperative that a more holistic view be taken, and your very own Executive Director Stacey Satterlee said it best in the Capital Press article from April 4th, "It's just more nuanced than that. You can be pro-managed river system, pro-dam, and pro-salmon and pro-wanting to increase those salmon numbers."

Written public comments are being requested from CEQ about exploring lower Snake River habitat restoration opportunities, "including but not limited to migration corridor restoration through breaching the four lower Snake River dams." Comments are being accepted through July 3rd and can be submitted on the Federal Register website, www.federalregister.gov, docket number CEQ-2023-0002 or by scanning the QR code below.

It is an opportunity to voice your views on the following:

What constitutes "restoration" of the lower Snake River and what steps should the Federal Government take to restore the lower Snake River?

What considerations should inform the Federal Government's approach to restoring the lower Snake River?

What information should the Federal government develop to support discussions in the Northwest and in Congress on the restoration of the lower Snake River?

As Stacey put it, a properly managed river system and a holistic approach is more capable of increasing salmon numbers to healthy and abundant levels without removing any hydroelectric dam and lock systems. The points laid out below can be used to address the three questions put forth by the Federal government:



1. Restore habitat: increase the number of projects in tributaries of the Snake River to create and enhance spawning habitat for wild salmon and other native fish.

2. Fully fund fish hatcheries: make capital investments possible for tribal and public hatcheries.

3. Manage predators: More adjustments can be made to the Marine Mammal Protection Act to allow for predator abatement in key areas of the Columbia River. Expand pike minnow/walleye capture reward programs.

4. Improve PIT tag detection equipment: It is far more difficult for PIT tags to be detected as spills are increased over the dams to aid juvenile fish on their downriver journey. Hence, data being collected on the number of fish moving through the river system is no longer accurate to the level of confidence required by fish biologists.

5. Research salmon during their years in the ocean: Ocean conditions are always changing, and we need to understand the impact – acidity, cyclical temperature swings, food source availability, etc.

6. Improve estuary habitat: Puget Sound is not healthy. Considerable effort needs to be focused on restoring sections of lost habitat and improving the quality of the second largest estuary in the United States. Juvenile salmon rely on the food sources found in the Sound to 'bulk up' before heading out to the ocean.

7. Fish passage systems: Continue to upgrade the turbines and other systems in the LSRD's for more efficient fish passage along with greater hydroelectric power generation.

8. Low GHG emitting navigation availability: we have a clean air corridor in our region due to moving millions of tons of cargo through the river navigation system. Roads and rail are at capacity. Towboat companies continue to repower their vessels to further reduce

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engine emissions (~\$4M to upgrade to high-efficient diesel power; ~\$6-8M to switch over to full electric). Passengers on river cruises demand clean powered vessels when travelling the Columbia and Snake River.

All of these considerable steps can, and should, be considered – and we can make progress on all of them and keep the four dams so critical for hydroelectric power and for timely and low carbon shipments so vital to feeding a hungry world to the livelihoods of farms, shippers, low income and disadvantaged residents who cannot afford the higher cost of energy.

We can have healthy rivers and a healthy economy. Draconian action is a dead-end "solution" to the northwest economy and of questionable value to salmon. Let's move beyond wasting money suing the government and get back to what can make a difference – a holistic approach using sound, credible science. Use your voice to send this message! Maybe employ the talents of kids and grandkids fresh from writing essays for scholarships to help? ■

2023 Salmon and Steelhead Update

BY LANCE HEBDON, BUREAU CHIEF OF FISHERIES, IDAHO DEPARTMENT OF FISH AND GAME

Out of the nearly 100 species of fish in Idaho's rivers, lakes, reservoirs and streams, five species of salmon and steelhead generate by far the most attention from policy makers, Indian tribes and industries not directly associated with fishing.

These species are Spring/Summer run Chinook Salmon, Sockeye Salmon, Steelhead, Fall run Chinook Salmon and Coho Salmon. When we use the term "run" with Chinook Salmon it describes the season when they leave the ocean and begin migrating into freshwater rivers. So Idaho's "Spring and Summer run" Chinook Salmon show up in the Columbia River between March and July and Idaho's "fall run" Chinook Salmon arrive in August.

There's a lot of ways to organize a broad topic such as a salmon update but for this effort I'll be covering recent trends of Snake River salmon and steelhead returning to Idaho from the ocean. After the trend update, I'll spend a little time on the issue of collecting juvenile salmon, putting them on barges and barging them below Bonneville Dam.

In broad terms, the 1990s were bad for Idaho's salmon and steelhead. That's when Endangered Species Act listings occurred, and things were looking pretty grim. The hatcheries responsible for offsetting the losses from construction and operation of many of the dams on the Snake River hadn't started operating to their full potential, and fishing seasons were extremely limited or closed entirely. Things generally improved through the 2000s and the early 2010s. For most species, the gains

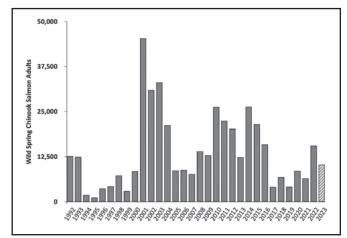


Figure 1. Wild Idaho Spring and Summer Chinook Salmon returns to Lower Granite Dam. The 2023 value is the forecasted return.

made in the early 2000s didn't stick. The last few years 2017 through 2020 was again pretty grim.

In order to look into more detail on why this happened, the salmon and steelhead trends below are broken down into wild fish numbers and hatchery fish numbers. Wild fish are the genetic legacy of Idaho's rivers, and they are also the populations we focus on in evaluating progress toward Endangered Species Act delisting. In presenting hatchery fish numbers, it's a recognition that these fish drive fisheries in Idaho and down the Columbia River to the Pacific Ocean. All Idaho salmon and steelhead hatcheries are operated and funded to

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help offset impacts from the operation and construction of dams.

Although much of our salmon and steelhead data goes back to the 1960s, here I'm starting the time series in the year when the fish were listed under the ESA. The numbers presented are fish crossing Lower Granite Dam, located just downstream of Lewiston, Idaho on the Snake River, but still 400 river miles from the Pacific Ocean.

Wild Spring/Summer Chinook Salmon

These are the most highly sought after Chinook salmon, partly because their arrival heralds the end of winter and coming of spring, but also because they are the first significant fishery in the Columbia River.

Most sport fisheries in the Columbia River are "mark selective" which means that they only harvest hatchery fish and release wild fish. The mark selective fisheries are made possible because hatchery fish have the small, clipped fin located on top and in front of the tail known as the adipose fin. Here's a link to an article which describes the really cool computer controlled semiautomated fish marking trailers that make these mark selective fisheries possible Trailers clip millions of fins so anglers can spot the keepers | Idaho Fish and Game.

Wild Spring/Summer Chinook Salmon were listed as "Threatened" under the ESA in 1992 that year 12,673 wild fish returned to Idaho. Looking at wild Spring/ Summer Chinook Salmon (Figure 1) you can see the prolonged downturn in the late 1990s followed by a rebound in the 2000s. After several years of drought and poor ocean conditions that started in 2015, Chinook

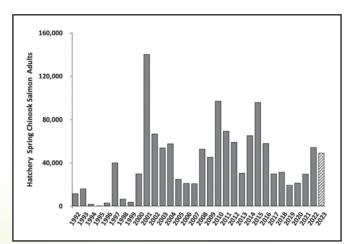


Figure 2. Hatchery Spring and Summer Chinook Salmon returns to Lower Granite Dam. The 2023 value is the forecasted return.

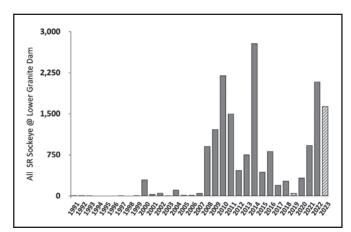


Figure 3. Sockeye Salmon returns to Lower Granite Dam. The 2023 value is the forecasted return.

salmon declined to very concerning levels in 2017. Last year's return of over 15,000 Spring/Summer Chinook Salmon was certainly a step in the right direction, but it's pretty clear that Wild Spring/Summer Chinook Salmon have some significant room for survival improvements, and they are a long way from meeting the ESA delisting goal of 31,750 adults.

