

# WHEAT LIFE

The official publication of the Washington Association of Wheat Growers

**MARCH | 2024**

## SEASONS OF FARMING: SPRING

As the weather warms and farmers take to the fields, what are they doing and why?

### ALSO IN THIS ISSUE:

Wheat makes media waves defending dams

Growers take part in national conference,  
Hill visits with legislators

AMMO session recaps: Factors influencing  
markets, weed management in the PNW

Next steps in falling numbers battle

What is the role of the weed seedbank?

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# WHEAT LIFE

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# President's Perspective



## The best cure for spring fever is spring fieldwork

By Anthony Smith

President, Washington Association of Wheat Growers

The cabin fever has shifted to spring fever, and my list of “to dos” keeps growing faster than what I can accomplish. That’s the spring work tension that builds for us wheat farmers. There’s always a farmer in all our areas who gets out in their field early and makes us all start texting and talking. “What is he doing?” or “Why is he going?”

I’m guilty of being an early fieldwork guy, but you have to start sometime, right?

Even before we get in the field, we’ve been spending money on crop protection products, fertilizer, fuel, wages, oil, seed, repairs, and maintenance, so we have to do our best to grow a profitable crop to pay all these expenses.

Most people understand planting seed in the spring, but in wheat country, we also plant wheat in the fall that survives through the winter. So if you are driving through Eastern Washington in the spring, you might see some farmers planting a crop. You might see others spraying fertilizer or herbicides on the wheat that was planted in the fall, or they might be treating a fallow field with either an herbicide or tilling it to help keep the weeds down. This issue of *Wheat Life* has a special section dedicated to explaining what farmers are doing during the spring. See page 46.

When I finally get out in the field, my spring seeding process starts with an herbicide application to control weeds. I’ll follow that by planting. I use a 50-foot box drill, which I pull behind my tractor, that stores the seed in boxes above a series of discs. The discs make a furrow in the soil for the seed and then close the furrow once the seed has been planted. Sometimes, I’ll use seed that has been treated with chemicals to repel wireworms or to help prevent diseases. Some farmers also apply fertilizer at the same time they plant, which saves them from having to make another pass over the field. My drill holds about 150 bushels of wheat, and I run about 5 mph.

For us, germination starts pretty fast once the seed’s in the ground. When it finally starts to push through to the surface, I always feel much better!

I felt much better, as well, after getting back from Washington, D.C., at the end of January. We were there attending the National Association of Wheat Growers’ (NAWG) winter conference. We took part in NAWG committee meetings and held a joint U.S. Wheat/NAWG meeting that I felt went very well. During the conference, we took a day to meet with members of our federal delegation. Along with members of the Washington Grain Commission, we took our national priorities to our Representatives and Senators. We talked about trade, market development funding, conservation, the farm bill, and, of course, the lower Snake River dams. See page 30 for more on our D.C. trip.

Happy farming and seeding this spring. ■

**Cover photo:** As winter fades, farmers across Eastern Washington spring into action, getting fields ready for planting spring crops, scouting winter wheat and applying inputs as necessary, and managing weeds in fallow fields. Our special section on page 46, *Seasons of Farming: Spring*, takes a look at all the activity happening out there and why. Cover photo by Lori Maricle of the Washington Grain Commission. All photos are Shutterstock images or taken by *Wheat Life* staff unless otherwise noted.



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## WAWG's current top priorities are:

- ✓ Preserving the lower Snake River dams.
- ✓ Fighting mandatory climate/carbon regulations.
- ✓ Lobbying the state Legislature for a seasonal overtime exemption.
- ✓ Maintaining a strong, reliable safety net by preserving crop insurance and making sure farm commodity programs work.
- ✓ Maintaining a safe, sound transportation system that includes rail, river and roads.

*If these priorities are important to you, your family and your farm operation, join WAWG today and help us fight.*

## More member benefits:

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# WAWG at WORK

ADVOCATING FOR THE WHEAT FARMERS OF EASTERN WASHINGTON

## February board meeting highlights advocacy efforts, travels

With meeting season still in full swing, the Washington Association of Wheat Growers' (WAWG) February board meeting focused on state and federal legislative updates and trip reports.

In the state legislation report, WAWG Lobbyist Diana Carlen said the six initiatives, which have all been certified, are continuing to hang over the 2024 Legislative Session. At the time of the board meeting, legislators hadn't announced what their intentions were regarding the initiatives.

One of WAWG's priorities, a seasonal ag exemption for overtime, had a hearing, but was not expected to move out of committee. Other bills WAWG was monitoring, including a bill that would prohibit small gas-powered engines died, and there have been some rumblings about a potential grant program to reimburse farmers who have paid cap-and-trade fuel surcharges but not been reimbursed. For an updated look at the 2024

### AMMO SCHEDULE

**CHANGE:** Please note that the March 12 and March 13 Agricultural Marketing and Management Organization seminars will start at 10 a.m., not 9 a.m. as was originally published in the January *Wheat Life*.

Legislative Session, see Carlen's latest report on page 18 or at [wawg.org](http://wawg.org).

Michelle Hennings, WAWG's executive director, reported on the annual Olympia Days trip, which took place in January, telling the board that meetings generally went well, and the evening reception was very well attended.

Marci Green, past president, reported on a meeting with the Washington State Department of Ecology (Ecology) that happened during the Olympia Days trip. The discussion focused on agriculture's cap-and-trade fuel surcharge exemption

and Ecology's long-time, ongoing efforts in the Hangman Creek watershed in Spokane County. Green told the board that growers in the county are having lots of issues with Ecology, and she'd heard that more people have gotten letters from the department.

WAWG has been busy in the first few months of 2024 advocating for the lower Snake River dams. Hennings did a live interview with Fox News where she focused on the transportation aspect of the river system.

"If you live around the river, you know about transportation, but for the general public, it's more about hydropower," she said. "I wanted to highlight that area in my interview."

Washington Grain Commission CEO Casey Chumrau also testified in an Energy and Commerce Committee subcommittee hearing. See more on the wheat industry's advocacy efforts and media outreach on the dams on page 24.

In national legislation, officers had only recently returned from the National Association of Wheat Growers' (NAWG) winter conference in Washington, D.C. Besides taking part in NAWG committee meetings, growers spent a day on the Hill meeting with members of Washington's federal delegation. The farm bill, conservation, trade, and the lower Snake River dams were all discussed. See more about the D.C. trip on page 30.

In county reports, most growers reported that the winter wheat looks like it is bouncing back from January's cold spell. Growers were concerned about the warm



**2024 SPOKANE AG EXPO.** A big thank you to all of the Washington Association of Wheat Growers members and wheat ambassadors who volunteered last month at the Spokane Ag Expo. Promotional items were given to attendees who spun our wheat trivia wheel. Congratulations to Levi Wernz of Fairfield, Wash., who won the drawing for an iPad.



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**COUNTY GROWER MEETING.** Franklin County wheat growers gathered at the Kahlotus Grange last month to hear presentations from the county Farm Service Agency office, a market outlook report from CHS Inc., and wheat industry organization updates. Surendra Singh, director of Washington State University's (WSU) Lind Research Station, gave a presentation on long-term biosolid application trials. Shikha Singh, a WSU soil scientist also at Lind, talked about some of the upcoming research projects she hopes to do at the station. Growers enjoyed a catered lunch by The Farmer's Daughter. The next county meeting is scheduled for March 14 at 7 p.m.

weather that followed, fearing the wheat would come out of dormancy too early and be susceptible to future cold snaps. Fields in the southern part of the state were wet and muddy, while up north, there was still some snow cover.

Christopher McCullough, a pesticide usage and stewardship scientist with the Washington State Department of Agriculture (WSDA), gave a presentation on the WSDA's Pesticide Stewardship Program. The program is meant to ensure farmers can access and use management practices specific to their farms and crops and reduce the chances the pesticides will harm the environment. This comes as the Environmental Protection Agency is making changes to pesticide rules that could potentially limit growers' access to critical chemicals, especially in Pesticide Use Limitation Areas, or PULAs. McCullough said growers can log in and see if they are in a PULA and if any Endangered Species Protection Bulletins have been issued for their area. The bulletins contain enforceable pesticide use limitations. McCullough said that in Washington, most of the PULAs are around salmon-bearing streams. That information can be found at [epa.gov/endangered-species/endangered-species-protection-bulletins](http://epa.gov/endangered-species/endangered-species-protection-bulletins).

In U.S. Department of Agriculture (USDA) agency reports, Dennis Koong, regional director for the National Agricultural Statistics Service (NASS), reported that the Census of Agriculture was set to be released in mid-February, and the agency was gearing up for their ag resource management survey, which asks growers for more sensitive information, such as finances. Koong said it tends to get a lower response, but that it is important for measuring the economic well-being of agriculture.

Roylene Comes at Night, state conservationist for the Natural Resources Conservation Service (NRCS), said her agency is in the process of contracting and getting Inflation Reduction Act funding on the ground.

Jon Wyss, Farm Service Agency (FSA) state executive director, talked to the WAWG board about the Highly Erodible Land Initiative (HELI), and said there is a significant amount of land in Eastern Washington that could be enrolled in HELI, but isn't. Land in HELI does not have to be located in a conservation priority area to receive additional incentives.

The state FSA is also reviewing Conservation Reserve Program contract stand requirements, and how to work with owners who have tried to — and can show intent — but fall short of the contract requirements.

The state FSA's troubles with the Conservation Reserve Enhancement Program (CREP) continue. Wyss said they've completed their CREP audit and found additional contracts that were approved but shouldn't have been. Because the errors were made by USDA — many of them over a decade ago — producers will not have to repay any money. The state office is notifying producers who are impacted in the near future as they finalize the audit.

The next WAWG state board meeting is scheduled for March 19. ■

## Benton, Spokane growers join WAWG state board

Two new growers, representing Benton and Spokane counties, have joined the Washington Association of Wheat Growers (WAWG) state board.

### Markus Smith, Benton County

Smith lives in Prosser with his wife, Kayla, and their nine-month old daughter, Adeline.

"I've always been interested in representing the wheat industry. I grew up reading *Wheat Life*. With the total population of farmers dwindling, it seemed like it was my turn to step up and do something," Smith explained when asked why he decided to join WAWG's board.



Smith is the 4th generation born and raised on his family's wheat farm in the Horse Heaven Hills, but after attending Walla Walla Community College, he realized the family's farm wasn't big enough to support him. Instead, he headed to North Dakota. ▶



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“My parents said ‘find a job.’ I could have stayed local, but I knew I wanted to get out of Washington,” he said. Using a job site specifically for ag and forestry, he applied to a number of jobs west of the Mississippi River, eventually taking the job on a North Dakota farm, which also sold chemicals and seeds to local farmers. He went from an area that gets 6 to 8 inches of moisture to an area that averages more than 20 inches. During the winter months, Smith worked in the seed plant, cleaning wheat, barley, soybeans, and peas. “It was a great experience, and I got experience working with every side of agronomy.”

Smith stayed in North Dakota for seven years before getting the chance to return to Prosser in 2020 when he was able to acquire enough land to begin farming. The Smiths grow dryland wheat.

### Laurie Roecks, Spokane County

Roecks and her husband, Scott, farm in the Plaza/Spangle area. They started farming in 1998, picking up ground from a retiring farmer. By 2005, they had taken over Roecks’ family farm after Scott’s uncle and then father retired. They grow dryland wheat, barley, peas,

lentils, and garbanzo beans, along with raising a few cows and hay. They’ve switched much of their ground to no-till methods. WAWG is not the first organization Roecks has volunteered at. She has sat on the Pacific Northwest Farmers Cooperative board and is on the Farm Service Agency’s Spokane County committee.

“I’ve also been involved in the Junior Livestock Show of Spokane for the past 20-plus years,” she explained. “Getting people to understand agriculture, that we are not trying to kill them, is super important. I just think we need to educate the public and the youth on the ag industry.”



Roecks attended her first WAWG state board meeting in February and said she hadn’t fully appreciated what WAWG did and how the organization addressed grower issues and priorities. She is excited to get more involved and get others more involved. The Roecks have two grown daughters — and five grandkids — who help out on the farm when needed. ■

## WAWG thanks members

The Washington Association of Wheat Growers would like to thank each and every member of our organization. You, the members, keep the organization strong. The grassroots WAWG is built on keep the leadership, committees and board members moving forward in a positive way. Without your support and activity, WAWG would not be the efficient and effective organization it is today. Thank you for your time and support.

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-STEVE SHEPHERD  
MARY C SIEG  
SILER FARMS INC  
-MIKE SILER  
-NATHAN SILER  
DENNIS & JULLIE SIMMELINK  
SITTON FARMS INC  
SMALL RANCHES  
MYRNA SMITH  
-ROBIN STICE  
STUBBLEFIELD RANCH INC  
STUBBS RANCHES INC  
SUESS FARMS INC  
SUNNY SLOPES JV N  
TANKE JOINT INC  
TODD SCHOLZ FARM  
TREAT FARMS  
TREIBER FARMS INC  
VIVIAN LOOMIS FAMILY LLC  
WALKERS JOINT VENTURE  
WARDEN HUTTERIAN BRETHREN  
-PHILLIP GROSS  
-PAUL WOLLMAN  
WARREN FARMS INC  
WARREN MORGAN ORCHARDS  
WELLER FARMS  
WHEAT & CANOLA JV  
WILBUR SECURITY CO  
WILLIAMS FAMILY FARM  
-CINDY ROHDE  
-HARVEY WILLIAMS  
WILLIAMSON & GEIB TRUST  
WINDY ACRES FARM INC  
WISWALL RANCH  
WM R LYONS & SONS  
-MICHAEL LYONS  
-TIM LYONS

#### MIKE & CHERYL WOODS

#### GROWER

2 A JACOBSEN FARMS INC  
2M FARMS  
3T JV  
4 BELL FARMS LLC  
4 I RANCH LLC  
4 S RANCH  
5 M INC  
5N FARM LLC  
7X FARMS  
A & C VALLEY FARMS INC  
ALAN P HIGGINBOTHAM INC  
FRED ALDERSON JR  
GEORGE ALLISON  
AMBER FURROWS INC  
AMBER LAKE FARMS INC  
AMERY FARM  
AMSCO INC  
ANDREWS & ROWELL  
ANTE UP INC  
ANTHONY J SMITH FARMS LLC  
MARK APPLEFORD  
MIKE ARCHER  
ARCHER FARMS  
ART DRUFFEL FARMS  
ART/LINDA ZELLMER INC  
ARTHUR MENKE FAMILY TRUST  
B & P FARMS INC  
B & T FARMS  
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BJK FARMS INC  
BLAIN RANCH  
BILL BLESSINGER  
KURT BLUME  
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BOB'S BOY INC  
BOERSMA FARM INC  
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MARK BOOKER  
MERLE BOOKER  
BOOKER & SON INC  
BOW TIE FARMS INC  
BOWDISH FARMS LLC  
BRAUN FARMS INC  
BRENT BAIR FARMS  
BREWER BROS LLC  
BROCK RANCH  
BROWN & FORD  
BROWNE RANCH  
BRUCE & DIANA CARLSON INC  
MICHAEL D BUCKLEY  
BUCKSHOT FARMS INC  
BUOB FARMS INC  
BURKHART FARM  
GARY BYE  
C & E FARMS  
CARGRAIN FARMS INC  
CARICO HILLS INC  
CARLTON FARMS INC  
-DAVID W CARLTON  
-LUKE MCNEIL  
CARPENTER FARMS  
KYLE CARSTENS  
NORMAN CAVADINI  
CHABRE BROTHERS  
DARYL CHESTERMAN  
CHRISTENSEN FARMS  
ASA CLARK  
CLASSIC FARMS  
CLAUSEN RANCH  
CLERF FARMS INC  
J RICHARD CLOANINGER  
COCHRAN FARMS  
COCHRANE SONS FARM  
COCKING FARMS LLC  
COLUMBIA VIEW FARMS  
COORDES FAMILY JV  
CORKRUM & DERBY RANCH  
COULEE CREEK FARMS  
COULEE HITE ENTERPRISES  
INC  
COVELLO CELLARS  
CRC FARMS INC  
CROSBY FARMS INC  
CSI  
CT MYERS FARMS INC  
CUNNINGHAM FARM  
ROBERT M CUTLER  
D & D ROBERTS JV  
D & M FARMS  
D & M LANGE JV  
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D&L BAUER FARMS  
D2 RANCH LLC  
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DEIFE FARMS INC  
DEISHL FARMS  
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DERUWE L&F INC  
DESERT ACRES INC  
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DIAMOND-S FARMS INC  
DICK LEDGERWOOD &  
SONS INC  
DIRKS FARMS INC  
DIXON LAND & LIVESTOCK  
DODD FARMS  
DONALD E MORTON INC  
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DOUBLE 1 RANCH LLC  
DOUBLE M RANCH  
DOUBLE P RANCH  
DOUBLE S FARM INC  
DOUBLE Z FARMS  
DOUBLETREE RANCHES INC

-ELLWOOD BROWN  
-NEAL BROWN  
DOWLING BROS INC  
DREAM BIG ADVENTURES  
DUANE LASHAW FARMS INC  
DUANE WIDMAN FARM  
RANDY DUNCAN  
DUTCH FLAT ANGUS LLC  
E & L FARMS INC  
E & S APPEL FARM  
EARTHBOURNE RESOURCES  
INC  
ECKHART FARMS LLC  
ELMER C ANDERSON INC  
ELY RANCHES  
ERDMANN FARMS INC  
ESQUIRE FARMS II INC  
ESLICH FARMS INC  
EVANS & SON JV  
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F R W FARMS  
FARM-RITE INC  
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G & J HAMILTON FARMS INC  
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GFELLER RANCHES INC  
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DIRK A GLESSNER  
GMC JV  
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GORDON & GORDON FARMS LP  
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GREEN ACRE FARMS INC  
GREEN HOLLOW FARM INC  
GRIGG FARMS LLC  
H JACOBS FARMS INC  
HAMILTON GRAIN  
HANNING CATTLE  
HARDING FARMS  
DENNIS HARDY  
HARLOW LAND CO INC  
HARTLAND LLC  
KYLE HAWLEY  
HEATHMAN FARMS INC  
MARCIA HENKLE  
HENNING FARMS JV  
HERRES LAND CO  
HG ETC LLC  
HI VALLEY FARMS INC  
HILLCREST FARMS INC  
HOLLENBACK FARMS INC  
CASEY HOLLING  
HOOD FARMS  
WILLIAM HOUCHIN  
HOWE FARMS INC  
HUDLOW INC  
HUNT FARMS  
-DEREK HUNT  
-SCOTT A HUNT  
HUNTLEY FAMILY JV  
INLAND EMPIRE MILLING CO  
ISAAK LAND INC  
IVY FARMS INC  
J & S MOON FARM INC  
J & S MYERS INC  
J H MILLER & SON INC  
J T D RANCHES INC  
J VOWELS FARMS INC

J&B SHERWOOD INC  
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JDK FARMS INC  
JENSEN FARMS INC  
JERRY DORMAIER FARMS INC  
JG FARMS INC  
JIM BAUER & SONS FARM INC  
JK TEE FARMS INC  
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JOHN DRUFFEL FARMS INC  
JOHN V ADAMS INC  
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JONES FAMILY FARMS  
JORDAN FARMS  
BETTY L JORGENSEN  
KEITH JORGENSEN  
JORGENSEN BROS JV  
JORGENSEN FARMS JOINT  
VENTURE  
JR FARMS INC  
JRM & M FARMS  
JSJ FARM INC  
JW & K FARMS LLC  
K & D K JACK FARMS INC  
-DAVID J KJACK  
-KENT D KJACK  
K & L FARMS  
K & M FARMS INC  
K A LUFT FARMS  
KAGELE ACRES INC  
KD DID INC  
KEATTS FARMS INC  
KELLEY BROTHERS  
KEVIN SCHOLZ INC  
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-KENT D KJACK  
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KREGGER FAMILY FARMS INC  
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L & P FARMS INC  
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LARRY CONOVER FARM  
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TRACY L LESSER  
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GERALD L LIPPS  
LLEWELLYN FARMS INC  
LOGEN INC  
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LUTZENBERGER FARMS  
JOHN LYONS  
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MALONE FARMS  
MANN FARM  
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MASTERTON RANCH  
MATT LYONS INC  
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MCCARTY RANCHES  
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MCGREGOR LAND &  
LIVESTOCK CO  
PAT MCKEIRNAN  
MCKINNEY FARMS  
DAVID M MCNEILLY  
MEADOWVIEW JV  
MERRITT FARMS  
MGP FARMING LLC  
MHB FARMS  
MICHAEL HAND FARMS  
MIDDLETON SIX SONS  
FARMS LLC  
MIELKE INC  
MIKE RESER FARMS INC

DEAN MILLER  
KEVIN L MOELLER  
JASON MONSON  
MONSON BROTHERS INC  
DEVIN MOON  
MOON FAMILY FARM  
TOM MOORE  
MOORE - 2 FARMS  
PHILIP E MOORE JR  
MORASCH FARMS  
MOREL FARMS INC  
MPJ FARMS INC  
MR STOCK & STUBBLE INC  
MUD CREEK FARMS  
MURISON FARMS JV  
NANCY A MCKINNON POA  
NAUGHT RANCHES INC  
-DAVID CLINTON  
-STEPHEN NAUGHT  
NEACE FARM  
NELSON FARMS INC  
NIBLER FARMING  
NICK & DALE DRUFFEL  
PARTNERSHIP  
NN BAR FARMS  
NOLLMEYER FARMS JV  
NORM DRUFFEL & SONS  
NORRIS RANCHES INC  
NOSTAW FARMS INC  
NULT FARMS INC  
NW FARMS INC  
OCHLARE FARMS INC  
OVERTIME FARMS INC  
JOEL PENFOLD  
PENNALLURICK HEIRS GP  
THOMAS M PETERSEN  
PIERRET INC  
PIPER FAMILY TRUST  
PLUCKER FARMS ONE LLC  
PM ROSMAN FARMS INC  
POE GRAIN & LIVESTOCK INC  
H THOMAS POOLE  
CAROLYN PRIEST  
PROUDFOOT RANCHES INC  
R & D ENTERPRISE INC  
R & J ZELLMER  
R & K FARMS INC  
R & L LYONS FARMS  
R & M MCHARGE FARMS INC  
R & R COX FARMS INC  
R & R HALVORSON INC  
R & R INC  
R FARM  
R2 AG INC  
LOUIS F RAAP  
RADACH FARMS INC  
RAY STORY FARMS INC  
RCM FARMS LLC  
RDF FARMS INC  
REBEL CREEK FARMS INC  
TABITHA REILLY  
HOWARD REIMER  
RENNEWANZ FARMS LLC  
RICHARDSON & SON INC  
ROBERT H WEST FARM  
ROBERT OR ANNA REA FARMS  
ROBISON FARMS CO  
ROCK ROSE FARMS INC  
ROCKING 808 RANCH LLC  
ROD HUBNER FARMS  
RODGER LEHN FARM  
ROECKS FARMS  
ROGER ETTER FARMS  
ROY KINZER FARMS INC  
SADDLE MT HOMESTEAD  
SAGEBRUSH FLATS FARM  
SANDRA CADIEU TRUST  
SCHLEE FARMS INC  
SCHOONOVER FARMS  
SCHORZMAN FARMS JV  
MICHAEL P SCHRAG  
SCHREINERTUTTLE FARMS INC  
SCHU FARMS INC  
GREG SCHULTZ  
SCHWARTZ RANCH LLC  
SCRUPPCO INC  
PHILIP M SEALOCK  
MATTHEW SEIBLY  
SEMINGSON LLC  
SENEY LAND & LIVESTOCK JV  
SHAWVER FARMS  
TOM SHEER  
SID MAYERBERRY INC

SIEG BROTHERS JV  
CORDE SIEGEL  
SIEVERKROPP FARMS INC  
SILVER CREEK FARMS INC  
JUSTIN P SIMONSON  
SIMONSON FARMS INC  
SITTON FARMS INC  
SJ FARMS  
SKOG ENTERPRISES LLC  
SLR FARMS INC  
SMITH FARMS INC  
SONRAY FARMS INC  
SPEAR J RANCH  
SPRING CREEK ACRES LLC  
SQUAW CANYON SHOOTERS  
INC  
STEVE GFELLER INC  
STEVE KRUPKE FARMS JV  
STEVENS FARMS INC  
STONE FARMS INC  
STONECIPHER & SONS INC  
STONECIPHER RANCHES LLC  
STONSDORF FARMS INC  
SUNNY A FARMS & SERVICES  
SUNRIDGE FARMS INC  
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SWANNACK FARMS INC  
SWITZLER CANYON RANCH  
T FARMS INC  
MATTHEW L TALBOTT  
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TEMPLIN FARM SERVICE INC  
TERRY HARDING INC  
TEXAS DRAW FARMS LLC  
GUY THERRIEN  
THOMAS FARMS  
JOHN THOREN  
BRIAN K TIEGS  
TIM LEBER FARMS  
TIM SCHULTZ FARM  
TIMM FARMS INC  
TIMM-RUSH INC  
TODD KIMBALL FARMS  
TOM DOWNS FARMS INC  
TOM PERINGER FARM  
TR REAPERS INC  
TRIPLE S FARM PARTNERSHIP  
TUCANNON AG PARTNERSHIP  
LLC  
TURNER FARMS  
UNION CREEK NORTH LLC  
URBAT FARMS INC  
V W FARMS LLC  
LEONARD R VAN BUREN  
VAN HOLLEBEKE LIVESTOCK JV  
VERNICE & HENRY MEINERS  
TRUST  
VINTI FARMS  
ALAN VOISE  
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W & L FARMS INC  
W A L RANCH INC  
W W FARMS  
WAINSCOTT BROTHERS  
REGIE WALDHER  
DONALD E WALKER  
WALLA WALLA RIVER  
ESTATES LLC  
WALLI FARMS INC  
WARREN FARMS INC  
WATKINS FARMS INC  
WATSON FARMS INC  
KELLI WEBER  
WEBER FARMS INC  
WEBER RIDGE FARMS INC  
WEIZLE - LENHART FARM  
WELLESLEY FARMS INC  
WELLSANDT FARMS INC  
WERNZ FARMING  
WEST HILLS JOINT VENTURE  
WEST WHITMAN FARMS INC  
WHEAT FARMING  
WHITE FARMS  
WHITE FARMS  
WHITE FARMS JV  
WHITEHALL FARMS INC  
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AGWEST FARM CREDIT  
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B & R AERIAL CROP CARE INC  
BARR-TECH COMPOSTING  
BROCK LAW FIRM  
CF INDUSTRIES INC  
COBANK  
COLUMBIA GRAIN INC  
-CLARKSTON OFFICE  
-LIND OFFICE  
-PULLMAN OFFICE  
CORTEVA AGRISCIENCE  
ED POE AGENCY INSURANCE  
FARM & HOME SUPPLY INC  
FLY FAB  
FOUR STAR SUPPLY INC  
HIGHLINE GRAIN GROWERS  
INC  
JW & ASSOCIATES PLLC  
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KIRKPATRICK UTGARD &  
PERRY PS  
L & G RANCH SUPPLY  
LEFFEL OTIS & WARWICK PS  
-DAVENPORT OFFICE  
-RITZVILLE OFFICE  
-WILBUR OFFICE  
LEWIS CLARK TERMINAL INC  
LIND DRAGON EXPERIMENT  
STATION  
LLOYDS INC & BLUE  
MOUNTAIN INSURANCE  
MCDONALD ZARING  
INSURANCE  
MCKAY SEED CO INC  
MID-COLUMBIA INSURANCE  
INC  
NELSON IRRIGATION  
CORPORATION  
NIELSEN INSURANCE  
NORTH PINE AG EQUIPMENT  
INC  
NORTHWEST GRAIN  
GROWERS INC  
NUTRIEN AG SOLUTIONS  
PALOUSE GRAIN GROWERS  
INC  
PASSMORE AVIATION  
PERKINS & ZLATICH CPA'S PS  
PLANT HEALTH  
INTERNATIONAL  
PNW AG NETWORK  
PNW FARMERS COOPERATIVE  
INC  
POMEROY GRAIN GROWERS  
INC  
SCHMIDT INSURANCE  
SVCS INC  
SMITH FARMS  
STATE BANK NORTHWEST  
-GARFIELD OFFICE  
-ROCKFORD OFFICE  
STOESS MFG INC  
THE MCGREGOR COMPANY  
-CLARKSTON OFFICE  
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-CRESTON OFFICE

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2 C RANCH LLC  
3 G CORP  
3B'S PROPERTIES LLC  
4-1 RANCH LLC  
5B FARMS INC  
7JK RANCH  
A & D LUST FAMILY LLC  
A & P FARMS LLC  
JANET ABRAMS  
KAY ADAMS  
AGVENTURE LLC  
STEVE AHLER  
AHRENS FARMS INC  
ANDERSON RANCHES  
APPEL VALLEY FARM  
SYLVIA ARBELBIDE  
ARLAND FARMS  
MERLE E ARMSTRONG  
ARMSTRONG FAMILY FARM  
TRUST  
RALPH ASHMORE  
ASPEN CAMP RANCH  
ROBERT A AUVIL  
BANRAC LLC  
BAR TEN RANCHES LLC  
BARNES FAMILY PROPERTY  
TRUST  
BAUER FAMILY FARM  
PARTNERSHIP  
BAUMAN & SON INC  
JOHN BAUMANN  
BEARD FAMILY FARM LLC  
CLIFFORD D BERGERON  
BERRES LESSER IV TRUST  
BERRYMAN  
GRANDCHILDREN'S RANCH  
BEST ACRES  
BLACK DOG FARMS  
BREWER FARM  
JANINE BRODINE  
DALE BROECKEL  
BROUGHTON LAND CO  
TERESA A BROWN  
GARY F BROWN  
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BSJ SHIELDS FARMS LLC  
BUOB FARMS  
BUSE CONNECTION  
BARRY BUTH  
BYRAM FARMS LLC  
DICK CAMP  
CAP FARMS LLC  
CARCO FARMS INC  
CARLSON FARM LLC  
BARBARA CARMACK  
HENRY P CARSTENSEN JR  
CBO - OE - JCM LLC  
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CLOANINGER FARMS  
COGSWELL FAMILY FARM LLC  
PAUL COLLARD  
COLLARD HEIRS FARM  
AGENCY  
COLUMBIA CO RANCH  
CONOVER RANCHES  
COPELAND FARM LLC  
-DON J FERREL  
-MATTHEW FERREL  
CORDERMAN HILLS JV  
CRABTREE HOMESTEAD LLC  
GM CROSS  
CROWS NEST AG INC  
CT MYERS FARMS INC  
CVENGROS FARM & FAMILY  
LLC  
D & D SOLBRACK LLC  
D & P ELDER FAMILY LLC  
D&S POTTRATZ FARMS INC  
SHIRLEY DALING  
DANAHER FARMS  
BARBARA DANFORTH  
DAVIS ARNEIL LAW FIRM LLP  
DEEP CANYON RANCH  
SUSAN DELLWO  
DINGMAN FARMS  
DON & NONA REINBOLD  
FAMILY LLC  
DON KAGELE FARMS INC  
DONALD G HARRIS  
TESTAMENTARY TRUST  
DONEGAN FARMS  
RANDALL DONOHUE  
DUANE DORMAIER  
DOROTHY L JAEGER LIVING  
TRUST  
DOUBLE D RANCHES  
DOUBLE U RANCHES  
JAMES DOUGLAS  
DONNA J DOUGLASS  
DP JOINT VENTURE  
DRY CREEK FARMS  
EILEEN DUNN  
DURHEIM LLC  
DWYLA DONOHUE  
ENTERPRISES INC  
EDGAR L SMITH INC  
EDNA ROSE CLOANINGER  
FARMS LLC  
EL & JH RAY FARMS LLC  
ELIE GANGUET FARM  
-DIANNE GANGUET RUGG  
-JUNE GANGUET MEINERS  
VALERIE ELLIOTT  
ELLIOTT RANCH LLC  
JAMES ELS  
EM-BREN FARMS INC  
RICHARD EMTMAN  
DAVID ENSOR  
ENSOR FARMS  
ESTATE OF MARY LOU  
GONSETH  
EUBANKS FARM  
F & H FARM LLC  
F & R INC  
FAIRVIEW FARMS  
KATHLEEN FARRENS  
CRAIG FEENAN  
FELGENHAUER FARMS  
-AL ANDERBERG  
-SALLY BAIRD  
FIVE-O LLC  
CHARLENE FLANIGAN  
SHANNON FLEMING  
FOSTER CREEK RANCH  
FOX CIRCLE FARMS  
NANCY FRANZ  
MARGARET FRANZ ROBINSON  
FREDRICK A LITT FARM TRUST  
MONA M FRERIKS  
FRICKE FARMS  
CRAIG FRITTSCH  
FULLER FAMILY FARM LLC  
G & D FARMS INC  
GAFFNEY FARM  
GANGUET FARMS LLC  
GCA FARMS LLC  
DEE LEE GIBSON