Hatchery Spring/Summer Chinook Salmon

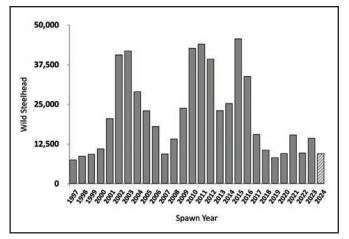
Hatchery Spring/Summer Chinook Salmon from Idaho support fisheries from the mouth of the Columbia River all the way to Stanley, Idaho, this is exactly what they were built to do. Notice the numbers of the hatchery chinook salmon returning is generally 2 to 4 times higher than for the wild fish (Figure 2). Hatcheries increase the survival of the first 20 months of a fish's life relative to fish in the wild. This early survival benefit is generally effective at producing returning adult salmon, but they are still subject to hazards outside the hatchery from drought, river migration conditions and ocean productivity.

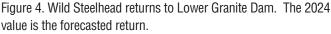
Much of the variation you see is due to survival changes as opposed to changes in the number of fish released from the hatcheries. Most fisheries for Spring/ Summer Chinook Salmon throughout the Columbia River and into Idaho were closed from 1995 through 2000 due to extremely low returns of both hatchery and wild salmon.

Returns since 2000 have been an improvement over what we saw in the 1990s, but you can really see the cyclical nature of adult returns in the hatchery data.

Sockeye Salmon

Idaho's Sockeye Salmon are perhaps most famous for being the first salmon listed under the ESA in the





Pacific Northwest, and the considerable media attention they received when only one adult returned to Redfish Lake in 1992 and was dubbed "Lonesome Larry." I started my career as the Sockeye Salmon Research Biologist in 1999 and in that year 14 Sockeye Salmon returned to Idaho (Figure 3). Both wild and hatchery sockeye are presented together in Figure 3, as they are effectively managed as a single population for the time being.

The goal of the Sockeye Salmon Program in the 1990s was a genetic rescue project. Idaho Sockeye Salmon swim farther (900 miles) and climb higher (6,500 feet) than any other Sockeye Salmon on the planet, they are the ultra-marathoners of the Sockeye Salmon world, so preserving that unique genetic legacy was paramount to keeping Sockeye Salmon in Idaho. That focus on genetic rescue is part of the reason that adult return numbers were low through the 1990s.

The focus of Sockeye Salmon recovery was in developing the knowledge and techniques to raise these fish in captivity to adulthood, spawn them and magnify the numbers of fish. Once those techniques were refined and fish were doing well in captivity the program shifted focus to putting fish back into the habitat of Redfish, Alturas and Pettit lakes in the Stanley Basin. The shift to putting fish back into the habitat lead to the construction of Springfield Fish Hatchery in 2013 with the goal of releasing 1 million smolts annually. There were some challenges right after Springfield opened, which was not entirely unexpected. Anytime you work with wild animals in captivity there's some learning that goes on and Springfield was no exception. Hence some part of the low returns from 2015 to 2021 was simply refining the fish rearing and release methods to improve survival. Although Sockeye Salmon are still a long

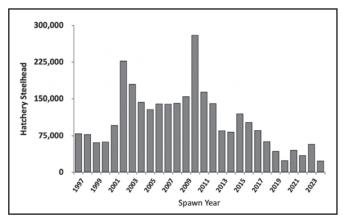
way from recovery goals with a forecast for over 1,600 Sockeye returning in 2023 it's hard not to recognize the success of the genetic rescue program and population rebuilding efforts that I've observed firsthand since those 14 fish made it to Lower Granite Dam in 1999.

Steelhead

We estimate there's over 5,000 miles of steelhead habitat currently accessible in Idaho and some of the largest steelhead in the Columbia River return to the Clearwater and Salmon rivers. Idaho's state record steelhead was 44 inches long and weighed over 30lbs! Idaho still produces the largest numbers of summer Steelhead returning to the Columbia River. Idaho is a steelhead state, and steelhead far eclipse any other salmon for the amount of time they spend in Idaho's rivers.

Wild steelhead will stay between 1 and 5 years in Idaho rivers before migrating to the Pacific Ocean. Steelhead which spawn in 2015 are sending offspring to the ocean in 2016, 2017, 2018, 2019 etc. Then after 1 to 3 years in the Pacific, Steelhead make their return migration into Idaho in the summer and fall and then spend the winter before spawning late in the spring. In the previous example of adults spawned in 2015 their offspring will return as adults in 2017, 2018, 2019 etc. Steelhead are nature's perfect example of not putting all your eggs in one basket.

The trend in wild steelhead mirrors that of salmon to a certain extent with lows in the 90s followed on by increased returns in the 2000s and then low abundance starting around 2015 (Figure 4). Steelhead are known to migrate farther offshore into the open ocean and live in the "high seas," whereas most salmon species tend to stay closer to shore migrating on the continental shelf.



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Figure 5. Hatchery Steelhead returns to Lower Granite Dam. The 2024 value is the forecasted return.

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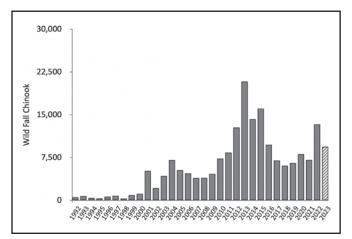


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This means that steelhead can see very different ocean conditions than Idaho salmon.

It's rare that you can say you lived through the "good old days" but for hatchery steelhead the period between 2002 and 2012 was the "good old days" (Figure 5). During that decade hatchery steelhead returns were consistently over 100,000 to Lower Granite Dam and the most hatchery steelhead ever to return to Lower Granite Dam, 280,000 fish.

This is an example of the hatchery mitigation programs doing what they were designed to do, which is provide fishing opportunity. More recently hatchery steelhead returns have settled into a lower tier bouncing around 45,000 fish to Lower Granite Dam. The other interesting thing about steelhead trends is that while the wild and hatchery trends are generally correlated, they aren't really tight correlations. That indicates some factors driving population trends are similar to salmon, but there's also some key difference driving the returns of these different groups of fish.





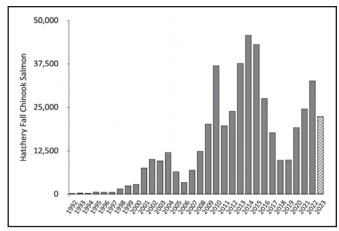


Figure 7. Hatchery Fall run Chinook Salmon returns to Lower Granite Dam. The 2023 value is the forecasted value.

Fall Chinook Salmon

Fall run Chinook Salmon are really a success story in Snake River fisheries management. Starting around 2010 the wild run of Fall Chinook has been rebuilt from an average of around 500 adults to consistently returning over 6,000 adults, which is coincidentally above the ESA delisting threshold of 4,500. Part of the success of increasing numbers of wild Fall Chinook Salmon is a result of hatchery Fall run Chinook Salmon spawning in the wild. If you look at the chart in Figure 7 you'll see hatchery Fall Chinook Salmon have been returning to Idaho in solid numbers since 2010. Many of those fish spawned in the wild and produced "wild" returning fall chinook. In this case any fish that was born in the gravel is considered "wild". One of the concerns that hasn't been resolved yet is around the question of hatchery fish spawning in the wild. All the hatchery fish spawning in the wild are confounding our ability to determine if wild Fall Chinook Salmon are capable of surviving on their own if the hatchery fish weren't spawning in the wild. We hope to answer that question soon with some newly developed genetic monitoring tools.

2023 Legislative Session Wrap Up

BY STACEY SATTERLEE, EXECUTIVE DIRECTOR, IDAHO GRAIN PRODUCERS ASSOCIATION

After 88 days, the first regular session of the 67th Idaho Legislature officially came to an end on Thursday, April 6. The session got off to a slow start – with over 50 new legislators in both the House and the Senate and new leadership in the House, and it took everyone some time to get situated. But the pace quickly picked up by late February and early March. It might have seemed like much of the session was focused on headline catching issues, like Education Savings Accounts and libraries – but all the hot



button issues aside, the legislature got some important work done.

A few Idaho Grain highlights from this session:

- Having grain growers in town for IGPA's February Board Meeting and interacting directly with legislators and agency directors.
- Coordinating a presentation by Jaime Agado to the Senate Resources Committee on the Hatch Partner, a fish incubation system that shows promise in terms of increasing salmon numbers with a relatively small investment.
- Being invited to the Governor's signing of House Bill 361, the appropriations bill for Water Resources and the Department of Environmental Quality. Included in this bill is funding for agriculture Best Management Practices and water infrastructure, and money to construct a new cold-water pipeline at Dworshak to help hatcheries increase salmon returns.
- Having growers in the room for the hearing on Senate Bill 1063, Senator Harris' bill on fencing, when it had a hearing in the Senate Agricultural Affairs Committee and having the Idaho Cattle Association, the Idaho Farm Bureau Federation, and IGPA all come together and support the bill.