PATRICK H GIES  
GLEN CARLTON FARMS LLC  
GOLDSWORTHY RANCH INC  
GOODWATER ENTERPRISE INC  
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GORMLEY FARMS  
-BENJAMIN BROWER  
-KATHLEEN G LOVELAND  
CAROLINE M GORMLEY  
GOSE FAMILY 1995 LIVING  
TRUST  
GOSE FARMS GAR LLC  
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GRAY FARMS  
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# Shield Your Fields Against Post-Drought Conditions

It's no secret that weed control is an ongoing issue for growers that demands year-round attention. In 2023, an array of new challenges were ushered in and, while they didn't go anywhere, rising weed pressures took a back seat to the prolonged drought that swept across the Midwest with conditions less suitable for rapid weed growth.

Many growers debated herbicide applications to reduce stress on their crops brought on by the hot and dry conditions, but now their fields are paying the price. When the rain finally did come in the latter part of the year, it came with an increased threat of post-emergent weeds, leaving growers wondering about the potential repercussions for their crops.

As weather conditions grow increasingly erratic, it's time for growers to say goodbye to the wait-and-see approach and take action to eliminate any unwanted weeds before they make an appearance. By adopting a preventative plan to control broadleaf grasses in their spring wheat, growers help ensure their crop is primed for success.

## Simplifying the Application

---

For over two decades, growers have trusted the power and performance of Beyond® herbicide for Clearfield® production system in wheat, rice, sunflowers, lentils, and canola, and Raptor® herbicide for alfalfa, dry beans, and a variety of other crops. Both boasted the same chemistries, yet were tailored to different cropping systems.

With the introduction of Beyond Xtra herbicide, BASF combined Beyond and Raptor herbicides into one do-it-all label, making weed management easier than it's ever been before. With no change to the formula, Beyond Xtra herbicide will continue to help provide industry-leading protection against more than 40 tough grass and broadleaf weeds plaguing growers' fields, including downy brome, Japanese brome, goatgrass, and mustards.

"Beyond Xtra herbicide is a powerful post-emergence herbicide designed to deliver the same long-lasting weed control and broad-spectrum applicability that growers have come to expect from Beyond and Raptor herbicides," said Josh Putman, Technical Marketing Manager for BASF. "With the same great benefits they've come to know, growers have what they need to help protect their yield potential against the unpredictability of each season."

With new challenges emerging each season, taking a proactive approach to weed control is the best defense.

"The unusual hot and dry conditions that we experienced last year could very well result in increased weed pressure this spring, so it's important for growers to decide on a weed management strategy as early as possible," Putman said. "By using Beyond Xtra herbicide, growers can feel confident they have the best tools in their toolbox to help keep their crops healthy and strong, no matter what the season brings."

For more information, contact your local BASF representative or visit [Beyond-Xtra.com](https://www.beyond-xtra.com).

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Herbicide

**BASF**  
We create chemistry



# POLICY MATTERS

## State legislature turns focus to passing budgets

By Diana Carlen

Lobbyist, Washington Association of Wheat Growers

*Editor's Note: This report is current as of Feb. 25. For the most up-to-date information on the legislative session, see [wawg.org](http://wawg.org).*

The Legislature is nearing the end of 2024's 60-day session, and the past few weeks have been filled with committee hearings on bills from the opposite chamber and rollouts of the state's supplemental operating, capital, and transportation budgets. Now that all the budget proposals have been released, the differences between the House and Senate proposals will need to be reconciled. The session ends on March 7.

### Quarterly revenue forecast released

Four times a year, the Washington State Economic and Revenue Forecast Council adopts a bipartisan revenue forecast that is then used to build and adjust the state's biennial budgets. On Feb. 14, budget writers received the final piece of data needed to complete a supplemental operating budget proposal when the latest revenue forecast was released.

Washington's economy is projected to generate \$67 million for the two-year budget cycle that began last July, up \$122 million from the last forecast in November. Overall, collections are now up \$1.3 billion since legislators adopted the budget in the 2023 session.

### Supplemental budget proposals unveiled

The Senate and House have each rolled out their proposed budgets for this session. Our state runs on a two-year budget cycle. This is the second year of the cycle, so these are supplemental budgets that make tweaks to the budgets from last session.

The House and Senate proposed supplemental operating budgets look similar. Both

budget proposals assume \$1.1 billion for maintenance level funding, however, new spending varies a little, with the Senate proposing \$722 million in new investments, and the House answering with a \$1.1 billion price tag. Another area of difference between the two is a variation in Climate Commitment Act (CCA) dollars spent. The Senate proposal includes \$280 million, while the House takes a slightly lower approach with \$237 million.

Both proposals include \$30 million to pay farmers who bought fuel for agricultural purposes but had to pay a surcharge due to the CCA. Under the CCA, fuel used for agricultural purposes is supposed to be exempt from these kinds of added fees. The rebates would begin being issued by Sept. 1 by the Department of Licensing based on a tiered system. The \$30 million is well below the \$150 million that the Farm Bureau estimates is needed to cover the carbon surcharges paid by farmers since the CCA went into effect.

Farmers who bought fewer than 1,000 gallons of fuel would be eligible for a \$600 refund. Farmers who bought up to 4,000 gallons would get \$2,300. Farmers who bought more than 4,000 gallons would get \$3,400. The Senate proposal has a fourth tier that provides \$4,500 for farmers who purchased more than 10,000 gallons of fuel.

Both chambers have passed their operating budgets. Now negotiations get serious with final agreement expected a couple days before the session ends on March 7.

### EPR bill dead this session

For the second year in a row, the Re-Wrap Act (2SHB 2049) died on the House floor. The Re-Wrap Act would have established an Enhanced Producer Responsibility (EPR) program and set standards for postconsumer recycled content in consumer packaging and paper products.

SHB 2049 was not brought up for a full vote of the House because it did not have the votes to pass the House chamber due to a competing recycling proposal, HB 1900. HB 1900 did not establish an EPR program, but instead would have built off the state's existing recycling program.

### Hearings for three of the initiatives

Senate Majority Leader Andy Billig and Speaker of the House Laurie Jinkins announced that public hearings would be held on only three of the six initiatives that have



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been filed with the Legislature. Public hearings will be held on:

- Initiative 2111- Prohibiting the state, counties, cities, and other local jurisdictions from imposing an income tax.
- Initiative 2113- Establishing a bill of rights for parents with kids in public schools.
- Initiative 2081- Restoring the authority of police to engage in a pursuit when there is reasonable suspicion that a person has violated the law.

The following initiatives will not receive hearings or floor action and will directly go to the November ballot for voters to decide:

- Initiative 2117- Repealing the state’s Climate Commitment Act.
- Initiative 2109- Repealing the state’s capital gains tax.
- Initiative 2124- Allowing people to opt out of the state’s long-term care tax.

The Senate and House were scheduled to hold joint public hearings on I-2111, I-2081 and I-2113 on Feb. 27 and 28. If the Legislature ends up passing any of the initiatives, only a simple majority is required for passage in each chamber. Initiatives to the Legislature do not need the governor’s signature. If passed by the Legislature, they become law. ■

## Industry supports Port’s snail eradication efforts

In late January, Washington Association of Wheat Growers President Anthony Smith joined Washington Grain Commission Chairman Ben Barstow in supporting the Port of Tacoma’s petition to eradicate an invasive snail.

*Ceriuella virgata*, also called the vineyard snail, was first detected at the Port in 2005. The snails feed on and contaminate field crops including wheat, barley, oats, peas, and canola, and clog machinery. They could also give overseas trading partners a reason to restrict imports from Pacific Northwest ports to avoid contamination.

The initial infestation was approximately 300 acres, but eradication efforts have confined the snails to about an acre. Unfortunately, that acre is classified as a wetland, which restricts traditional treatment methods.

“We appreciate the myriad of mitigation practices that have been employed by the Port of Tacoma and the Washington Department of Agriculture over the last 15 years to contain this infestation. However, the serious risk of spreading remains, which puts our industry and state

economy at great risk,” the letter states. “The U.S. grain industry today faces many challenges, including greater competition on the global market, more demanding customers and consumers, record high input costs, and agronomic obstacles like extreme weather, weed resistance, and pests. If this species is allowed to become established in the PNW, it will be another serious risk to the livelihood of Washington grain producers and will very likely require the use of millions of pounds of additional pesticides to control it. It would be a missed opportunity not to eliminate the Mediterranean vineyard snails before they create grave economic problems for Washington.” ■

## Thompson named NAWG’s 2023 Wheat Leader of the Year

The National Association of Wheat Growers (NAWG) awarded Chairman **Glenn “GT” Thompson** (R-Pa.) with its 2023 Wheat Leader of the Year Award for his work as chair of the House Agriculture Committee. NAWG president and Oregon wheat farmer, Brent Cheyne, presented the award to Chairman Thompson during a recent visit to Washington, D.C.



“On behalf of NAWG, I thank Chairman Thompson for the work he has done on behalf of wheat growers nationwide,” said Cheyne, “The 2023 Wheat Leader of the Year Award is the highest honor wheat growers can use to recognize legislators, and it finds the most deserving recipient in Chairman Thompson.”

The Wheat Leader of the Year is the wheat industry’s highest legislative award and is given annually by NAWG to one member of Congress, whose commitment and support to the wheat industry goes above and beyond. NAWG also presented 19 members of Congress with its Wheat Advocate Awards for their exceptional support of the wheat industry during 2023, including Reps. Dan Newhouse (R-Wash.) and Cathy McMorris Rodgers (R-Wash.). ■

## How are we doing?

Like something you read in *Wheat Life*? Disagree with something you read in *Wheat Life*? Let us know by emailing your comments and suggestions to [editor@wawg.org](mailto:editor@wawg.org) or mail them to 109 East First Avenue, Ritzville, Wash., 99169-2394. Submissions may be edited for length. ■

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## Wheat breeding: Fact vs. fiction

Wheat breeding. Two words that bring up another batch of confusion, emotion, and misinformation. Is wheat GMO? Is today's wheat making us sick? Is wheat different today from wheat grown 100 years ago?

Wheat breeding starts like any other crop — with plant genetics. Growers share challenges they are dealing with in the field or in the marketplace, and researchers work to solve some of those challenges within the wheat plants themselves. Drought tolerance, higher protein, or higher yields are some of the goals. In Washington, growers partner with public universities or private companies to research improved varieties.

The wheat grown around the world today came from three grassy weed species that naturally hybridized around 10,000 years ago. The past 80 years of wheat breeding have essentially capitalized on the variation provided by wheat's hybridization thousands of years ago and the natural mutations that occurred over the millennia as the wheat plant spread around the globe. There is no crop plant in the modern, developed world that is the same as it first existed when the Earth was formed, nor is the environment the same.

There is no mystery to wheat breeding. To breed new varieties, breeders employ two basic methods:

- Conventional crossing combines genes from complementary wheat plant parents to produce new genetic combinations (not new genes) in the offspring. This may account for slightly higher yield potential or disease and insect resistance relative to the parents.
- The second method is to introduce genes indigenous to ancestral or related species of modern-day wheat and gradually incorporate them into a new wheat variety with minimal contribution of DNA (typically less than 5%) from the ancestral species. This method still employs crossing, not genetic engineering.

It is very important to realize that either method capitalizes on variation already found in wheat's lineage.

In the 1960s, developmental efforts, experimental lines, and varieties were shared with researchers around the world. In subsequent years, wheat production in Mexico, India, and Pakistan increased tremendously, and millions of people who otherwise would have likely died



of starvation or malnutrition were able to live and have food. Thus remains the primary goal of today's wheat breeders — to make this ancient plant meet the demands of a rapidly growing human population. All farmers rely on plant breeders to develop varieties that can combat constantly evolving pests and diseases and shifting climatic conditions.

In the U.S., scientists are all committed to research that will help us understand the full breadth of the wheat genome. This forward motion is desperately needed to find beneficial traits critical to keeping wheat available and affordable. Wheat is not alone; research and breeding are absolutely essential in all food crops because agricultural production must increase to match population growth.

Wheat breeding utilizes genetic resources previously or currently consumed by the public. New wheat varieties must meet stringent quality standards because wheat is used in a wide range of products, from breakfast foods like whole grain cereals, to everyday staples such as bread, pizza, and noodles, to treats like beer, cake, and cookies.

The science behind wheat breeding is not a mystery. We encourage consumers to continue learning more about the food they eat and the peer-reviewed science behind the stories and books written. ■

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# In the news

## WASHINGTON WHEAT INDUSTRY'S DAM ADVOCACY MAKES NATIONAL OUTLETS

By Trista Crossley  
 Editor, *Wheat Life*

Since the Biden Administration officially announced an agreement with plaintiffs to litigation regarding the lower Snake River dams in December, wheat industry leaders haven't stopped advocating for the dams in local and national news.

"There is so much misinformation out there regarding the dams and how critical they are to our region, we welcome the national spotlight and the chance to educate the public and Congress," said Michelle Hennings, executive director of the Washington Association of Wheat Growers (WAWG). "Agricultural voices were largely excluded from discussion of impacts and any commitments for funding and mitigation. We are working with our allies in Congress to ensure the integrity of the lower Snake River dams."

In return for up to a 10-year stay of litigation, the federal government plans to invest more than \$1 billion in fish restoration efforts in the Columbia River Basin and commits to supporting the development of Tribally sponsored clean energy production projects that could eventually replace the energy generated by the dams.

### Commenting on the "Damn" Act

In January, several members of the Pacific Northwest's congressional delegation introduced the "Defending Against Manipulative Negotiators Act," which would prohibit the use of federal funds from being used to breach or alter the dams and to prohibit the implementation of the Columbia Basin Restoration Initiative.

WAWG provided the following comment that was widely used in press releases and on Fox News:

"The Washington Association of Wheat Growers (WAWG) applauds the introduction of the Defending Against Manipulative Negotiators Act by Rep. Dan Newhouse. The lower Snake River dams are vital to the livelihood of Washington's wheat farmers. Any alteration or breaching of these dams would negatively impact our ability to transport wheat, thus causing adverse impacts to local businesses, including family-owned farms, and the broader regional economy."

Newhouse (R-Wash.) was joined by Reps. Cathy McMorris Rodgers (R-Wash.), Lori Chavez-DeRemer (R-Ore.), Russ Fulcher (R-Idaho), and Cliff Bentz (R-Ore.) in introducing the bill.



Washington Association of Wheat Growers' executive director, Michelle Hennings, appeared on Fox News to talk about the dams.

### Fox News interview

In a live Fox News interview on Jan. 28, Hennings stressed the importance of the dams to the nation's ability to transport commodities across the world.

"We utilize the system to transport our commodities overseas. We have corn, soy, and wheat coming through our system from the Midwest. The reliability is absolutely vital for us as 90% of Washington wheat is exported. We feed our nation along with others, so it's very important that we keep our transportation system in place," she said.

The clip can be seen on WAWG's YouTube channel at [youtube.com/@washingtonassociationofwhe3019](https://youtube.com/@washingtonassociationofwhe3019).



Washington Grain Commission CEO Casey Chumrau testified in a House Energy and Commerce Committee subcommittee hearing in Washington, D.C.

### House hearing

On Jan. 30, Washington Grain Commission (WGC) CEO Casey Chumrau testified in a House Energy and Commerce Committee subcommittee hearing in Washington, D.C., titled, "Exposing President Biden's Plan to Dismantle the Snake River Dams and the Negative Impacts to the U.S." ▶



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The hearing was announced by Committee Chair Cathy McMorris Rodgers (R-Wash.) and Energy, Climate, and Grid Security Subcommittee Chair Jeff Duncan (R-S.C.). In the announcement, the chairs said, “The Columbia River System and the lower Snake River dams are the beating heart of the Pacific Northwest, yet that hasn’t stopped the Biden Administration from apparently colluding with special interest groups to lay the groundwork to remove them. We are deeply disturbed by the blatant disregard for the enormous hydropower, irrigation, and navigation benefits these dams provide, as well as a willingness to ignore the voices of those who depend on the dams the most. It’s past time for full transparency from the Biden Administration. This hearing will provide an opportunity to expose how its plans will destroy people’s lives in Eastern Washington.”

In her testimony, Chumrau emphasized the reliability of the U.S. transportation system that allows wheat, corn, and soybeans to be shipped safely and efficiently through the Pacific Northwest (PNW) to customers around the world.

“Any disruption to that system would hurt our ability to consistently provide abundant, high-value food products and would weaken the competitiveness of U.S. producers in global markets. Grain growers in PNW states are at the tip of the spear of those who would feel the disruption of having to divert export goods to trucking and rail because there is insufficient alternative transportation infrastructure to replace the barge shipments of grain along the Columbia-Snake River System to export markets,” she testified.

Besides Chumrau, the committee heard testimony from representatives of the Council on Environmental Quality; the U.S. Department of Energy; the National Oceanic and Atmospheric Administration; the Bonneville Power Administration; the Confederated Tribes and Bands of the Yakama Nation; Pacific Northwest Waterways Association; and the National Rural Electric Cooperative Association.

The hearing is available at [energycommerce.house.gov/events/energy-climate-and-grid-security-subcommittee-hearing-exposing-president-biden-s-plan-to-dismantle-the-snake-river-dams-and-the-negative-impacts-to-the-united-states](https://energycommerce.house.gov/events/energy-climate-and-grid-security-subcommittee-hearing-exposing-president-biden-s-plan-to-dismantle-the-snake-river-dams-and-the-negative-impacts-to-the-united-states).

### River fly-in

In February, Hennings led a group of Columbia-Snake River System users on a fly-in to Washington, D.C., to meet with congressional leaders. The group represented stakeholders from multiple sectors that rely on the river system, from energy to shipping to recreation. She said the purpose of the trip was to present a coalition of stakehold-



A group of Columbia-Snake River System stakeholders traveled to Washington, D.C., to talk to members of Congress about the importance of the dams. Front row, from left, are Jeremy Nielsen, president of the Columbia River Pilots; Anthony Peña, government relations manager for the Pacific Northwest Waterways Association; Michelle Hennings, executive director of the Washington Association of Wheat Growers; and Scott Corbitt, general manager for the Port of Lewiston. Back row, from left, are Kurt Miller, executive director of the Northwest Public Power Association, and Leslie Druffel, outreach coordinator for The McGregor Company.

ers who are united in protecting the dams and to highlight the national impacts breaching the dams could have.

Besides Hennings, the trip included Jeremy Nielsen, president of the Columbia River Pilots; Kurt Miller, executive director of the Northwest Public Power Association; Anthony Peña, government relations manager for the Pacific Northwest Waterways Association; Leslie Druffel, outreach coordinator for The McGregor Company; and Scott Corbitt, general manager for the Port of Lewiston. Each stakeholder came prepared with a one-page fact sheet that they presented; Hennings focused on the reliability and transportation aspects of the river system.

“One of the key points we shared with Congress is that the future of the lower Snake River dams isn’t just a regional issue. It is a national issue, because policies established for our dams will set a precedent for all river-dependent economies. The time to stand up for our communities is now,” said Miller.

“For me, this was the most impactful trip I’ve ever had

to Washington, D.C. We had a great cross section of river users who, with Michelle's help, reduced a million talking points down to just two for each of us. It was a well-choreographed session in each office we visited, always leaving room for questions before we ran out of our allotted time. I think we logged over six miles of walking the first day, another four the next — certainly not an idle trip," Druffel said.

"The fact that we had stakeholders with us from the different areas of Columbia-Snake River commerce really made the trip worthwhile," Corbitt said. "We could talk through

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an issue and move it upriver and then down with our own perspectives. I think it made our messages to the members impactful.”

“We went to Washington, D.C., with a clear purpose — to amplify the needs and interests of our river communities in the ears of lawmakers. The Columbia-Snake River System, shaped by almost 100 years of federal investment, is a critical asset for our region’s environmental sustainability and economic success. The unanimous acknowledgment from all the offices we visited underscores a strong bipartisan commitment to uphold the essential functions of our waterways. This show of support demonstrates a profound appreciation for the historical and current value of the region and the nation’s inland waterway systems. Our discussions culminated in a shared resolution to work together, ensuring our rivers continue to thrive and drive regional growth,” Peña said.

“This trip to D.C. was a carefully planned and highly focused mission to bring the discussion of the Snake River dams to the national stage,” Nielsen said. “The joint effort of stakeholders working together on this trip highlighted

the importance of the dams, not only on a local and regional level, but on a national and, even, international level.”

Most of the Congressional offices the group met with are members of committees that could touch on the dams. The group also met with Sean Babbington, a U.S. Department of Agriculture senior advisor; minority and majority staff of the House Transportation and Infrastructure Committee; and Senate Majority Leader Mitch McConnell’s office.

“One of the goals of the trip was to show the unification of all the different sectors that support the river system. We met with a number of Midwest offices to discuss the impacts that would occur across the U.S. if our system was to be compromised. The meetings we held were very productive,” Hennings said. “It was also important to make clear to Congress that while the litigation agreement doesn’t specifically call for breaching the dams, if supporters can devalue the dams, they can go back to Congress and use that devaluation as a reason to breach the dams. We absolutely have to push back on that.” ■



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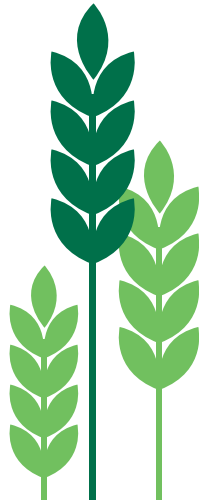
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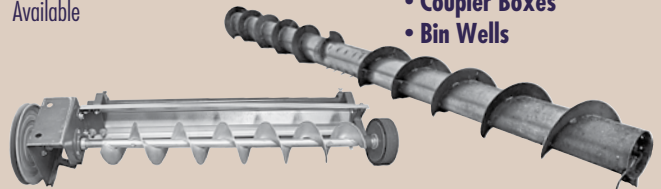


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# A capitol effort

WASHINGTON WHEAT GROWERS TAKE PART IN NATIONAL CONFERENCE, ADVOCATE ON HILL

Staff and leaders of the Washington Association of Wheat Growers (WAWG) closed out January by traveling to Washington, D.C., to meet with federal legislators and take part in the National Association of Wheat Growers' (NAWG) winter conference.

"With so many critical issues being talked about in Congress, such as the farm bill and the lower Snake River dams, it was important that Washington wheat growers met with members of our federal delegation and discussed our concerns," said Michelle Hennings, WAWG's executive director. "We also took part in NAWG committee meetings to help direct the efforts of the national association. It was a successful trip, and we are looking forward to continuing to work with Congress."

In addition to staff from congressional offices, WAWG also met with representatives from several U.S. Department of Agriculture (USDA) agencies, including

the Natural Resources Conservation Service and the Farm Service Agency. They also met with Trevor White of the House Agriculture Committee. Besides farm bill and the dams, the group discussed funding for promotional trade programs, crop insurance, and conservation programs.

During the NAWG conference, Hennings gave an update to the Domestic Trade and Policy Committee on the lower Snake River dams and the commitment agreement. She emphasized the importance of having a national coalition supporting the dams. WAWG leaders sit on several NAWG committees, including Nicole Berg from Benton County who chairs the Planning and Operations Committee, Anthony Smith from Benton County who sits on the Environment and Research Committee, Marci Green from Spokane County who sits on the Budgeting Committee, and Andy Juris from Klickitat County who chairs the Domestic Trade and Policy Committee. ▶





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The conference, which included joint meetings with U.S. Wheat Associates, featured several special sessions. Debbie Stabenow (D-Mich.), chair of the Senate Agriculture Committee, and Ranking Member John Boozman (R-Ark.) discussed progress on the farm bill, saying there is still a lot of work to do. USDA undersecretary of agriculture for trade and foreign agricultural affairs, Alexis Taylor, and Doug McKalip, chief agricultural negotiator from the Office of United States Trade Representative, gave trade updates.

WAWG's national priorities include:

- Preserving food security by modernizing future farm bills and continuing to offer agriculture and nutrition support programs.** WAWG supports a do-no-harm approach to farm bill reauthorization, which includes maintaining the current structure of the crop insurance program and current cost-share levels. WAWG supports making necessary adjustments to Price Loss Coverage (PLC) and Agriculture Risk Coverage (ARC) programs so they can function effectively. The price and yield functions of ARC formulas should be adjusted so it can be a viable option for producers. The current \$5.50 PLC reference price is not an adequate safety net for wheat production. WAWG supports prioritizing working lands conservation programs in the conservation title. Voluntary programs have functioned well and provided an important incentive to producers to undertake practices that are good for the environment and good for their operations.
- Protecting our markets by continued and increased federal funding through the Market Access Program (MAP) and Foreign Market Development (FMD) program.** WAWG supports purchasing U.S. wheat for U.S. food aid programs, rather than purchasing wheat from competitors. WAWG supports full implementation and enforcement of existing trade agreements to allow fair trade to occur within the export marketplace. WAWG strongly supports the enforcement of sanitary and phytosanitary agreements with its trade partners.
- Protecting our environment through climate or sustainability legislation that is voluntary, incentive-based, and recognizes the unique and varied landscapes and climates of wheat production.** The wheat industry should be fully involved in discussions of any policy or legislation relating to climate change, and sound science demonstrating agriculture's environmental benefits should be considered.
- Promoting and protecting our infrastructure by**



Rep. Dan Newhouse (R-Wash.), shown here with Michelle Hennings, executive director of the Washington Association of Wheat Growers, was recognized by the National Association of Wheat Growers with a Wheat Advocate Award for his exceptional support of the wheat industry during 2023. Rep. Cathy McMorris Rodgers (R-Wash.) was also recognized as a 2023 Wheat Advocate, but no picture was available.

**keeping the lower Snake River dams intact as they are vital to Washington and the nation's economy and transportation infrastructure.** WAWG also supports funding for maintaining the Columbia River System. WAWG supports the findings in the Federal EIS and opposes any state, legislative, or administrative effort to remove or disrupt the Snake River dam system. WAWG supports funding to maintain and improve Washington road, river, and rail systems. WAWG supports action regarding the Columbia River Treaty, which protects viability of U.S. navigation, hydropower, irrigation, and flood control.

- Protecting food systems with safe and innovative pesticides.** WAWG opposes cancelling crop protection product labels or uses unless equivalent replacement products are available. WAWG supports the professional use of pesticides and best management prac-

tices for their use and opposes legislation that would restrict or limit the use of pesticides through bans or by setting residue tolerance levels that are not based on science.

- **WAWG supports incremental funding increases for USDA** that cover mandatory pay costs and the rising costs at Agricultural Research Service facilities.

See page 34-35 for photos of the Washington, D.C., trip. ■



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Members of the Washington state wheat delegation met with staffers from the House Agriculture Committee.



(Above) Andy Juris (right), past president of WAWG, moderates a panel with Doug Mckalip, the chief agricultural negotiator in the Office of the U.S. Trade Representative. (Left) WAWG officers, Anthony Smith (second from left) and Juris (third from left) take part in the National Association of Wheat Growers' board meeting.



Wheat growers meet with Farm Service Agency representatives to talk about the farm bill conservation programs.



Shaina Zarkin-Scott (left), a legislative assistant for Rep. Marie Gluesenkamp Pérez (D-Wash.), meets with wheat growers.





Ryan Poe (left), past president of the Washington Association of Wheat Growers, meets with Michael Bauduy, legislative assistant for Rep. Pramila Jayapal (D-Wash.)



Senior policy advisors for Rep. Suzan DelBene (D-Wash.), Abe Friedman (top) and Shanta Katipamula (left), talk to wheat growers about the farm bill, trade, transportation, and research.



(Above) Washington wheat growers meet with Astor Boozer (second from left), regional conservationist with the Natural Resources Conservation Service. (Right) Chris MacArthur (second from left) legislative director for Rep. Dan Newhouse (R-Wash.).



(Above) Elizabeth Beltran (second from right), a staffer for Rep. Marilyn Strickland (D-Wash.), meets with growers. (Right) A group photo with Sen. Maria Cantwell (D-Wash.), who is in red.





## AMMO 2024

# Factors that could influence market conditions

By Trista Crossley  
Editor, *Wheat Life*

According to **Shawn Hackett**, the upcoming growing season is shaping up to be hot and dry during the core, yield-determining midsummer period with the potential for a hard freeze in late spring, all thanks to the convergence of several major weather-influencing cycles.



“We could have a situation that is really off the charts unusual and could cause a stir in the marketplace,” Hackett said. “It could set up a positive cash marketing opportunity, a bright spot for producers to bring some more money home to the farm.”

And if that isn't enough, Hackett is also forecasting an extended period of extreme weather volatility over the next decade that could further impact the world grain market.