Moving onto legislation – a priority issue coming into session was **property tax relief**, and the legislature ended up passing House Bill 292 (and trailer bill HB 376 to fix a technical issue), introduced by Reps. Monks and Moyle and Sens. Grow and Ricks, that provides immediate and long-term property tax relief to all property taxpayers in Idaho. HB 292 was originally vetoed by Governor Little, who said the bill was too complicated and that parts of the bill would have unintended consequences, like jeopardize Idaho's ability to bond for road projects. The legislature ultimately overrode the Governor's veto.

Another priority issue of Governor Little was **increased funding for education** – and one of the bills that did that was House Bill 24, which expands the existing Idaho Launch program to high school graduates starting with the class of 2024. HB 24 was signed into law. Senate Bill 1167, a trailer bill to HB 24, imposes additional sideboards on the Idaho Launch program by enhancing legislative oversight of the Idaho Launch program to heighten program accountability; ensuring greater "skin in the game" from Launch participants by capping the maximum state match at 80% and the maximum grant at \$8,000; limiting the use of Launch funds to just tuition and fees; and limiting the Launch program to community colleges and workforce training providers. SB 1167 was also signed into law.

We worked hard to make progress on **fencing issues** during this legislative session. Senator Harris' bill on fences, SB 1063, amends existing law to review provisions regarding the careless exposure of barbed wire and increases associated penalties. As mentioned above, the bill had broad support. SB 1063 passed the Senate, and we were disappointed that it did not receive a hearing in the House Agricultural Affairs Committee, thereby dying. Senator Harris is committed to finding solutions for fencing issues – we will work with him, the Idaho Cattle Association, and the Idaho Farm Bureau Federation over the interim to develop an even stronger bill for the next session.

Along similar lines, in the waning days of session, HB 349 was introduced by Rep. Mike Moyle and Sen. Mark Harris. This legislation adds clarifications to Idaho's herd district statute – specifically, that the owner of livestock may not be held civilly liable for depredation if the livestock stray from open range into a herd district, unless the herd district boundaries are enclosed by fences and cattle guards or gates. It also requires that any new herd districts created on or after July 1, 2023, must be enclosed by fences and cattle guards or gates. This bill was signed into law by Governor Little.

Another issue IGPA was directly involved with was Senator Guthrie's **Restricted Drivers License** bill. This bill was supported widely by the agriculture and business communities – unfortunately, SB 1081 died without receiving a vote from the full Senate. Then Senate Joint Memorial 101 was introduced, which expresses the desire of Idaho citizens and business that the Federal immigration system be modernized to secure the border, to provide for a legal workforce of guestworkers, and asks that Idaho's delegation become national leaders on this topic. Without a hearing in the House, SJM 101 died.

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And finally, IGPA spent a lot of time educating about and defending Idaho's commodity commissions. There were several bills introduced that would have been harmful to commissions, but thankfully, none of them became law. One example was House Bill 170, introduced by Rep. Monks – it would prohibit state agencies from donating to or sponsoring a nongovernmental event or organization without approval from the Governor. IGPA was concerned that this bill would unnecessarily hinder the important work of our commodity commissions. HB 170 died on the 14th order in the Senate.

Leadership Idaho Agriculture

If you're in agriculture in Idaho, you've likely heard of Leadership Idaho Agriculture, and you may even know someone who's participated in the program. Leadership Idaho Agriculture (LIA) is the only leadership organization in Idaho that works to directly cultivate leaders in agriculture - the state's biggest and most influential industry.



SCAN ME

Since 1985, LIA has been offering a concentrated, hands-on learning experience to enhance and build leadership qualities, while developing advocates for agriculture and rural communities who will serve as a voice for the industry for generations to come.

LIA Board of Trustee Member and IGPA Executive Member Kyle Wangemann gives a lot of credit to LIA. "I think the biggest take away from LIA is the network of people that you meet and become involved with from all parts of the state. I like to joke that I can drive through any town in Idaho and I know someone there, but it really is true. That's the network that this organization provides. Farming has given me this opportunity to be a part of this group and I value all the relationships, on both a business and personal level, that I have come to know. I also think LIA is vital today





more than ever because of the need for good leadership on a local, state and national level. LIA's mission is to equip and educate leaders to advocate for agriculture and that's what they do."

LIA participants engage in four week-long sessions one week per month November through February, attending meetings and events in each of four locations including Moscow, Pocatello, Twin Falls, culminating with a week in Boise.

Rick Waitley with Association Management Group is the Executive Director of LIA and has been with the program since 1992. "We have been fortunate enough to have a total of 1,100 graduates from the program since its inception in 1986. Of that total, 933 of those have graduated since I have been directing the program."

Waitley goes on to say, "To fill an LIA class, we really seek out candidates who have a desire to improve themselves both personally and professionally as an individual—leaders and those who want to be leaders. I have never seen anyone not experience growth from their participation in the program. However, LIA will stretch you so it takes someone who is serious about being successful. The curriculum is rigorous and falls into three categories: what you learn from presenters, what you learn from your fellow classmates and what you discover about yourself that you want to build as an asset in life."



Waitley says he would encourage anyone who's serious about improving upon their leadership skills to apply. "Anyone can benefit from the program if you go in with an attitude that you want to be the best at whatever you do. If you wait until you have the time, you will probably miss the opportunity. I hear many graduates say I should have done it 5-10 years before I did - it would have made my journey so much more enjoyable and rewarding through life," he says.

IGPA Executive Director Stacey Satterlee is a true believer in the power of LIA as well. "I've seen what LIA can do for grain growers. The personal connections, the confidence, the public speaking skills, the knowledge – at the risk of sounding dramatic, LIA can be lifechanging."

Most members of IGPA's Executive Board have been through the LIA experience – and it shows in the professionalism they demonstrate and the confidence they have conducting meetings, engaging sponsors, making executive decisions, and leading the organization.

Satterlee added, "The program develops leaders from the ground up – and agriculture needs leaders who are willing to be involved and who not only understand how important it is to tell their story, but also have the tools they need to do it."

Waitley says that the best-selling point for LIA is not in a brochure, website or video—it's talking to an alumni of the program and hearing what they have to say.

"Just talk to a LIA graduate—they'll give you a graduate's perspective on their investment and the





return on that investment for them personally and professionally and you'd be hard to find anyone for whom the experience wasn't beneficial."

LIA graduate and IGPA board member Jeff Kauffman agrees with the benefits of going through the LIA program. "With fewer people directly involved in agriculture these days, it's increasingly important that we build leaders that understand agriculture and can communicate effectively with others—the LIA program offers the tools needed to be a leader in agriculture in Idaho today."

"The program is recognized as a premier leadership program. That does not happen overnight and the quality of individuals who graduate are absolutely making a difference in Idaho's agriculture and natural resource industries. No matter your experience, LIA will help you to strengthen your leadership skills and put more tools in your toolbox for future projects and opportunities you encounter in life," says Waitley.

Applications for LIA Class 44 are due August 1. If you're interested in the program, you can find the application requirements and apply at www. leadershipidahoag.org. You can reach out to Stacey, Kyle, or Rick to learn more or get any questions answered.

IGPA, the Idaho Wheat Commission, and the Idaho Barley Commission all contribute to wheat and barley growers who participate in LIA. Last year's grower graduates included: Krista Huettig, Brody Isham, Brogan Parkin and Kody Youree.





Wheat Foods Council Promotes Wheat at Culinary Institute of America

BY BRITANY HURST MARCHANT, EXECUTIVE DIRECTOR, IDAHO WHEAT COMMISSION

For the sixth time, the Wheat Foods Council (WFC) gathered chefs from around the country for a custom workshop at the Culinary Institute of America (CIA) at Copia in Napa, California. The chefs who participate are nutrition decision-makers – culinary experts who set menus for restaurant chains, commercial foodservice, universities, and dining management companies – and food innovators responsible for developing products and product uses for food manufacturing companies. Chefs from milling companies also participated in the experience.

Led and developed by a Certified Master Chef, the workshop explores current flavor and aesthetic trends in the baking and restaurant industries and how wheat can and should play a prominent role in those trends. Currently, international flavors, particularly flavor profiles from southeast Asia, the Caribbean, and heritage flavors from South America are leading culinary innovations in restaurants and bakeries. Bright pinks, reds, purples, and oranges – think dragon fruit and magenta – are driving consumer demand in everything from beverages to baked goods.