Hackett is the founder of Hackett Financial Advisors Inc., based in South Florida, which offers financial advice to the ag industry on risk management, hedging, and indicator-based ag commodity price forecasting. He has done extensive research on long-term weather cycles to help bolster his price forecasting skills. Hackett was the presenter at the Feb. 1 Agricultural Marketing and Management Organization's webinar, “Climate and Other Factors Impacting Ag Markets and Ag Operator Risks in the Years Ahead.”

The climate cycles Hackett is monitoring for 2024 include:

- The rapid transition from El Niño to La Niña.
- A peak in the 11-year solar cycle. A complete cycle, 22 years, is called a Hale cycle.
- The 18.6-year earth-moon-sun nutation cycle, which tracks the gravitational effects of the sun and moon on earth's oceans and atmosphere as the earth spins and wobbles around its axis.

“Those three cycles will be driving the summer weather pattern. This is a hot, dry cycle, a drought cycle. We are not likely to have a crop year that produces trend-line yields,” he explained. “It's possible, that if we get an alignment of everything, we will get something more sinister.

That's in the running for the next couple of years.”

How hot and dry? Hackett will be watching for when La Niña arrives and monitoring the Gulf of Alaska. If La Niña arrives before July, the potential for a severe drought increases. If the Gulf of Alaska cools into the summer, the area of the U.S. at risk for a severe drought increases. At a minimum, the northern states should expect to see drought conditions.

Other cycles that could affect market conditions in the next few years include:

- **Currency cycles.** The U.S. dollar generally follows a 16-year cycle, which Hackett said is fairly reliable, and puts the next major low around 2026. A weaker dollar is more attractive to potential overseas buyers, and grain prices generally rise relative to input costs.
- **Geopolitics.** This 53.5-year cycle has been tracked since the early 1800s, and the world is currently seeing an escalation with what's happening in the Middle East and Ukraine. The next geopolitical cycle peak is in 2026, which coincides with the dollar's trough. “These are two independent cycles that are matching up. Whatever is going on, it should continue to escalate into a big bang crescendo event. I'm not looking forward to it,” Hackett said. “I hope the cycle fails, but so far, that's not the case. It means to us that ag commodities should see escalating inflationary risks. During such times, stockpiling becomes more in vogue, governments spend and print a lot of money to fund escalating wars, and trade flows can be quickly disrupted, which all further fan the flames of future ag commodity inflation. It's just speculation on my part, but this is a very historically reliable variable that looks to be on the side of increasing inflationary risks on U.S. commodities.”
- **U.S. interest rates.** These have followed a 30- to 35-year cycle since the early 1800s, and that cycle shows we are in for a period of overall higher interest rates. “That doesn't mean we'll go back to 15% like we did in the early 1980s, it just means the free money from 2010 to 2019 is gone, and we'll see a higher cost of capital,” Hackett explained.

Looking longer term, Hackett said we are in for 10 to 15 years of global weather volatility. Since 2003, the earth's atmosphere has been contracting and cooling, changing the jet stream into a more undulating pattern that increases

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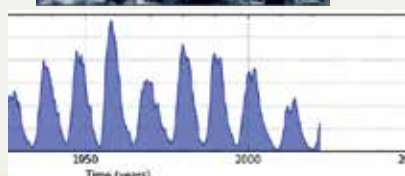
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weather volatility and stagnant weather patterns, such as the atmospheric rivers that hit California this winter and last and dumped record amounts of rain and snow on the state.

When sun activity goes quiet, it can have a destabilizing effect on the earth's magnetic field and lead to increased volcanic events that measure 6 or more on the volcanic explosivity index, or VEI. The 2022 eruption of the underwater volcano in Tonga was a VEI of 6 and doubled the amount of water vapor in the atmosphere in about six hours. That has and will continue to create extreme heat risks for another two years before it precipitates out of the stratosphere. Hackett expects to see several more VEI events of 6 or more in the near future.

"If you hear of a VEI 6 or 7 that just went off, you have to know that the weather is going to go psycho for the next few years," he said.

Finally, Hackett is also monitoring surface temperatures in the Atlantic Ocean. If they start cooling, it could mean longer winters and shorter growing cycles for the U.S. He explained that the last time the Atlantic Ocean cooled was from the mid-1960s to the early-1980s, which was a very volatile time for earth's climate, for crop production challenges, and for increased food inflation. The sun, at that time, was still showing normal activity, which makes the current quiet sun even more concerning for future food sustainability.

"We've been in a generally warming ocean since 1900," he explained. "The Atlantic is just ready to turn. The solar cycle has already turned. It means we are in for a very significant change in our overall climate, temperature patterns.

A recording of the AMMO webinar featuring Hackett can be viewed at the Washington Association of Wheat Growers' YouTube channel, [youtube.com/@washingtonassociationofwhe3019](https://youtube.com/@washingtonassociationofwhe3019). ■



AMMO 2024

# Growers head into the weeds

By Trista Crossley  
Editor, *Wheat Life*

The second Agricultural Marketing and Management Organization’s (AMMO) February seminar was all about weeds, with presentations by three regional experts: Drew Lyon, Ian Burke, and Doug Finkelnburg.

## Food for the dinosaurs

Lyon, a professor and Endowed Chair Small Grains Extension and Research, Weed Science, at Washington State University (WSU), went back in time, way back, in his presentation on *Equisetums*, specifically smooth scouringrush.



“It’s been around for a long time,” he said. “It helped feed the dinosaurs and gives us coal and oil today.”

Smooth scouringrush biology includes:

- All *Equisetum* species are non-flowering perennials.
- Stems are deciduous and emerge in spring.
- Overwinters by rhizomatous roots, reproduces sexually by spores, reproduces asexually by rhizomes, and most stems are fertile.
- May grow to be four feet tall.
- Leaves are greatly reduced to small scales and arranged in true whorls. Leaves are not photosynthetic.
- Stems are rigid, hollow, and jointed. Photosynthesis occurs in

### Common *Equisetum* species



#### Smooth scouringrush

- Stems die back each year
- Cone tips are rounded
- Stem feels like fine sandpaper
- Stems appear wispy



#### Scouringrush

- Stems are evergreen
- Cone tips appear pointed
- Stems thicker compared to smooth scouringrush



#### Field horsetail

- Spreading branches
- Separate fertile and sterile stems

stems, which have a high silica concentration. Indigenous populations used the stems to scour surfaces, hence the name “scouringrush.”


- Spores are produced in strobili, which is a cone-shaped structure at the tip of the stem, and are relatively unimportant for the spread of *Equisetum*.
- It has an extensive, multitiered root system. Lateral roots can grow up to 20” per growing season.
- The rhizome system is much more effective for reproduction, and soil disturbance moves rhizomes, increasing the lateral spread.
- Deep growth allows plants to survive disturbances, such as tillage, fire, drought, etc. The root system is so persistent that *Equisetum* species were the first to recolonize Mount St. Helens after the eruption of 1980.
- It prefers moist places.

In Eastern Washington, the wide-spread adoption of chemical-fallow systems has allowed smooth scouringrush to expand its habitat from field margins and roadsides. Lyon said the weed is often found in draws and flats that are traditionally wetter, but it can also be found on slopes that he suspects “aren’t as dry as you might think.”


Historical control methods for smooth scouringrush include extensive tillage and chlorsulfuron, a Group 2 herbicide and the active ingredient in Glean and one of the active ingredients in Finesse, which contains both chlorsulfuron and metsulfuron (Group 2). Unfortunately, chlorsulfuron has a long soil residual that limits rotation to pulse crops and canola. Lyon and his team have been running trials across the region to test other herbicides, mixes, and application timing. So far, the only other herbicide they have found that reduces stem densities one or two years after application is glyphosate. His recommendation is to use a high rate of glyphosate (64 to 96 ounces/acre of RT3 or equivalent) and an organosilicone surfactant. The glyphosate should not be applied during hot, dry weather. Glyphosate has no soil residual activity and no crop rotation restrictions.

The good news, however, is that smooth scouringrush isn’t very competitive, particularly with winter wheat. Lyon said he tends to see problems in winter

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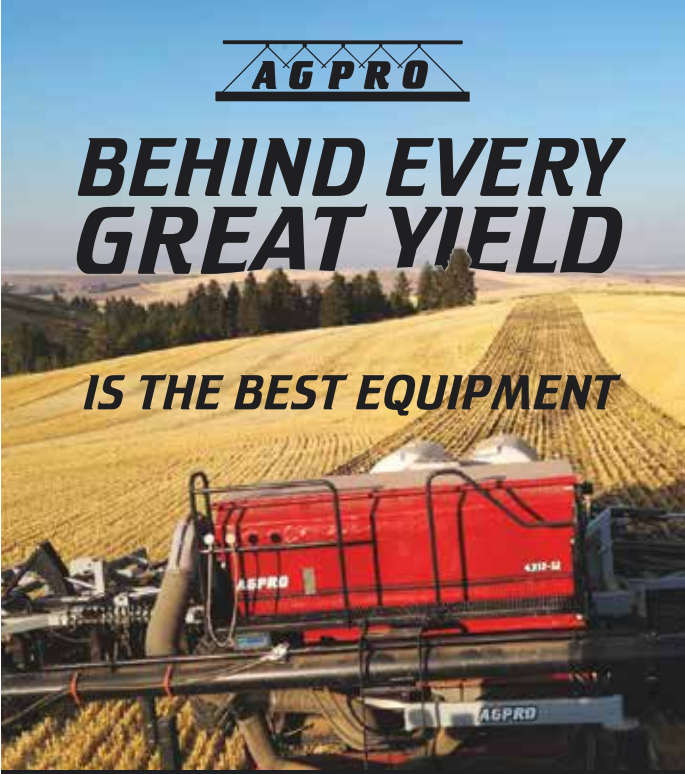
			
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wheat when the wheat isn't doing very well. In those cases, he recommended looking at soil pH or drainage.

"If you can get your wheat growing better, that may help with smooth scouringrush," he said. "Smooth scouringrush is going to be a formidable problem. It doesn't do much if you just take it off the top, and you will need more than one year (of control). You will need to win many battles with perennial weeds to win the war."

### Weed management

**Burke**, a professor of weed science and the R.J. Cook Endowed Chair of Wheat Research at WSU, summarized the current status and future prospects for weed management:

- Weed management is ripe for disruption, and growers should be looking for new ways to use chemical technology.
- Wheat growers have no linkage to weed biology for decisions.
- There has never been a more important time to know what active ingredients are in the products being applied as many of them are becoming generic, and there might be a more cost-effective choice.
- Regional weed scientists are focusing on a variety of cultural and mechanical inputs for weed management, but all of them are incremental, time consuming, and potentially expensive, hazardous, or risky to implement.



"None of the new herbicides are as effective as the tools you have currently, and none of them will be priced in a way you will be happy with," he said, adding that from a corporate development standpoint, U.S. wheat is a minor market compared to corn and soybeans, and the Pacific Northwest (PNW) wheat industry is unique. "(Other wheat-growing regions) have different weeds, rotations, needs. We are at the end of the line for herbicide development."

In the PNW, weed research is focused on understanding weed biology, how weed seed is spread through farming operations, and using weed-sensing sprayers as a means of weed management. "A lot of the things we are thinking about don't look like herbicide management," he said. "We are trying to understand what's driving some of the problems we are seeing."

The weed seedbank is a particular area of focus for PNW weed researchers. Burke said researchers know that there's a lot of weed seed movement, and what affects a crop also affects weed seed. The difference is the nearly unimaginable amount of weed seeds in the environment — potentially hundreds of millions of seeds per acre.

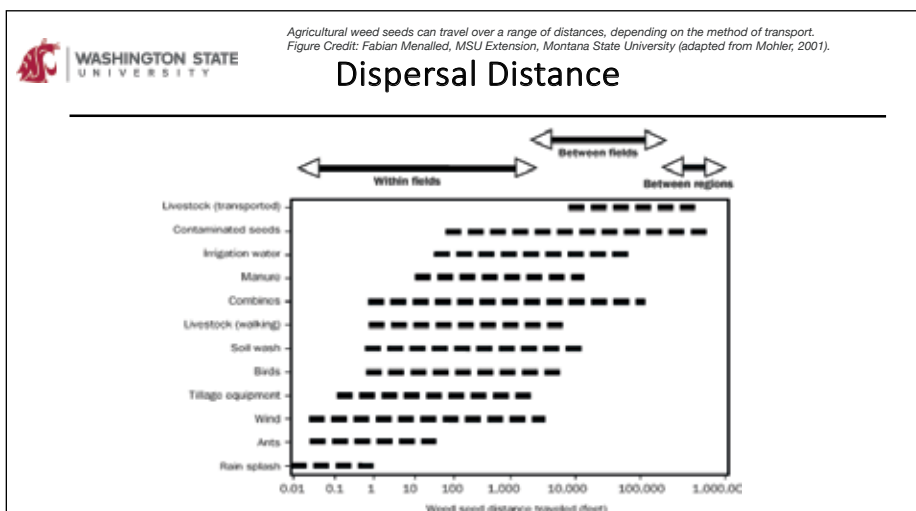
"We are talking about huge numbers, so even a huge reduction in weed seed means there is a huge amount still there," he explained. "We also know that if you miss just one year (of management), weeds will produce enough seed to replace years' worth of seeds in a single season. We can't afford to fail." See more on the weed seedbank on page 54.

While seedbank dormancy is complicated, understanding it may reveal new weed management options. Burke said there are three types of dormancy: physiological, which is based on light; physical, which is the seed coat; and morphological, which is embryo development. The dormancy type can vary within the same weed species, and weeds can combine the types of dormancy.

"Knowledge of dormancy mechanisms is a powerful tool. If you can trap the weed into being one way or another and knowing what that one way or another is, it's one of the key essential ingredients for designing rotation systems," he said. "You can kind of predict the outcome for a particular weed depending on what you want to do with it. If you know it needs scarification to germinate, how can you use that?"

Burke wrapped up his presentation by talking about weed-sensing sprayers. Some of the potential benefits include:

- There can be a reduction in herbicide use on small or scattered weed populations in areas



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treated repeatedly prior to planting.

- They reduce the cost of using more expensive (and usually more effective products) in fallow and pre-plant burn-down applications.
- They may improve integrated herbicide management affordability.

Some of the negatives include:

- Image-based sensor systems are extremely processor intensive and come at a cost, and you need a weed-image database.
- Reflectance-based weed sensing sprayer systems are expensive, they can miss small weeds, and they can cause overuse if the system is miscalibrated or the herbicide rate is too concentrated.

### The Herbicide Resistance Initiative

Finkelnburg is an area Extension educator in cropping systems with the University of Idaho. He is part of the Pacific Northwest Herbicide Resistance Initiative (PNWHRI), a regional effort focused on creating a coordinated, interdisciplinary, systems-based approach to managing herbicide resistance in weeds that is regional in scope and long-term in impact.

The PNWHRI recently completed a grain producers' weed problem survey that got feedback from about 100



producers representing more than 364,000 acres in Idaho, Oregon, and Washington. Finkelnburg said they found that about a quarter of producers were managing multiple cropping systems, like annual cropping and wheat-fallow or irrigated cropping and wheat-fallow. Forty percent of respondents reporting using multiple tillage practices, like no-till and conservation tillage, on their operations. In Washington, approximately 111,000 acres were represented in the survey. The top five weeds Washington producers were most worried about were downy brome, Russian thistle, Italian ryegrass, prickly lettuce, and mayweed chamomile.

More information about the PNWHRI is available at [pnwhri.org](http://pnwhri.org). The website is new and is used mostly for contact information at this point, but the group is working on making some short videos and intends to use the website as a public-facing space to bring products such as decision support tools and novel weed management research information to growers. ■



## FARM MANAGEMENT TRAINING PROGRAMS

Register Online: [wawg.org/ammo-workshops](http://wawg.org/ammo-workshops)

MARCH 12

### Landlord/Landowner Workshop

10am - 3pm PST • Hampton Inn – 2010 S Assembly, Spokane, WA

*New this year.* The objective of this workshop is to help landlord/landowners who are not directly involved in the day-to-day of farming their ground. Topics include market updates, land values, lease contracts, and landlord/leasee relationships. If you have landlords who might be interested in attending, please share the details with them.



MARCH 13

### Stop the Fighting on the Way to the Funeral Home™

10am - 3pm PST • Hampton Inn – 2010 S Assembly, Spokane, WA

*Featured Speaker: Jolene Brown.* This insightful and fun-filled presentation highlights the mistakes families make that break up their business. We will discuss in-laws and out-laws, money expectations, daily communications, and important meetings.

JUNE 4

### 2024 Wheat College

10am - 3pm PST • Lincoln County Fairgrounds – Davenport, WA

A program of the Washington Association of Wheat Growers



## 2024 AMMO winter schedule wraps up with landlord, Jolene Brown sessions


The Agricultural Marketing and Management Organization's (AMMO) winter schedule wraps up this month with two very exciting workshops.

For the first time ever, AMMO has a workshop specifically for landlords. This workshop is designed to help landlords/landowners who are not directly involved in the day-to-day operations on their farm. Topics will include market updates, land values, lease contracts, and landlord/lessee relations. The workshop will be on March 12, from 10 a.m. to 3 p.m. at the Hampton Inn, 2010 S. Assembly Rd. in Spokane. Lunch will be included.

Ag personality Jolene Brown will be the featured speaker at the other AMMO workshop, on March 13, at the Hampton Inn, 2010 S. Assembly Rd. in Spokane. Brown will highlight the mistakes families make that can break up their business. The group will discuss family dynamics, money expectations, daily communications, and important meetings. The workshop begins at 10 a.m. and runs to 3 p.m. Lunch is included.

Preregistration for these AMMO workshops is highly preferred. Workshops are free for Washington Association of Wheat Growers members; nonmembers are welcome at a cost of \$25 per person. Registration information is at [wawg.org/ammo-workshops/](http://wawg.org/ammo-workshops/). ■

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# SEASONS OF FARMING

# SPRING

After a winter spent mostly indoors attending meetings, doing paperwork, or servicing equipment, farmers are usually eager to resume fieldwork. But what are those machines out in the field actually doing?

In Eastern Washington, spring comes first in the south. Wheat farmers in Benton and Franklin counties will be out in the fields in March, sometimes even late February if the winter has been mild. Counties in the north, like Grant or Douglas County, are usually weeks behind. Activities are dependent on what crop the farmer will be growing: winter wheat, spring wheat, or leaving the land fallow. In 2022, wheat was planted on 2.3 million acres of Washington land. Of that, nearly 80% was winter wheat.

Winter wheat is planted in the fall to be harvested the next summer. It has the ability to go dormant during the winter and start growing again as the days get longer and the weather warms up. Once the wheat comes out of dormancy, farmers will apply fertilizer and/or pesticides (for insects and diseases) to the growing crop using boom sprayers that can be more than 100 feet wide. The booms — or arms — of the sprayer can be folded to make moving them from field to field easier. Depending on growing conditions and disease pressure, these chemical applications may be repeated as the crop matures.

Spring wheat is planted as soon as the soil has warmed up and the fields are dry enough that equipment won't get stuck. It is harvested that same fall, usually a few weeks after the winter wheat. Weed pressure can be more intense in spring wheat, since the spring wheat doesn't have a head start over weeds like winter wheat does. Because of that, growers may have to prepare the fields prior to planting. That could include using a boom sprayer to

kill the weeds with an herbicide or cultivating the fields with a tractor pulling tillage equipment, such as a plow or a disc harrow. They may also apply a dose of fertilizer before planting.

Once the fields are ready for the spring crop, planting can take place. While there are many different ways to plant wheat, in general, a tractor pulls a hopper full of grain and uses either air blowing through tubes to distribute seed from the hopper to a seed drill or drops the seeds from the hopper down chutes to the ground. Rollers help open the soil where the seed is planted and then closes the soil over top of the seed. Precision planting equipment allows the farmer to control the depth and spacing of the seeds. Fertilizer may be applied at the same time the seed is planted.

It is not unusual for wheat farmers to have to reseed fields of both winter and spring wheat in the spring. Sometimes, winter wheat will fail to germinate in the fall, maybe due to drought or pests, or it will die over the winter, especially during periods of intense cold with no snow cover. In both winter and spring wheat, if it rains before the wheat seed can germinate and reach the surface, the ground can form a hard crust, preventing the seed from breaking through. Farmers will often reseed in this case.

As with winter wheat, growers may have to apply additional applications of fertilizer and pesticides to spring wheat throughout the growing season.

Many Eastern Washington dryland wheat farmers follow a winter wheat-summer fallow schedule where they let fields sit fallow for a period of time to gather and store moisture for the following wheat crop. It is important to control the weeds on those fields so that they don't use the moisture and nutrients intended for the wheat crop. During spring, once planting is done, farmers will spray chemicals, such as Roundup, on their fallow fields or use tillage methods to control weeds. ■



# Crop Advisor Q&A

**Sam Kimmell** has been a crop advisor with The McGregor Company for nine years. He typically works with about 30 farms every year, helping them make planting and crop input decisions. He grew up on a farm in North Idaho, but after high school, joined the Navy. He and his wife returned to Eastern Washington when they bought his wife's family farm in Endicott, Wash. We had some questions about crop advisors and what they did, particularly in the spring.



## What is a crop advisor?

Basically, they are experts who take locally developed or globally developed solutions and tailor them to fit specific farms or environments in their local area to help farmers determine what is needed to raise a profitable crop. Really, it is all just problem solving, whether that's an environmental problem, an economic problem, or a logistical problem; it's a daily problem-solving exercise. You have a problem and a solution, and how do you make the two match up?

## What do crop advisors do in the spring?

For winter wheat, which is planted in the fall, we begin by looking at the overall health and viability of the crop. With the cold weather and unpredictable winters we've had, often times, there's something new every spring that gets thrown at us, whether that's winterkill or a disease. We will be looking at root development, erosion, environmental factors, and pest pressure. One of the big things we look at in winter wheat is the development of the main tillers to determine if the crop is deficient and needs top dressing (fertilizer). We also do lots and lots of soil tests so we can get an idea of where the nitrogen is sitting in the crop that is in the ground.

## What about for spring-planted crops?

With spring-planted crops, the timing is more compressed; we have to do it all at once. We'll do soil tests to see what the health of the soil is, and what the plants will require. We'll decide if we need a herbicide application prior to planting to kill problem weeds. Oftentimes, seeding and fertilizing will take place at the same time. If I'm able to, I will be there when the field is seeded so I can monitor the depth the seed is being planted at and how many seeds are being planted. We'll continue monitoring those fields as the seeds germinate.

As spring progresses, we will be monitoring the health and pest pressure of both fall- and spring-planted crops and

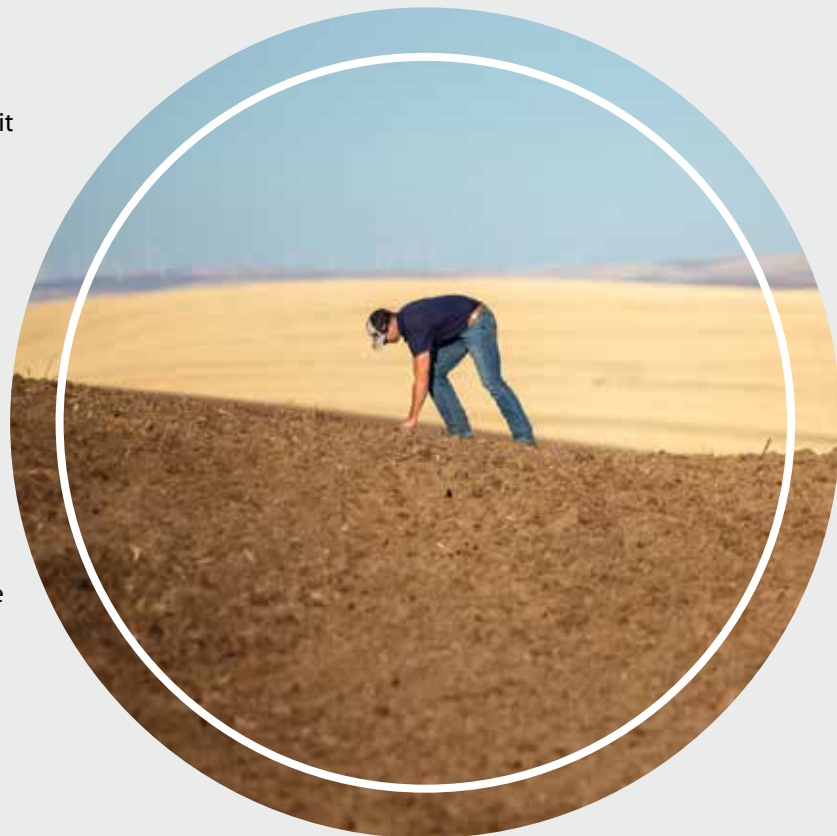
having daily conversations with our farmers about what they and we are seeing.

## How do you keep track of all these different fields and what's been done to them?

Like my grandpa said, the best thing about farming is you get to try again every year, and the bad thing about farming is that you have to try every year. I've learned to take good notes. In addition, our industry has a rich history, and you are often dealing with a farmer who has generations of previous experience and knowledge about their land.

## What kind of education do crop advisors usually have?

An ag or science degree is helpful, but not required. If you are considering an agronomy career, just jump in. The industry changes so fast, tenacity, a strong work ethic, and a willingness to learn far outweigh any lack of experience.



## What kind of technology do crop advisors generally use?

We have tools to help the process, but nothing replaces getting out there to see the fields in person. For four to five months out of the year, I live in my pickup truck and four-wheeler. We use quite a bit of software for record keeping. If you work with 30 farmers covering 80,000 acres of crop, you will never remember what's happening on each acre. Record keeping on a field-by-field basis is probably one of most important things we do. ■



# Pesticide Perspectives

## Are pesticides good or bad for consumers, and what goes into pesticide safety?

By Jennifer Ferrero

Wheat fields in Washington can be home to many insects, weeds, and diseases. Producing quality food crops requires intervention. Many factors are at play in the realm of safety for humans and the environment, including using insecticides, herbicides, or fungicides. In this article, we refer to all these types of products generally as “pesticides.” It’s a complex picture that affects global crop output from the state and our long-term environment and economy. The big questions for consumers are whether pesticides are bad, whether they are necessary, and how pesticide use, or non-use, impacts our economy.

In Washington, the use and application of pesticides are well-researched, supported, and regulated. Ensuring safety for humans, the environment, and long-term crop sustainability is a function of government, the farming community, university researchers, and third-party players like the Washington Grain Commission (WGC).

As food-buying consumers, we ingest published information from the ever-expanding media regarding pesticides like Roundup and other chemical interventions and wonder if they are bad for us.

Washington State University (WSU) has a deep infrastructure in researching what’s bugging our crops. The WSU Extension Dryland Cropping Systems Team offers disease,

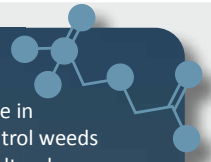
soil and water, insect, and weed resources for wheat farmers and the collective industry. They deal in wheat and small grains and collaborate with educators and faculty. According to [smallgrains.wsu.edu](http://smallgrains.wsu.edu), “Together, they work to efficiently coordinate and deliver educational information and resources to dryland crop producers. The team includes specialists in plant pathology, entomology, weed science, soil fertility, economics, agronomy, variety selection, and communications.” In other words, they take a science-based approach to understanding and supporting crop producers.

Ben Barstow, a 30-year grower, commissioner, and chairman of the WGC, also takes a scientific approach to farming. Barstow has a bachelor’s degree in plant protection from the University of Idaho, a master’s degree in entomology, and is interested in the chemistry of soil and plants. He also maintains a private pesticide applicator’s license for Washington.

Barstow said crops, weeds, insects, and diseases change or evolve from season to season, as does their susceptibility to pesticides. “These all are living organisms that continue to evolve and change,” he said. When Barstow started farming, “There was a steady flow of new chemistry that we could count on to solve pest problems,” referring to the new pesticides discovered and commercialized between the end of WWII and the 1980s. He said only one new product has been released since then, and “what worked five years ago is probably not going to work five years down the road” due to ongoing evolution. He said that pest control products have been vilified, and none of the growers he knows like to use them, but everyone wants to produce safe, clean, high-quality food.

“And we need pest control products to do that. Everyone is looking at alternatives besides chemistry to control these things. I’d rather use a disease-resistant wheat variety and not use a fungicide; that’s an extra cost,” he explained. Barstow has leaned on using new wheat varieties bred for disease and pest resistance but said it is not a replacement for using pesticides. But he also uses these products safely as directed by the pesticide label.





Glyphosate is EPA approved for use in products such as Roundup® to control weeds in both agricultural and non-agricultural settings.

- 1974 ○ Glyphosate was first registered.
- 2009 ● U.S. Environmental Protection Agency (EPA) initiated registration review for glyphosate.
- 2015 ● EPA reexamined the carcinogenic potential of glyphosate.
- 2021 ○ The latest biological evaluation was released in November.

# What is ROUNDUP?



**LEARN MORE**

The Washington State Department of Agriculture (WSDA) manages the safe use of pesticides in Washington. They offer the required licensing and recertification for growers along with pesticide compliance programs. There are four key program managers for pesticides in the WSDA; we spoke to two of them: Christina Zimmerman and Scott Nielsen. They help educate, license, and regulate state pesticide use. Zimmerman’s role includes initial licensure and continuing recertification of pesticide applicators, distributors, consultants, and structural pest inspectors. Her program administers pesticide licensing exams, maintains exams, and accredits courses for continuing education credits.

There are 33 exams in the state, with six available in Spanish. Zimmerman said her program has 10 staff members and oversees 24,000 active licensees in Washington. Nielsen’s group has about 20 staff members, including field investigators, quality assurance, administration, and others.

Nielsen’s compliance staff conducts inspections and complaint investigations of pesticide storage, distribution, and applications across the state and enforces state and federal regulations.

Becoming licensed and maintaining a license for the safe use of pesticides comes with coursework, continuing education credits, and testing. Also, those licensed may be subjected to an audit of their practices by WSDA.

Both Zimmerman and Nielsen said the management and regulations are for human health and environmental protection. They said that if not used safely, per the label, and with personal protective equipment, pesticides can impact health and the health of others, including the agricultural community and others in the supply chain. Because they regulate pesticide use, it helps water and soil stay safe and contributes to the safety of the applicators, laborers, and their families. ▶

# Is ROUNDUP safe?



**LEARN MORE**



Labels change as new knowledge is collected. \*It is important for growers to follow **label instructions 100% of the time.**

Fear often overrides the message that glyphosate is safe when used in accordance with its current label.

“The U.S. Environmental Protection Agency (EPA) continues to find that there are no risks to public health when glyphosate is used in accordance with its current label.”



# What is the EVIDENCE?



Due to its widespread use, trace amounts of glyphosate residues may be found in various fresh fruits, vegetables, cereals, and other food and beverage commodities. However, these trace amounts are not of concern for the consumer.