Aaron Fish, left, and Adam Hegsted, right, Coeur d'Alene chefs and owner (Hegsted) of Eat Good Group.



Chefs work together in team challenges incorporating wheat in a variety of dishes.

The workshop gives chefs and wheat industry representatives the opportunity to learn from each other. Ron Suppes, a wheat farmer from southwest Kansas, spoke with participants about farming wheat from planting to germination and the stages of growth to harvest. Kent Juliot and Kirk Borchardt, both representing Ardent Mills, gave a joint presentation on the six classes of wheat and the milling process. Panhandle Milling chef Stephanie Peterson gave demonstrations on how to easily apply global flavor profiles, without having to completely overhaul an existing, tried-and-true recipe.

The afternoons were spent with instruction and challenges by Certified Master Chef Victor Gielisse from CIA. The chefs were teamed up and given assignments – some with a recipe and instruction and some without – and the final result was a meal enjoyed by all. "This has been a really interesting experience for us," said Adam Hegsted, chef and owner of Eat Good Group in Coeur d'Alene, referring to his business partner, Aaron Fish. "It's fun to be challenged a little bit to think outside the box, but also share some of our favorite recipes and flavors with other chefs and learn theirs."



The Idaho Wheat Commission leverages grower dollars with WFC for market promotion in the United States.

Chefs included A.P. Acosta, Head of Culinary and Menu and Kitchen Designer from Darden; Jack Baer, Product Development Manager for Bel Brands; Christopher Murphy, Vice President of Culinary Innovation at Britz Food Group; Brock Peak, Manager of Culinary Research and Development for Focus Brands; Ian Ramirez, Director of Culinary Innovation and Operations of Creative Dining Services; Allan Sheldon, Executive Chef at University of Michigan; Scott Uehlein, Culinary Innovator and Lead Chef at MOD Pizza; Jeff Yankellow, Director of Bakery Foodservice Sales for King Arthur Baking; Stephanie Peterson, Corporate Executive Chef, Author, and Television Chef representing Panhandle Milling; Adam Hegsted, Owner and Chef and Aaron Fish, Chef of Eat Good Group.



Participant chefs in the instructional kitchen at the Culinary Institute of America at Copia in Napa, California.



trip to the Commodity Classic in Houston, TX in March 2024.

Winners also meeting industry-desired Top Quality by class can receive a cash award of \$250!

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Ukraine: Is the Worst Yet to Come?

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KYIV, UKRAINE — Last year, Ukraine sustained horrible damage due to the Russian invasion, causing grain production to plummet. There are reasons to believe that 2023 will bring new destructions, casualties and losses and that the global market could be braced for new shocks, even worse than those seen in 2022.

In 2022, Ukraine harvested 67 million tonnes of grains and oilseeds, 30% lower compared to the previous year, the Ukrainian Agri Council estimated. The farmers hope to maintain this production level this year, but in the current circumstance, this looks highly unlikely.

Andriy Dykun, head of the Ukrainian Agri Council and SaveUA Charity Fund, estimated that farmers sowed 26% less hectares of winter crops compared to the fall of 2021 in the territories controlled by Ukraine and 43% compared with the total figure planted in the previous year. The spring sowing campaign also is expected to be a big challenge.

"According to farmers, grain production (in 2023) will decrease by 37% compared to 2022 and 60% compared to 2021," Dykun admitted.

Ukraine now has less land to produce grain than before the invasion. Svitlana Lytvyn, an analyst of the Ukrainian club of agricultural business (UCAB), estimated that Russians, since February 2022, captured 3.8 million hectares of Ukrainian farmland. Another 3.8 million hectares cannot be sown because of the proximity to the frontline, or contamination with mines, Lytvyn said.

Price matters

However, the problems of the Ukrainian grain industry are not limited to the physical loss of land. UCAB admitted that farmers largely abandoned wheat production in northeast and central regions, those located relatively far away from the hostilities.

"The reason for this trend is the limited ability to export grain, expensive logistics and, as a result, a significant difference in prices across regions," Lytvyn said, explaining that regions located close to seaports and bordering with the EU have a higher price for agricultural products compared to regions in the north and east of Ukraine.

"Many farmers in the de-occupied territories often have nowhere to return to because their farms have



A combine harvests wheat in a Ukrainian field with a bomb crater. Credit: $\textcircled{\mbox{\scriptsize CMIGUEL}}$ MEDINA

been destroyed or are in conditions that are dangerous to human life." - Andriy Dykun, head of the Ukrainian Agri Council and Save UA Charity Fund

For example, she estimated in Transcarpathia, the corn price currently stands at 6800 UAH (\$184) per tonne with VAT, while in the Sumy region, it is as low as 4900 UAH (\$132).

"However, even in the western regions, the price makes grain production unprofitable," Lytvyn said.

Dykun noted: "Most farmers have no working capital. They could not harvest and sell last year's crops. (Their) agricultural machinery was stolen or destroyed by the occupiers, logistics costs skyrocketed, fertilizers have also jumped in price and are in short supply, and the cost of demining one hectare of field is high."

All Ukrainian grain producers are in dire financial condition, Lytvyn agreed. There are massive liquidity problems. Farmers still have stocks of products, but they cannot sell them at profitable prices. As a result, spring sowing will be carried out with minimal use of fertilizers and plant protection products, which will inevitably hinder yields.

In the second half of 2022, Ukrainian armed forces launched a counteroffensive liberating large territories in the Kharkiv and Kherson region. There are hopes that this should bolster Ukrainian grain production in 2023, but for some farmers resuming operation could be difficult.

"Many farmers in the de-occupied territories often have nowhere to return to because their farms have been



destroyed or are in conditions that are dangerous to human life," Dykun said.

"However, most farmers remain optimistic and will resume farm operations as soon as it is safe for the lives of workers," Dykun said, adding that labor shortage is another challenge to be reckoned with. "Farms have lost a large number of men who went to defend our homeland. Of course, this affects their operations, but we understand that if we do not protect the state, we will not be able to work at all."

Grain Deal concerns

The Black Sea Grain Initiative and Solidarity Lanes helped the Ukrainian grain farmers to resume grain exports in 2022 and make it through last year. UCAB estimated that since the deal was struck in August 2022 until the end of the year, Ukraine exported 16.1 million tonnes of agricultural products through the grain corridor, including 12.5 million tonnes of grain. This is better than nothing but still lower than the Ukrainian grain industry needs. In early 2023, the supplies declined further.

"In January 2023, 77 ships exported 3 million tonnes of agricultural products from the ports of Greater Odesa to Africa, Asia, and Europe," Dykun said. "This is 25% less than in December 2022, when 94 vessels departed the seaports carrying 3.7 million tonnes of agricultural products.

"The only obstacle to the access of Ukrainian agricultural products to world markets is the actions of the Russian side in the Joint Coordination Center (JCC), which by all means and under false pretenses blocks inspections of ships in the Bosporus and registration of new ships to the initiative."

Dykun estimated that on average 2.5 ships leave Ukrainian ports per day, which is critically low.

"Three vessels per day out of the proposed nine are inspected in the Bosphorus and receive permission to move to Ukrainian ports," he added.

Lytvyn also complained about the artificial delay in the inspection of ships by the Russian side, which, she said, leads to long queues of more than 100 ships waiting for a check in the Bosphorus, and the waiting time can last from two to five weeks, which leads to even greater losses.

The Ukrainian Infrastructure Ministry reported the JCC originally planned to conduct 10 inspections a day, but Russian inspectors successfully completed only half of them. In January 2023, out of 204 checks, only 173 were successful, and 31 examinations were not

completed, among other things, due to the premature and unauthorized end of the working day by Russian inspectors at 3:30 p.m., rather than the original agreement of 5:30 p.m., Dykun said.

Concerns about a new offensive

Since the beginning of 2023, Ukrainian government officials and Western leaders have discussed a possible new Russian offensive. Oleksiy Reznikov, Ukraine's defense minister, said in early February that his country expected Russia's invading forces to launch a new offensive in the Donbas and southern areas. In addition, concerns are rising in Ukraine that Russia is preparing to launch a new offensive against Ukraine from Belarus, including possibly aiming to capture Ukraine's capital.

The growing uncertainty over the battlefield situation makes long-term planning for Ukrainian farmers nearly impossible, Lytvyn said. This spring, there also will be no sowing in the 20-kilometer zone on the border with Russia and Belarus.

Since October, Ukraine has struggled against constant power outages as Russia is pounding critical energy infrastructure.