EPA conducted a highly conservative dietary risk assessment for glyphosate that evaluated all populations, including infants, children, and women of child-bearing age. EPA scientists performed an independent evaluation of available data for glyphosate and found:

- 1 No risks of concern to human health from current uses of glyphosate.
- 2 No indication that children are more sensitive to glyphosate.
- 3 No evidence that glyphosate causes cancer in humans.
- 4 No indication that glyphosate is an endocrine disruptor.

LEARN MORE



“The greatest risk is to the person mixing and loading the sprayer because they are handling the concentrate,” Barstow echoed. “But the toxicity of the concentrate on some of these products is similar to table salt. Everything else is exposed to the diluted volume.”

He shared that GPS guidance greatly reduces pesticide overapplication when farmers spray a field. “It’s a huge improvement. With GPS-guided and controlled sprayers, if the boom overlaps where you have already been, it stops spraying — it saves 5-7% of a pesticide product. Cost-wise, buying the GPS equipment only takes two to three years to pay off.” Barstow loves having the GPS guidance because it eliminates guessing and overapplication. He tells his grandkids, “It’s like driving Mario Kart all day long ... except there are no explosions.” New tractors and combines are self-driving using satellites, complex computer systems, and the Internet.

“We use herbicides designed to kill plant cells,” Barstow said. Being able to disrupt the chemistries of certain cells but not others is the science of pesticides, herbicides, and

insecticides. The chemical pathway targets of herbicides are often not the same chemical pathways found in human or animal physiology. “Animals won’t be harmed by many of the herbicides being used. Animals like mice, birds, dogs, and cats don’t care.”

Barstow uses modern wheat varieties. He also uses certified seed. He said herbicides are still used, but he uses them safely and per his licensure with the state. He said that Roundup is only active when sprayed on plants; it becomes inert once it contacts the soil. Also, each year, he assesses the chemistry of his soil to determine which inputs and exactly how much of each to apply. Getting the input variables right is part of the formula that maximizes our yield and economic potential, allowing the U.S. to be a top contributor to dinner tables around the globe.

Barstow said bakers and wheat flour millers need high-quality wheat with consistent performance to produce consistent food products. He is proud to grow safe, dependable, and reliable high-quality wheat that helps feed the world. ■



# CHAIRMAN

## WASHINGTON GRAIN COMMISSION

By Ben Barstow



I wasn't on the Washington Grain Commission (WGC) when the decision was made to approve royalties on publicly developed varieties, but I remember it being controversial and not an easy decision. The WGC was already supporting the development of public varieties with your assessment dollars, and a royalty was just going to be an added expense. On the other side of the argument, the cost of developing new varieties was (and still is) rapidly going up, and state and federal support for wheat research and extension was (and still is) declining.

Like most investments, charging royalties is an added expense, but Plant Variety Protected (patented) public varieties, even with royalties, still cost about the same as privately developed varieties. Recently, we have begun to see our investment, the royalties we have been paying on publicly developed varieties, pay off.

About the time royalties started coming in, the need for a new, modern, and more efficient greenhouse had become apparent. Washington State University (WSU) pledged \$5 million from royalties on future wheat variety releases, and the WGC put up \$5 million and was instrumental in gaining \$5 million in support from the U.S. Department of Agriculture for state-of-the-art equipment for the facility. I'm glad it got done, because it makes me shudder to think of how much it would cost to build that facility today.

For almost 10 years, royalty income has been paying off the Plant Growth Facilities Building at WSU, and speaking for myself, I wasn't quite sure exactly what it would mean when the final payment was made. That happened in April 2023, and thanks to the persistence and diligence of WSU, these programs are much more self-supporting than they have ever been. Current royalty income will soon help redirect grower-assessed funds to other high priority research, and beginning this summer, WSU's wheat breeding team will reduce their annual request to the WGC by \$250,000. If the good work of developing varieties that perform well for us in the field and for our customers in the mills and bakeries around the world continues, the breeding programs will become even more self-supporting in the future.

This is a huge change for the wheat breeding programs that have always taken up a lot of commission research dollars. The programs won't spend quite so much time

worrying how to pay the technicians, graduate students, and hourly employees it takes to get everything done. They can finally do things like replace the old pickup that has been towing a combine all over the state for the last 13 years.

We recently held the annual wheat and barley research review, and it is interesting to see what kind of research proposals moved up in the rankings. There will be more on this in the next issue, but all I can tell you is that if you don't like the priorities that came to the top this year, you should have been there and made your thoughts known.

Not a lot of people have a taste for a long meeting of deep science research material that leaves you feeling like the deer staring into the headlights. Just remember, a lack of understanding does not disqualify anyone from voting in an election — or at the wheat and barley research review.

But, hey! If you are into that sort of thing and want something really esoteric, I highly recommend the Pacific Northwest Wheat Quality Council. Put yourself in a room full of wheat breeders who come to present their babies, their new varieties, before The Council, a gauntlet of ruthless cereal chemists from just about every lab in the western U.S. where wheat quality is evaluated. They will have measured, evaluated, and come to the meeting to ruthlessly report the ash curve, break flour yield, and dough quality; the appearance of the cookies, texture of the cakes, spring of the loaves, and spread of the pancakes; and the solvent retention capacities, the PPO levels, and ... I lost track of all the potential ways for a wheat variety to fail before this inquisition.

Just for perspective, and no small amount of additional pressure, usually there are also a couple of our Asian customers present who will have also evaluated candidate varieties in their own laboratories, adding their own unique and valuable observations. Throw in a couple of U.S. Wheat Associates technical and marketing specialists, bake in the right pan, right oven, right temperature, and you will see one of the most rousing exchanges of highly technical information anywhere.

But for the grower, the most important thing to see at these meetings is just how passionate these folks are about advancing the quality and value of our crops. To that end, I hope to see you at a future meeting. ■



# REPORTS

WASHINGTON GRAIN COMMISSION

## Part 3: Where do we go from here?

Examining the common concerns, current research for low falling numbers

By Alison L. Thompson

*Research Biologist,*

*U.S. Department of Agriculture's Agricultural Research Service*

By Amber Hauvermale

*Research Assistant Professor, Washington State University*

The conclusion of our three-part series discusses ongoing research that addresses common concerns with falling numbers and conveys current management and mitigation strategies that can be employed by those in the "grain chain." Distrust in the falling number method comes from two collective concerns by the industry: lack of consistent results between testing facilities and inconsistency between samples from the same lot. In our January *Wheat Life* article, we reported that not all testing facilities are Federal Grain Inspection Service (FGIS) certified, which may cause nonrepeatable results, and how

to determine if results are valid. Notably, some variation (within 25 seconds) between valid tests of the same lot is still considered acceptable.

### Current research

Two avenues of research aim to understand where further variation is coming from and if it can be controlled or corrected for. The first is to understand how seed properties, like protein or starch, are contributing to lower falling numbers, specifically in the absence of detectable alpha-amylase activity. This effort has been ongoing for several years with collaborators from Oregon State University, University of Idaho (UI), the Wheat Marketing Center, Washington State University (WSU), and the U.S. Department of Agriculture (USDA). This research is expected to reduce falling number variation with variety improvement. The second is to understand



The Pullman-based falling number team. Front row, from left, are Mike Pumphrey, Drew Lyon, Camille Steber, and Xinran Li. Second row, from left are Clark Neely, Andrew McCubbin, Amber Hauvermale, John Kelly, Alison Thompson, and Kim Garland-Campbell.

how sampling from growers' trucks, the development of composite samples, and testing locations might be contributing to variation. Preliminary results suggest that if FGIS sampling, composite, and testing guidelines are followed, then they are not significant sources of variation; however, more work is needed to validate these findings. The only significant source of variation found in this study was caused by field topography, not human error at elevators or testing facilities.

Limited understanding of the developmental timing and weather patterns that cause low falling numbers continue to frustrate the industry. This is particularly true for late maturity alpha-amylase (LMA), first identified in the Pacific Northwest (PNW) in 2012. Unfortunately, we have not yet clearly identified the weather events during grain filling that induce LMA for most PNW varieties. Current research includes greenhouse and growth chamber trials, as well as environmental studies to understand the temperature and moisture parameters that result in LMA. Extension efforts to spread awareness on the causes of LMA include WSU field days, WSU Wheat Academy, Spokane Ag Expo, Tri-State Grain Growers Convention, articles here in *Wheat Life*, FAQs with the Washington Association of Wheat Growers, WSU Wheat Beat podcasts, WSU Extension articles, and scientific journals (see table for links). However, confusion regarding LMA is still prevalent. Extension efforts will continue with new publications and presentations at local grower meetings.

### Innovation in testing methods

Efforts to develop alternatives to the falling number test, both destructive and nondestructive, span decades. One prominent example is the rapid visco-analyzer (RVA) developed in the 1980s (Ross et al., 1987). While the RVA did not replace the falling number test, it has become a fixture for many end-use quality applications. In the 1990s, the WheatRite immunoassay was developed as a cheaper and more accurate alternative (Verity et al., 1999). Unfortunately, due to production challenges and lack of market acceptance, the WheatRite test was eventually discontinued. Despite initial setbacks, improvements in immunoassay test sensitivity and production continue and has propelled efforts to deliver a similar product for detecting low falling numbers. Read about the development of the rapid test in our *Wheat Life* article at <https://bit.ly/3F184pa>.

Thanks to the support from our WSU, USDA, and stakeholder networks, the rapid test took another step forward in 2023. Efforts included growing, sourcing, and testing samples for falling numbers spanning 200 to 400 seconds, which were shipped to our industry partner

EnviroLogix. More than 300 samples representing 50 geographic regions in the PNW and 75 breeding lines or varieties were tested. EnviroLogix is using these samples to calibrate the rapid test with falling numbers according to different wheat market classes. We have retained many of these samples for in-house beta-testing, which we hope to begin this spring, with site-specific beta-testing this harvest.

### Ongoing needs

In 2017, the industry identified the need for prediction tools to help identify when low falling numbers might occur in a geographical region. A collaboration between WSU, UI, and the USDA to develop predictive models and an early-warning system based on weather events is ongoing. These models will be refined and tested to maximize performance through grower participation using the rapid test when it becomes available. Although elevator capacity limitations hinder the ability to segregate and store grain for long periods of time, an early-warning system may provide a way to identify where to focus early testing efforts and better manage problems. An early-warning system also enhances evaluation of newly developed varieties. Ongoing breeding efforts to develop varieties with robust climate resiliency is critical, as well as the need to empower seed handlers and growers with information about, and access to, the best varieties for specific regions. The oftentimes isolated nature of LMA and preharvest sprouting events makes variety selection for specific geographic regions essential to avoid problems. ▶

### More falling numbers resources

FAQs - [wawg.org/frequently-asked-questions-low-falling-number-and-wheat/](http://wawg.org/frequently-asked-questions-low-falling-number-and-wheat/)

Wheat Beat podcast - [smallgrains.wsu.edu/category/podcast/](http://smallgrains.wsu.edu/category/podcast/)

WSU white paper - [smallgrains.wsu.edu/white-paper-strategies-to-reduce-economic-losses-due-to-low-falling-number-in-wheat/](http://smallgrains.wsu.edu/white-paper-strategies-to-reduce-economic-losses-due-to-low-falling-number-in-wheat/)

### References

Ross AS, Walker CE, Booth RI, Orth RA, Wrigley CW (1987) The Rapid Visco-Analyser: a new technique for the estimation of sprout damage. *Cereal Foods World* 32:827-829

Verity, J. C. K., Hac, L., & Skerritt, J. H. (1999). Development of a field enzyme-linked immunosorbent assay (ELISA) for detection of  $\alpha$ -amylase in preharvest-sprouted wheat. *Cereal chemistry*, 76(5), 673-681.



## Current management and mitigation

- Growing the best variety for your location. This is the only premanagement tool available.
- Avoid green kernels at harvest, which have high alpha-amylase activity. Just a few green kernels can lower the falling number for an entire lot.
- Follow best sampling and composite development practices.
- Ensure your falling number is from a valid test!
- Report to researchers when you think you have a problem: [alison.thompson@usda.gov](mailto:alison.thompson@usda.gov) or [ahauvermale@wsu.edu](mailto:ahauvermale@wsu.edu).

To improve variety performance and prediction tools, we are asking for grower and elevator participation:

- What varieties are being grown and where, especially if you identified a potential problem. i.e. What weather events occurred?
- What cardinal direction of what county, i.e. northwest Whitman County, and, if comfortable, the town you are closest to.
- Other management information such as soil amendments, spraying, tilling, etc.

By providing this information, you can help tackle the low falling numbers problem for the PNW. Thank you to all the interviewees that participated in our fact-finding mission and our industry research partners HighLine Grain Growers, Palouse Grain Growers, and The McGregor Company! ■

# Growing problem

## THE SIGNIFICANCE OF THE WEED SEEDBANK TO WHEAT PRODUCTION IN THE PACIFIC NORTHWEST

By Ian C. Burke

*Professor of Weed Science and the R.J. Cook Endowed Chair of Wheat Research, Washington State University*

The weed seedbank is a crucial component of agricultural and natural ecosystems, playing a significant role in shaping weed communities, agricultural productivity, and conservation practices. Understanding the dynamics of weed seedbanks is essential for effective weed management strategies and sustainable land-use practices. Indeed, assessing the status of the seedbank on a field-by-field basis may be the best metric for assessing future crop rotation or conservation plans. The problem is enormous — in our recent work assessing the status of the weed seedbank, the numbers of seeds we are finding often exceed a billion per acre. Adaptation is a numbers game, just like in wheat breeding, and weeds exist in our wheat fields in numbers that are astonishing. It's no wonder that weeds adapt so quickly to our inputs!

The weed seedbank refers to the collection of dormant weed seeds present in the soil seed reservoir. These seeds originate from various weed species and can persist in the soil for extended periods, ranging from months to several to many years, depending on environmental conditions and seed characteristics. The composition of the weed seedbank is influenced by factors such as seed dispersal mechanisms, soil type, land management practices, and environmental conditions.



Italian ryegrass pulled from Washington State University wheat test plots at Spillman Farm in Pullman, Wash., in 2023.

Seeds within the weed seedbank exhibit varying levels of dormancy, which affect their germination potential. Dormancy mechanisms, such as physical, physiological, and morphological dormancy, regulate the timing and conditions required for seed germination. Environmental cues, including temperature, moisture, light, and soil disturbance, play crucial roles in breaking seed dormancy and triggering germination. There's consensus that only about 4% of the seedbank germinates every year — the aboveground growth suppresses additional germination in the same way as a crop canopy.

The weed seedbank is dynamic, with seeds continuously entering, persisting, and exiting the soil seed reservoir. Seed input occurs through seed rain from mature weed plants and seed dispersal by wind, water, animals, and human activities such as tillage and crop cultivation. Seed persistence in the soil is influenced by factors like seed burial depth, soil microbial activity, predation, and environmental conditions. Seed output occurs through seed decay, predation by seed-eating organisms, and seedling emergence. There's a growing recognition that we need to reduce or ideally completely eliminate seed production every season. Frustratingly, soil and moisture conditions in the Pacific Northwest appear to be suited to longer weed seedbank persistence.

The weed seedbank plays a crucial role in shaping weed community dynamics, species composition, and biodiversity in our wheat fields. In wheat production systems, the weed seedbank poses significant challenges to crop production by reducing yields, competing with crops for resources, harboring pests and diseases, and increasing weed management costs.

Effective weed management strategies aim to minimize the impact of the weed seedbank on agricultural productivity, ecosystem health, and long-term system resiliency. Management practices that promote soil conservation and restoration can influence the dynamics of the weed seedbank, too. Practices such as reduced or no-till enhance soil health, structure, and biodiversity, potentially reducing the persistence and viability of weed seeds in the soil. Dr. Drew Lyon and I have been working to address how to manage weeds from a weed seedbank perspective. From attempting to stimulate weed seed germination with growth regulators to harvest weed seed control, our efforts have been at best frustrating. Dormancy and shattering are key attributes for the most successful weeds, and our systems are highly constrained by climate and the need for soil stabilization.