New escalation could further worsen working conditions for Ukrainian farmers. As estimated by the State Emergency Service of Ukraine (SES), as of January 2023, 250,000 square kilometers, or 40% of the Ukrainian territory, were contaminated with mines.

"During the 11 months of the war, deminers have checked about 760 square kilometers of Ukraine's territory," Dykun said. "Currently, the SES pyrotechnic units are working around the clock, some of them manually, due to a lack of necessary equipment and an insufficient number of qualified specialists."

He added that the situation is the most critical in the east and south of the country, particularly in the deoccupied territories of Kharkiv, Kherson and Mykolaiv regions, where many settlements have been destroyed, infrastructure and agricultural fields are heavily mined.

Since October, Ukraine has struggled against constant power outages as Russia is pounding critical energy infrastructure. Dykun said the shutdown for several hours could cause tremendous problems for grain storage.

"During the harvesting, it is extremely important for the grain storage to have electricity, as the grain storing and drying requires maintaining the necessary temperature," Dykun said. "The lack of electricity makes it virtually impossible to comply with the production requirements,

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leading to grain spoilage and, as a result, loss of money and, above all, essential products for food security."

Speaking about the prospects of the new Russian offensive, Dykun said if there are no positive improvements, Ukrainian farmers will not be able to conduct spring sowing. This will exacerbate the global food crisis, jeopardizing 400 million people depending on the Ukrainian agricultural sector. But Dykun said no matter what aggressive actions Russia takes, the Ukrainian population has faith in victory.

"Since the first days of Russia's full-scale invasion of Ukraine, Ukrainians have proved themselves to be a nation of strong, brave people who are ready to defend their home and will not allow the enemy to seize their territories," Dykun said. "Our belief in victory over the invader is unquestionable, and we have no doubt that we will regain our territories and restore Ukraine."

International aid is critical

The Ukrainian Agri Council recently appealed to European Union leaders to preserve and indefinitely

extend Ukraine's preferential trade regime with the EU. Ukrainian grain farmers have expressed gratitude for the support they received in 2022. However, additional measures might be needed this year to prevent a collapse in the grain industry.

"Because of the war, the situation in the agricultural sector is catastrophic: farms are destroyed, equipment is destroyed, animals are killed, fields are mined," Dykun said. "Today we need to launch a global fund to restore the Ukrainian agricultural sector, which will raise funds to help specific farmers who have lost their farms."

There are measures needed to be taken to provide Ukrainian farmers with the minimum required volumes of seeds and fertilizers, as well as launch a large-scale simplified lending program, since their own resources are extremely limited, Lytvyn agreed.

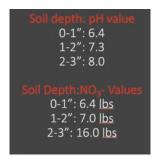
"Unfortunately, in the conditions of war, Ukraine does not have the ability to manage this on its own and needs further help from our partners," she said. "It is about the survival of the agricultural sector."

Soil Stratification of Nutrition, Carbon and Microbiology

BY JARED COOK, ROCKY MOUNTAIN AGRONOMICS

Have you ever been invited to a party and upon arrival you realize, you don't know a single person? The party is smaller than you anticipated, it was a BYO beverage party, and you didn't get the memo. Then you find out there is another party going on across town that is everything you had hoped this one would be, and you're stuck.

I am going to explain a story of nutritional, biological and carbon Stratification as it relates to a party. At the Idaho Wheat Commission winter conference, I shared some data that Brett Leyshon and I collected from his farm near Rockland, Idaho.



I've tested soils all over southern Idaho with my yield 360 soil scan, as seen in the picture to the left. Soil pH can vary drastically when measured in 1" increments. Nitrate follows similar trends, indicating a strong correlation to stratification issues. Knowing this about pH and Nitrate nudged me to want to learn more.

Utilizing the Haney soil health testing method, we looked at critical variables that are essential to a well-functioning soil. We measured a 0-6" soil depth, then from same spot measured 6-12" soil depth. The following is a brief description of what we measured:

- 1. WEOC water extractable organic carbon (a measure of readily available food for soil microbes).
- 2. WEON water extractable organic nitrogen. Organic N that acts like amino acids and protein, food source made of complex carbons that microbes eat.
- **3. VAST** measurement of the soil's aggregate stability.



Field ID	Sample depth	Organic matter	VAST	SLAN	C:N Ratio	WEOC	Organic N-WEON	рН	HT3	Total Est N-Release
Leyshon-640	0-6"	2.08	9	32.5	15.46	135.31	15.75	7.18	22.8	23.5
Leyshon-640	6-12"	1.91	5	12.5	7.88	119.13	27.22	7.96	6.2	15.6
	AVG	1.995	7	22.5	11.67	127.22	21.485	7.57	14.5	19.55

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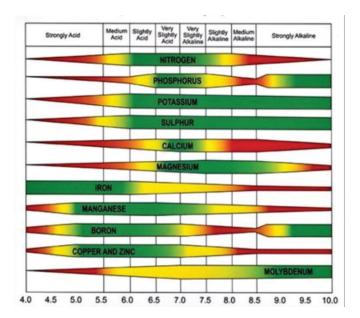
- **4. Carbon: Nitrogen ratio**, measures the balance between WEOC and WEON
- **5. pH** of the soil measures amount of Hydrogen present in the soil
- 6. HT3 is a measurement of CO2 respiration. The soil is dried down and rewetted. Over a 24-hour period CO2 release is measured, and this becomes an indicator of soil microbial activity.
- 7. SLAN Sugar amino Acids, measures organic nitrogen in the amino forms associated with humus.

As you look at the results from each of these measurements it becomes evident that 0-6" and 6-12" have two very different parties going on simultaneously. The whole premise to this testing was to better understand what the plant is exposed to, as roots explore different soil depths. This testing method is also our benchmark to measure soil health progress from year to year.

Considering the soil environment for the seed in the first 20 days of growing, look at soil pH, HT3, and SLAN in the chart above. Those three measurements indicate that the top 6" of soil is primed with a near perfect pH, very favorable soil respiration, and ideal SLAN score. All the components are present that constitute a rich and favorable environment full of the building blocks to maximize genetic potential and create a healthy vigorous plant. I am calling this the party of the year for seed germination and establishment.

Let's consider the subsoil, 6-12" soil depth. pH is nearly 8.0, nutrient availability can be diminished at this point, as indicated by the pH/ nutrient availability chart to the right. SLAN is a 3rd of the 0-6" profile, and HT3 is 75% less than topsoil. We are looking at substantially less soil microbial activity and carbon availability in the sub soil.

Remember this general rule, plants are comprised of 96% Carbon, Hydrogen, Oxygen, and 4% mineral nutrition. C, H,O are primarily derived from Organic matter and microbial respiration, and water "Marchener



2012". The Haney soil health test indicates our sub soil party is small, and not terribly exciting, which is concerning because the subsoil is our late season finish on the crop. Odds are the top 0-6" profile will be limited on moisture and contributing very little when it comes to late reproductive growth stages. A deep robust root system is the first step to success in healing the sub soil and allowing the plant to cope with environmental stresses. Second step would be to let the plant be your guide. In-season plant SAP analysis is a tool that can tell you what the plant is experiencing. SAP analysis measures plant sugars, Brix, pH, and electrical conductivity. These are diagnostic measurements that have everything to do with the strength of the soils: nutritional, carbon (WEOC, WEON, SLAN), and biological cycling (HT3). SAP testing also shows the movement of all three forms of Nitrogen: Nitrate, Ammonium and Total N. SAP analysis provides a nitrogen conversion efficiency factor, indicating how well the plant is assimilating the three forms of nitrogen into protein and amino acids.

Let me leave you with this final thought. Matching management to your crop's growth trajectory, will help you achieve the next yield goal. Be wise in choosing which party to attend; if you're nervous, I'll go with you.

Buckwheat is a deadly allergen in Asian countries.



Avoid planting wheat <u>for at least 1 year after</u> planting buckwheat to ensure a clean crop



Know what is in your cover crop mix — many contain buckwheat



Prevent contamination of wheat in storage and transportation

SAVE OUR EXPORT MARKETS Ensure wheat for export is buckwheat-free!



Contact Idaho Wheat Commission for more information • 208-334-2353 • wheat@idahowheat.org



Buckwheat - A Threat to Idaho's Export Markets How you can help

Over the last two decades, U.S. wheat exports and global market share have declined due to increased competition from nations such as Russia. Considering about 50% of Idaho's wheat is exported, preserving and protecting export markets is of great interest here at home. Most of Idaho's wheat exports are shipped through the Pacific Northwest to customers located in Asia. Cross contamination with buckwheat poses a serious threat to these markets.

Cultivated or domesticated buckwheat is a deadly allergen in Asian countries. It is often compared to peanut allergies, where there are different levels of reaction, ranging from mild rashes to extreme anaphylaxis. The measures the United States have taken to provide allergen safety in labeling, such as zero tolerance for unlabeled allergen exposure, are the same efforts taken in exporting food ingredients. Asian customers are extremely vigilant in preventing contamination and could reject cargos with any traces of buckwheat. As you prepare for spring planting, please keep in mind the following guidance the Natural Resources Conservation Service (NRCS) has provided regarding cover crops for this very reason:

• Use of buckwheat must be excluded from cover crops plantings in rotation or adjacent to fields with wheat production or abstain from growing wheat as a commodity for 2 calendar years after planting buckwheat.

If a delivery to an export elevator is exposed to buckwheat there is zero tolerance and elevators may extend their rejection to future deliveries from the producer. Do not expose your farm to buckwheat in any form if you plan on growing wheat or small grains.

To protect and foster the health and prosperity of the Idaho wheat industry, tell your neighbors and friends about the dangers of buckwheat in a small grains rotation, and help grow Idaho's export markets so we may continue to safely feed the world.

Idaho Wheat Commission wants to take YOU out to the ballgame!

We are teaming up with Idaho Grain Producers Association and Idaho Barley Commission for Idaho Grain Night with the Chukars Baseball team on Friday, July 7, 2023. The game will start at 7:05 pm. Scan the QR code and reserve your FREE tickets now!





Understand Your Stress and Control the Outcome

BY LANCE HANSEN, EXTENSION EDUCATOR MADISON COUNTY, BRACKEN HENDERSON, EXTENSION EDUCATOR FRANKLIN COUNTY, DAVID CALLISTER, EXTENSION EDUCATOR BUTTE COUNTY, AND TALJE HOENE, MENTAL HEALTH PROGRAM COORDINATOR MOSCOW

Farming can be incredibly rewarding and fulfilling, but it also comes with its fair share of challenges and stresses. From unpredictable weather patterns to market fluctuations and financial pressures, farmers face a multitude of stressors daily. While some degree of stress is inevitable, prolonged exposure to stress can be harmful to your mental health and physical well-being. Understanding stress and developing strong external and internal supports will help you be better prepared to control the outcome. I am sure we have all heard someone say they are stressed. Like many of you, I have experienced being stressed out on occasion. It is ok to have stress, but it is not ok when we let stress take control.

What is stress? We often use the word stress when describing situations that we feel are challenging or that negatively impact our lives. One of the biggest obstacles is that we all use this standard definition when discussing stress. When we talk about stress, we need to recognize what kind of stress we are dealing with. To keep this simple, I would like to share how Dr. Bruce S. McEwen breaks stress into three categories: good, tolerable, and toxic.

Good stress is the kind of stress that leads to good outcomes. An example of good stress is our reaction before a big test, harvesting crops, or meeting a deadline. This kind of stress motivates us and drives us to reach the finish line. It is short-term and only last until the task or deadline ist met.

Tolerable stress is the kind of stress we feel when something goes wrong, but it is tolerable because we have the tools to handle the situation. I am sure you all remember what Benjamin Franklin said: "An ounce of prevention is worth a pound of cure."

Toxic stress occurs when bad things happen, and we don't have the tools and resources to handle or cope with the situation promptly. Stress becomes toxic when we are forced live with it day after day. This kind of stress leads to serious health problems, such as loss of sleep, severe anxiety, clinical depression, and substance abuse, and may lead to suicide.

How does stress affect us individually?

Stress is different for everyone; we all respond differently to stressors. Having a framework to help us understand what kind of stress we're dealing with will allow us to handle our stress more effectively. When we recognize what type of stress we're dealing with, we can start identifying what triggers our stress. Recognizing what triggers our stress will help us develop the tools we need so we can control the outcome.

Taking control by being prepared.

Suppose I were to ask you what you would do if you caught on fire. You would respond, "STOP, DROP, and ROLL." What is the stop, drop, and roll process for dealing with stress?

STOP and take some time for some self-care. When we're dealing with high levels of stress, more often than not, our judgment is impaired, and the situation only gets worse.

DROP by your friend's or family's house or the local diner. Go find your people. They are your external support and are always there for you when things are tough. Connecting with family, friends, and neighbors is one of the greatest tools that helps us keep stress tolerable.

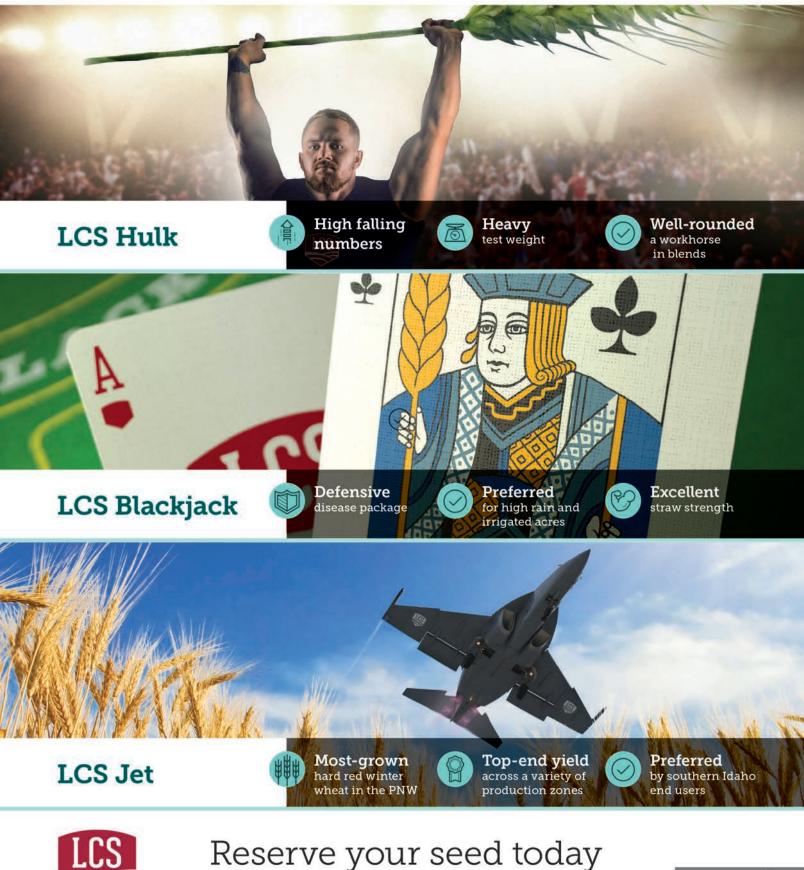
Remember that you control your ROLL by having internal tools, such as meditation, exercise, and positive self-talk, that help keep you headed in the direction you want to go.

If you are dealing with TOXIC stress, please take action now and get help. Talk to someone from your external support group, call the Crisis Lifeline at 988 or the Farm Aid Hotline at 1-800-FARM-AID (1-800-327-6243). Get to know the resources in your community, and get involved.

We can no longer neglect the effects of stress in our lives. Cowboying up or rubbing some dirt on it does not work and has never worked when it comes to dealing with stress. When it comes to handling stress, it all comes

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Get more from your wheat acres



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down to preparation and having a STOP, DROP, and ROLL plan in place so you will never have to deal with the effects of toxic stress on your farm or in your life.

If you would like to learn about the resources the University of Idaho Extension offers to help with Farm Stress, please contact: Talje Hoene Mental Health Program Coordinator email thoene@uidaho.edu or Lance Hansen Extension Educator lancehansen@uidaho.edu

For more information, check out these resources.

University of Idaho Farm Stress Management https:// www.uidaho.edu/extension/farm-stress

Western Region Agricultural Stress Assistance Program (WRASAP) https://farmstress.us/

988 Suicide & Crisis Lifeline https://988lifeline.org/ current-events/the-lifeline-and-988/https://988lifeline. org/current-events/the-lifeline-and-988/

A Level Playing Field

BY DALTON HENRY, U.S. WHEAT ASSOCIATES, VICE PRESIDENT - POLICY

Anyone who has witnessed a U.S. farm policy debate in the past decade has heard an iteration of the phrase, "all we're asking for is a level playing field." The underlying meaning that U.S. farmers are some of the best in the world, and that if everyone would play by the rules and open markets, U.S. farmers would compete well and prosper.

That sentiment certainly holds true in the world of wheat trade policy, where many countries implement barriers to protect domestic

farmers or specific industries. Yet, few other commodities in the U.S. are as dependent on trade as wheat producers, who regularly see more than 50% of their wheat exported. In the Pacific Northwest, the share is even higher.

That "level the playing field" rallying cry has often been touted in the past in support of free trade agreements

(FTA), where the U.S. has sought to reduce -- or in most cases eliminate -- partner countries' tariffs facing wheat producers. However, with the U.S. steadily moving away from a traditional FTA-centered trade policy over the last decade, efforts to remove tariffs and other barriers have had to become more creative. The good news is that creative approaches have resulted in success in opening and maintaining critical markets for U.S. producers. But it will take coordinated work and smart investments to keep the momentum going. Vietnam is a prime example of where creative work, outside of a regular FTA effort, has made large gains for the U.S. As a result of its membership in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) agreement, which the U.S. is not a member, Vietnam was set to provide Canadian growers with lower tariffs than U.S. growers – a situation that directly impacts U.S. competitiveness. But quick thinking by the USDA and coordinated work with the milling intdustry secured

The good news is that creative approaches have resulted in success in opening and maintaining critical markets for U.S. producers. But it will take coordinated work and smart investments to keep the momentum going. reduced tariffs on a "most favored nation" basis. That action reduced the cost of wheat to flour mills during a time of high food inflation and provided a boost to U.S. competitiveness in a market that is knocking on the door of U.S. Wheat Associates' (USW) top 10 destinations.

Another type of tariff barrier is a quota. Quotas are often used when countries

recognize a need for some imports but are reluctant to fully open markets. Unfortunately, quotas are a common place where governments can tilt the playing field away from U.S. producers. USW has recently worked on the function of quotas in Brazil, Morocco, and China. While all three countries have made progress, China stands out. When China joined the World Trade Organization (WTO), it committed to a 9.64 million metric ton (MMT) wheat import quota



but found several administrative hurdles to keep those imports from flowing in --until the U.S. won a WTO challenge against them which required new rules to be issued in 2019. That year, China was the world's 16th largest wheat importer. Fast-forward to today: USDA has projected them to become the largest. While quota rules almost appear to be trivial details in the grand scheme of international wheat trade, they have a major impact.

Non-tariff barriers such as chemical residue limits (MRLs), prohibited weed seeds and common wheat diseases are also important targets in trade negotiations, since they can create restrictions for U.S. wheat. Those barriers are often more challenging to resolve, and often require strong collaboration between governments, the export industry, and growers. A prime example of this at work is the agreement between the U.S. and China more than 20 years ago to allow U.S. exports from all regions and of all wheat classes into the country so long as specific bunt spores remained under a threshold. That agreement was key to U.S. soft white wheat producers who had been locked out of the Chinese market. While many have questions about exactly how closely the

agreement is followed, and there has had to be ongoing work on the issue, the results in the form of SW exports to China over the last three years speak for themselves. That positive outcome required persistence on the part of U.S. negotiators, diligence from U.S. exporters and vigilance in seed treatment and disease management by U.S. farmers.

One thing that all these solutions share is high -level engagement between governments. That high-level engagement is so important that sometimes just preparing to host trade talks can resolve long-standing issues. Such was the case with Kenya in the run-up to trade negotiations in 2020. The country had long maintained a ban on wheat exports from the Pacific Northwest due to concerns about the wheat disease Flag Smut. High-level engagement was able to break through the regulator log jam and a protocol for export access was secured.

It may be too much to hope for that someday the world's wheat producing playing field will be truly level. But that doesn't negate the value of working today to make it more so.

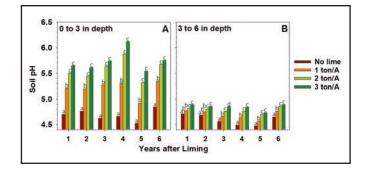
Exploring Solutions for Managing Soil Acidity

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BY KURT SCHROEDER, ASSOCIATE PROFESSOR, UNIVERSITY OF IDAHO

Soils in north Idaho have gradually become more acidic over the past 60 years. While there are different causes for soil acidification, the primary driver in north Idaho is the long-term use of ammonium-based nitrogen fertilizers. Drs. Robert McDole and Robert Mahler first documented the decline in north Idaho soil pH in the 1980's. Since that time, the soil pH has continued to decline with nearly 75% of soils from a 2013 survey of 125 fields having a pH of 5.2 or lower. Most of the acidification is in the upper 6-inch soil layer, with the pH increasing below this depth and being similar to native soil pH at a depth of 12 inches.

Soil pH is a critical component of soil health as it influences the microbial composition of the soil and can impact uptake of nutrients. Soil microbes are responsible for several activities in soil such as mineralizing soil nutrients, fixing nitrogen in legumes, and naturally suppressing plant diseases. Soil pH also is crucial to maximize the availability of macro- and



micronutrients for the plant. A soil pH of about 5.5 to 6.5 is considered optimal for most crops grown in northern Idaho. However, a low soil pH can upset many of the important soil processes, but more importantly can result in the solubilization of aluminum when pH levels fall below 5.0. Aluminum is not a plant nutrient and is in fact toxic to plants, causing damage to the growing points of the roots and leading

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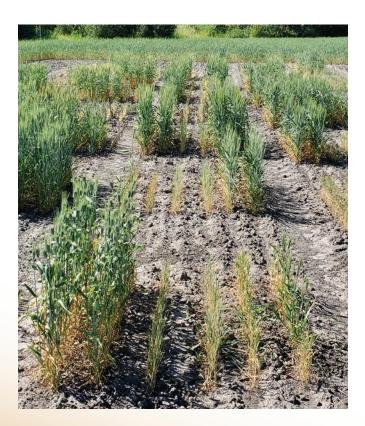


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to malformed and stunted roots. This leads to chlorotic, stunted plants, lack of tillering in cereal crops, and in severe instances can result in death of the plant.

Soil acidity is a worldwide problem but is relatively new to the region. In recent years it has been documented in eastern Washington, northern Idaho, parts of Montana, and most recently in localized areas of southeastern Idaho. The most obvious solution to solve soil acidification and aluminum toxicity is to apply lime (calcium carbonate) to soil to increase the soil pH, but this can be costly. Other options include planting naturally aluminum tolerant crops such as triticale or oats or using aluminum-tolerant cultivars of wheat. While these latter options can provide a shortterm solution, they do not get to the root of the problem, which is the low soil pH.

Previous work by my research team compared a variety of liming materials including sugar beet lime, ground limestone and ultra-micronized fluid lime. Over the course of three years there was no apparent difference between products in relation to changes in soil chemistry or crop response. However, with rates of up to 1 ton per acre, there was simply not enough calcium





carbonate being applied to consistently increase crop performance. In 2016 a new study funded by the Idaho Wheat Commission was initiated that involved adding up to 3 ton per acre of ground limestone to four fields in Latah and Benewah Counties. Following the incorporation of ground limestone, the fields were cultivated to incorporate the lime. We have previously evaluated surface application of limestone, but the material is not mobile and even after 4 years we were unable to detect a significant increase in soil pH beyond the very surface soil layer and observed no increase in crop yield. Incorporation of ground limestone into the top layer of soil that is most acidic is key to quickly neutralizing the negative impacts of soil pH. In the most recent study, changes in soil chemistry and crop yield were monitored over the past six years. The crop rotation at each site followed the same rotation in the surrounding field and was either a winter wheat – legume or winter wheat – spring cereal – spring broadleaf (lentil, chickpea or canola) rotation. When wheat was included in the rotation, one of the more tolerant cultivars was included. This was done intentionally to demonstrate that even aluminumtolerant wheat cultivars will benefit from improved soil pH and if a grower is struggling with low pH, they will likely already be electing to grow more aluminumtolerant cultivars. In comparing 11 site-years of data, the yield of winter wheat increased by 9, 11 and 14% for the 1, 2 and 3 ton per acre rates of ground limestone, respectively. A similar range in yield increase was observed for aluminum-tolerant Seahawk spring wheat (5 to 15%). However, when planting aluminum



susceptible spring barley, lentil or chickpea the yield increased by as much as 17 to 34%.

Changes in soil chemistry were striking when measured 9 months after lime application and have remained relatively stable over the 6-year duration of the study. The soil pH increased dramatically in the 0 to 3 and 3-to-6-inch soil depths. In the first year, the average soil pH in the 0-to-3-inch layer across all field trials was 4.7 and it increased to nearly 6.2 with the addition of 3 tons per acre of ground limestone. After 6 years, the soil pH in the 3 ton per acre rate was still at or slightly above 6.2. The longevity of these higher rates of lime is one reason that the investment in applying these higher rates is likely to pay off over time. Along with the increase in soil pH, was a substantial reduction in the quantity of soluble aluminum in the 0-to-6-inch soil depth. Even after 6 years, the quantity of soluble aluminum in the limed soils is 79 to 96% lower than the non-limed soil in the 0-to-3-inch depth and 18 to 47% lower in the 3-to-6-inch depth.

Despite these dramatic changes in soil chemistry and increases in crop yield, growers are still left with the cost of purchasing, transporting and applying the ground limestone. When the study was initiated in 2016, the cost for the limestone and transportation was \$74 per ton. There was an additional \$13 per acre cost for application of the material. This translates to a cost of \$235 per acre to purchase and apply 3 tons of ground limestone per





acre. With the increase in yield observed at each location over 6 years, this translated to an increased profit of \$240 to \$391 per acre. While the upfront cost of lime may be difficult to manage, over time the investment will pay for itself with increased productivity if aluminum toxicity is impacting crop performance.

A short-term solution to manage aluminum toxicity is to produce an aluminum-tolerant cultivar of wheat. My research team has been routinely screening winter and spring wheat cultivars for tolerance to aluminum toxicity at the Parker Plant Science Farm just east of Moscow. The site has a pH of approximately 4.2 and very high quantities of soluble aluminum. Sensitive cultivars of wheat will not grow beyond the seeding stage before dying, while tolerant cultivars will tiller and produce seed, albeit at a substantially lower yield than normal. Results from this screening will soon be available as an extension publication from the University of Idaho.

Cultivars of other crops commonly grown in north Idaho have been evaluated for tolerance, but all are more or less equally susceptible to aluminum toxicity. While useful, growing aluminum-tolerant wheat alone does not solve the problem. Managing soil pH and aluminum toxicity requires an integrated approach. While liming would be the best solution to remediate soil acidification, it can become expensive. If you are considering liming, perhaps start with the most problematic field(s). Another approach to potentially consider is grid sampling for pH and applying variable rates of calcium carbonate to fields. This will likely be an area of future research to provide some guidelines for variable rate liming. Other suggestions to manage future decreases in soil pH include practicing a good crop rotation that includes cereals and legume crops, avoid excessive fertilization, and adopting practices that increase organic matter.

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Idaho Barley joins National Barley Improvement Committee in D.C. to advocate for Barley Research Funding

The National Barley Improvement Committee (NBIC), which represents the U.S. barley community of growers, researchers, processors, users, and allied industries, completed its first fully in-person trip to Washington D.C. since 2020 in March. Four Idaho barley industry representatives joined the team of over 30 barley enthusiasts from across the country who completed over 90 Hill visits advocating on behalf of federal research funding for the barley industry. Participating from Idaho were Mike Wilkins, Idaho Barley Commission Chairman; Laura Wilder, Idaho Barley Commission Executive Director; Dr. Juliet Marshall, University of Idaho Plant Sciences Department Head and Endowed Research Professor, Cereals Pathology and Agronomy; and JC Olson, Program Manager for Scoular based in Twin Falls.

NBIC's priority ask sought an increase to the appropriation for the Barley Pest Initiative (BPI). The BPI is an effort to strengthen research capacity to address over 20 insects and diseases that impact barley yield and quality through development of new resistant varieties



Idaho barley representatives participating in National Barley Improvement Committee hill visits in Washington D.C in March. (L to R) JC Olson, Scoular; Dr. Juliet Marshall, University of Idaho; Laura Wilder, Idaho Barley Commission; and Mike Wilkins, Idaho Barley Commission Chairman.



New NBIC member JC Olson of Scoular based in Twin Falls, provided an invaluable industry perspective while visiting key Idaho Congressional offices.

and management strategies. In the most recent spending bill, the BPI received \$3 million in support, but the NBIC team is actively working to secure an additional \$2.3 million to bring the total in FY24 to \$5.3 million annually. Already, in just two years of partial funding, the researchers working on the BPI have made great progress. You can read more about this work on the American Malting Barley Association website at www.ambainc.org.

Coming off a successful hybrid fly-in in 2022, the NBIC team wanted to get their members back into Congress, especially given so many new Congressional members that had not been exposed to the Barley Pest Initiative. The reopening of buildings and offices was welcomed and allowed for a nice mix of NBIC veterans and many new members to interact and engage in advocacy efforts. In addition to the BPI, support was also vocalized for other initiatives and agencies within the USDA that are critical to the barley industry as outlined in their legislative priorities.

"There was great energy in D.C., both from our NBIC members and throughout the halls of Congress," said Ashley McFarland, who serves as executive secretary of the NBIC. "Although I'm grateful for the virtu-



al options we had to interact with Congress over the past few years, there's nothing like being on the Hill and engaging in the process of advocating for your industry in-person."

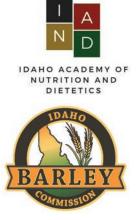
The work of the NBIC seeks to secure both funding and favorable agricultural policies at the federal level. In recent history, its work has focused on the dominant end use of barley for malting purposes, although increased interest in barley as a pet and human food ingredient prompted the addition of two new members that will represent their respective industries including JC Olson of Scoular. JC's participation in NBIC's hill visits in March provided an invaluable industry perspective while visiting key Idaho Congressional offices.



Idaho Barley Commission Chairman Mike Wilkins of Rupert, discusses federal barley research funding priorities with congressional staff during the National Barley Improvement Committee's March advocacy efforts.

Idaho Barley Commission Presented 2023 Gem Award by Idaho Academy of Nutrition and Dietetics

The Idaho Academy of Nutrition and Dietetics honored the Idaho Barley Commission during their annual meeting in Boise in April with the Gem Award. The Gem Award recognizes nonmembers of the Idaho Academy of Nutrition and Dietetics that have promoted and/or encouraged good health, emphasizing sound nutrition habits through efforts to educate the public. Recipients of this award are selected for their contributions to the mission and vision



of the Idaho Academy of Nutrition and Dietetics.

The Academy recognized IBC for ongoing support and contributions to their members. The Academy specifically called out the value to their organization and members from IBC's financial support for speakers at their annual meetings.

The Academy noted they were especially grateful for the sponsorship of the following annual three presentations and speakers which provided excellent knowledge and value for their members:



The Idaho Barley Commission was presented the Gem Award by the Idaho Academy of Nutrition and Dietetics at their annual meeting. IBC Chairman Mike Wilkins, right, and IBC consultant Liz Wilder, left, received the award for the Commission from Charlene Byington, Past President and Awards Chair for the Academy.

• 2019 – Cardioprotective Dietary Patterns – Review of the Current Scientific Evidence and Tips for Practical Application | Carol Kirkpatrick, PhD, MPH, RDN, CLS, FNLA, Pocatello, Idaho

Continued on next page





Idaho dietitians enjoyed the opportunity to ask questions about farming during round table chat with IBC Chairman Mike Wilkins.

Continued from previous page

- 2022 Grains and Your Inner Ecosystem: Refreshing Updates on How Grain-Based Dietary Fibers Influence Cardiometabolic Health | Corie Whisner, PhD, Phoenix, Arizona
- 2023 Diet-Microbiota Connections to Health | Hannah Holscher, PhD, RDN, Urbana, Illinois

Besides supporting presentations and speakers that discuss the benefits of consuming whole grains, including food barley, IBC has been a regular annual meeting trade show exhibitor with samples and information about food barley, as well as other meeting involvement.

At this year's annual meeting, IBC hosted a table during the round table lunch with the topic being, "Ask A Farmer." IBC chairman Mike Wilkins, and IBC Food Barley and Communications Consultant Liz Wilder, participated and entertained questions from the attendees on farming practices, as well as preparation and nutritional qualities of food barley. The session was a hit and facilitated good discussion with accurate information to help clear up misperceptions about farming practices. Wilkins is now a "celebrity farmer."



IBC Chairman Mike Wilkins of Rupert talked farming with Idaho dietitians during their annual meeting "Ask a Farmer" round table session.

IBC uses Idaho grower dollars to partner with health influencers like dietitians and the Idaho Academy of Nutrition and Dietetics to provide information and resources on food barley and help strengthen marketing opportunities for Idaho growers.

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