Despite advances in weed management research and technology, challenges remain in effectively managing the weed seedbank. Factors such as herbicide resistance,

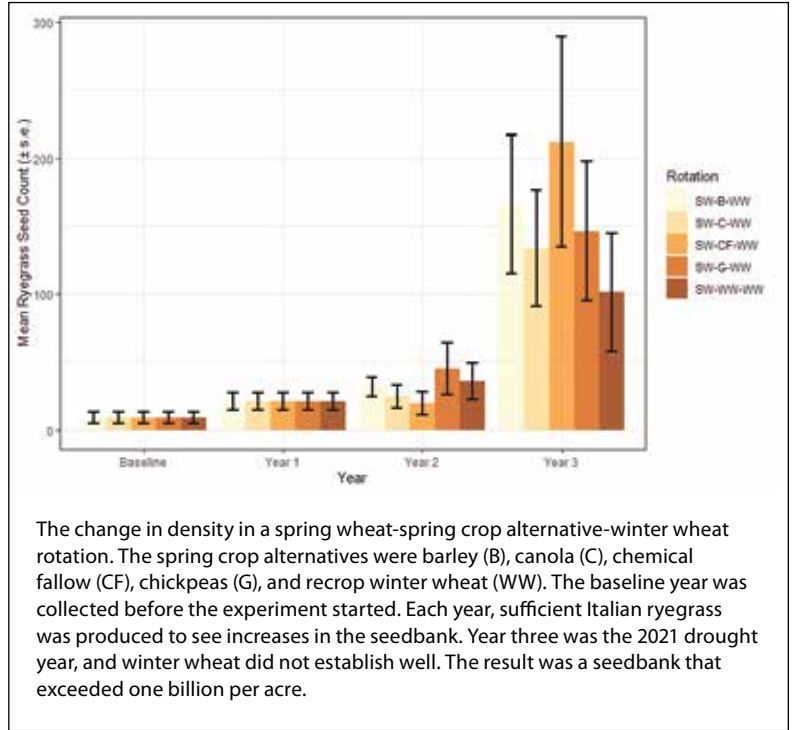


Chaff lining is a harvest weed seed control method widely used in Australia. A baffle separates straw from chaff, and a chute is connected to a combine's rear. As the combine operates, chaff containing weed seed is expelled in narrow bands. The initial purpose is not to kill weed seed, but rather concentrate it and prevent it spreading across a field.



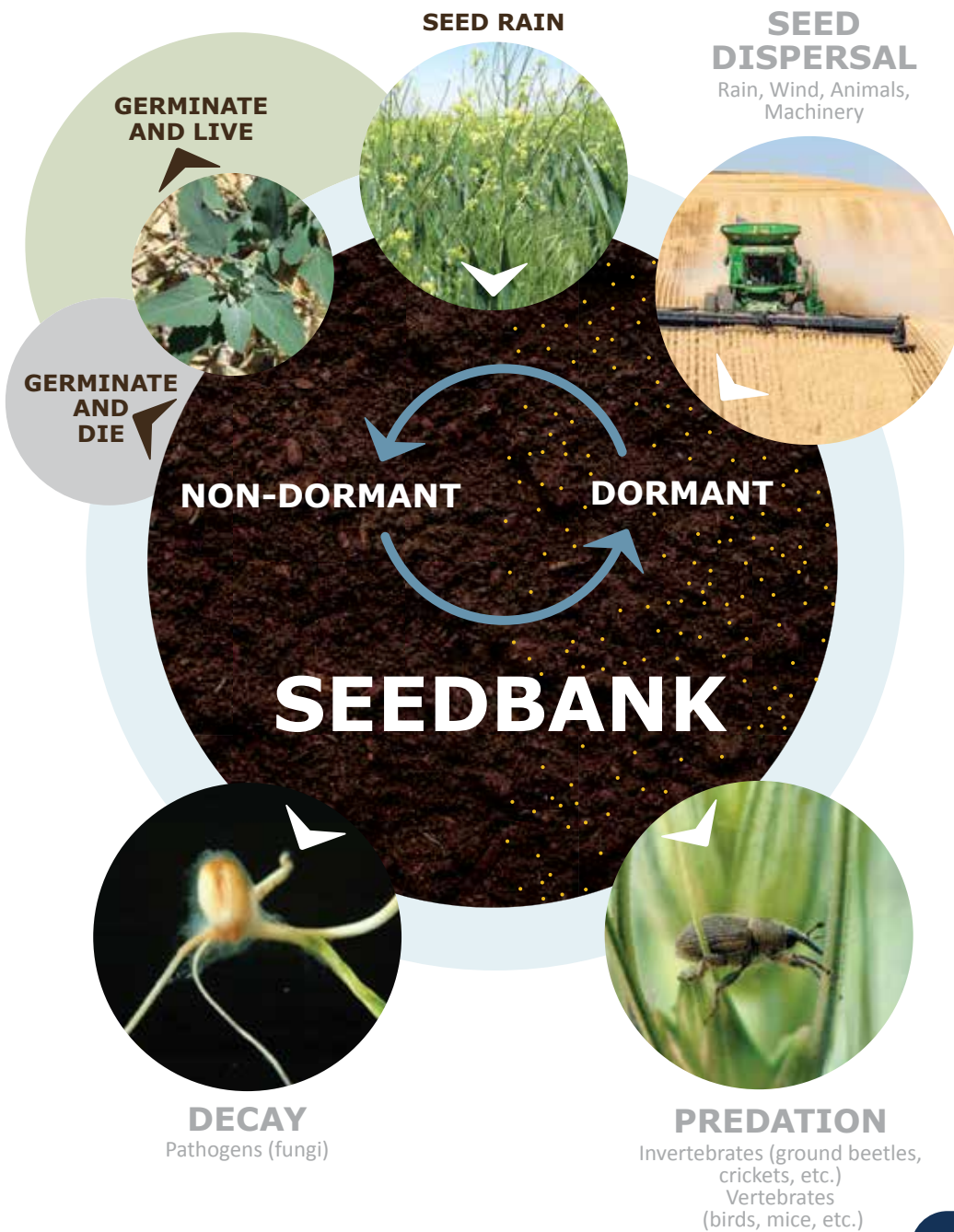
adaptation, and variation in climate pose ongoing challenges to targeting the weed seedbank. Future research directions include exploring novel weed management strategies, understanding seedbank ecology in changing environments, and simply developing methods to rapidly and accurately quantify the weed seedbank.

The weed seedbank plays a critical role in agricultural systems, influencing weed community dynamics, biodiversity, and ecosystem services. Understanding the dynamics of the weed seedbank is essential for developing effective weed management strategies, promoting sustainable land-use practices, and conserving soil and ecosystem health. Continued research and innovation are necessary to address the challenges posed by weed seedbanks and ensure the resilience and productivity of our wheat production systems in the Pacific Northwest and in Washington. ■



The reddish-brown tops of cheat grass are visible among a wheat field in Eastern Washington.

# THE SEEDBANK CYCLE



## 5 things you should know!

- Newly produced weed seed are or can become dormant. Some weeds set both dormant and non-dormant seed at the same time.

**Practical outcomes:** Dormant seed, when presented with ideal conditions, do not germinate.
- The three main types of dormancy are physiological, physical, and developmental - some weeds have all three.

**Practical outcomes:** An array of farm practices can influence which weed species or weed seed germinate, and the reason is not always apparent.
- Managing the weed seedbank requires knowledge of dormancy, predation, and impact of soil disturbance.

**Practical outcomes:** The seedbank is highly influenced by tillage system, and tilled and no-till systems tend to have different spectrums of weeds. Periodic tillage (once every 3-5 years) can impact the weed seedbank composition.
- The magnitude of the seedbank is often enormous - densities can approach several hundred thousand per square yard.

**Practical outcomes:** It can take years of zero tolerance for weed seed set for farmers to see a noticeable reduction in weed seed germination from a particular area.
- A single failure to manage a weed can result in a complete restoration of the seedbank.

**Practical outcomes:** Weeds are so prolific that they can easily produce enough seed in a single season to erase decades of progress.





# WHEAT WATCH

WASHINGTON GRAIN COMMISSION

## Initial reports indicate no wheat PLC for 2024



By T. Randall Fortenbery  
Professor and Tom Mick Endowed Chair,  
School of Economic Sciences, Washington  
State University

On Feb. 15, the U.S. Department of Agriculture (USDA) provided their first forecasts of the 2024-25 wheat marketing year at their Agricultural Outlook Forum. The data are very preliminary, since the marketing year does not even begin until June 1, 2024, and spring crops have not been planted. For wheat, production expectations are derived based on estimated winter wheat planted acres, early expectations for spring wheat acres, and trend yields over the past 30 years. Thus, there can be significant revisions going forward as both acreage numbers are refined and yield expectations change with spring planting and weather conditions. USDA will not revise their estimates for the 2024-25 wheat market until the June World Agricultural Supply and Demand Estimates report (WASDE).

The USDA balance sheet forecasts for U.S. wheat in 2024-25 compared to this and previous marketing years is shown in Figure 1. At this point, the most interesting number for wheat farmers is probably the forecast marketing year average price. This is the price that will determine if Price Loss Coverage (PLC) payments are made in fall 2025 for the 2024 wheat crop. At \$6 per bushel, the current forecast is above the trigger price of \$5.50 per bushel, so at this point, USDA is not expecting PLC payments for the 2024 wheat crop. Even though USDA is forecasting a 7% increase in U.S. wheat exports in 2024-25, total demand is expected to drop next year, and supplies are expected to increase, leading to an increase in wheat ending stocks at the end of the 2024-25 marketing year. Increased ending stocks contribute to the expected decline in marketing year prices for next year.

Figure 2 shows the initial USDA marketing year wheat price forecast from the annual Agricultural Outlook Forum compared to the final marketing year average price for the last six years. Note that in only two of the last six years did USDA initially overestimate the final price (one of those years is the current marketing year). On average, USDA has underestimated the final price by about 5% over the last six years. However, when they were overly optimistic concerning prices, the forecast

**Figure 1: U.S. Wheat Balance Sheet (June/May)**

Based on the February 2024 WASDE-USDA

Marketing Year	USDA	USDA	USDA	USDA
	21/22	22/23	23/24	Feb fore 24/25
	million acres/million bushels			
<b>Beg Stocks</b>	845	674	568	658
<b>Imports</b>	96	122	145	120
<b>Acres Planted</b>	46.7	45.8	49.6	47.0
<b>Acres Harvested</b>	37.1	35.5	37.3	38.4
<b>% Harvested</b>	79.4%	77.5%	75.2%	81.7%
<b>Yield</b>	<b>44.3</b>	<b>46.5</b>	<b>48.6</b>	<b>49.5</b>
<b>Production</b>	1,646	1,650	1,812	1,887
<b>Total Supply</b>	<b>2,588</b>	<b>2,473</b>	<b>2,527</b>	<b>2,678</b>
<b>Food and Seed</b>	1,029	1,041	1,024	1,024
<b>Feed and Residual</b>	88	77	120	110
<b>Exports</b>	800	759	725	775
<b>Total Demand</b>	<b>1,117</b>	<b>1,118</b>	<b>1,869</b>	<b>1,909</b>
<b>Ending Stocks</b>	674	570	658	769
<b>Stocks To Use</b>	<b>60.34%</b>	<b>50.98%</b>	<b>35.21%</b>	<b>40.28%</b>
<b>Avg. Farm Price</b>	<b>\$7.63</b>	<b>\$8.83</b>	<b>\$7.20</b>	<b>\$6.00</b>

Source: USDA 2024 Agricultural Outlook Forum. <https://www.usda.gov/sites/default/files/documents/2024AOF-grains-oilseeds-outlook.pdf>

error was significant. In February 2019, for example, they overestimated the 2019-20 final market year price by 14%, and in February 2023 their forecast was 18% higher than the current estimate for the 2023-24 marketing year.

Even with a current price forecast \$.50 above the PLC trigger price for 2024-25, it is not clear that PLC will not turn out to be an attractive farm program choice. The forecast price is close enough to the trigger price for next marketing year that the choice between PLC and Agriculture Risk Coverage (ARC) is less clear than in previous years. However, in general (and as the historical data suggests), the USDA price forecast should generally be viewed as a conservative, lower-bound estimate. This is because the forecast tends to assume normal weather resulting in good yields and a stable trade environment. Higher-than-initially-forecast prices often come from production issues, while price reductions often come from reduced export volume compared to the initial estimates.

Interestingly, the market does a pretty good job of predicting the final marketing year price for wheat early compared to the initial USDA forecast. Figure 3 shows the relationship between the price on the last trading

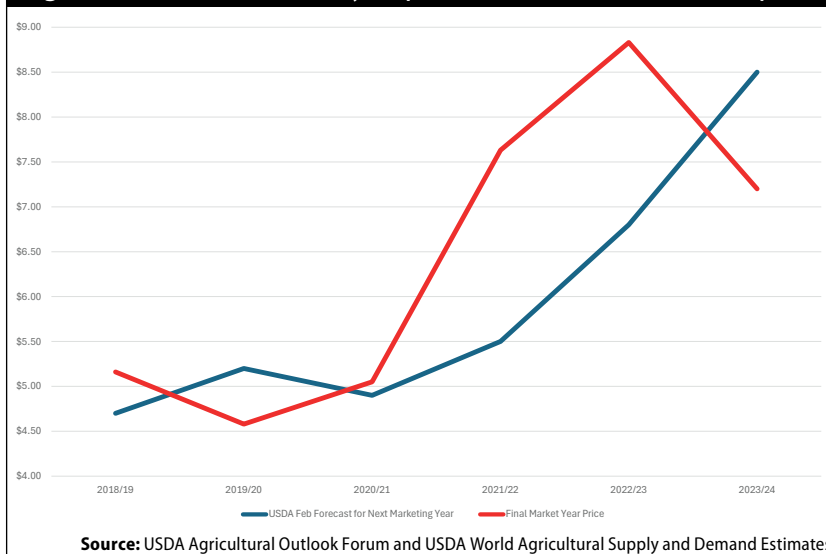
day of February for the December futures contract (December is halfway through the marketing year) compared to the final marketing year price over the last 20 years. If we look at just the last six years to compare directly with Figure 2, the February futures price for December delivery has been less than 1% higher than the final national average price, suggesting it might be a better indicator of the likelihood the PLC will pay in any given year than the initial USDA price forecast. This is skewed a bit by the 2021-22 marketing year when the December futures price at the end of February 2021 was more than \$1 per bushel below the final marketing year price (USDA underestimated the final 2021-22 marketing year price by over \$2 per bushel in February 2021), but even throwing that year out, the February quote for the December futures price is a better forecaster of the final marketing year price compared to the initial USDA forecast and is thus a better indicator of the extent to which PLC is an attractive program choice.

Based on a lower price for most crops harvested in 2024 compared to 2023, USDA currently predicts a decline in net farm income for 2024 compared to 2023. Net farm income was record high in 2022, but is estimated to have declined about 16% in 2023. It is forecast to fall another 24% in 2024. Income for U.S. wheat farmers is expected to decline by a smaller percentage than corn and soybean farmers, but producers of all three commodities are expected to experience declining incomes from crop sales in 2024. If USDA's projections are realized, net farm income in the U.S. will revert to the 20-year average and be the lowest since 2009.

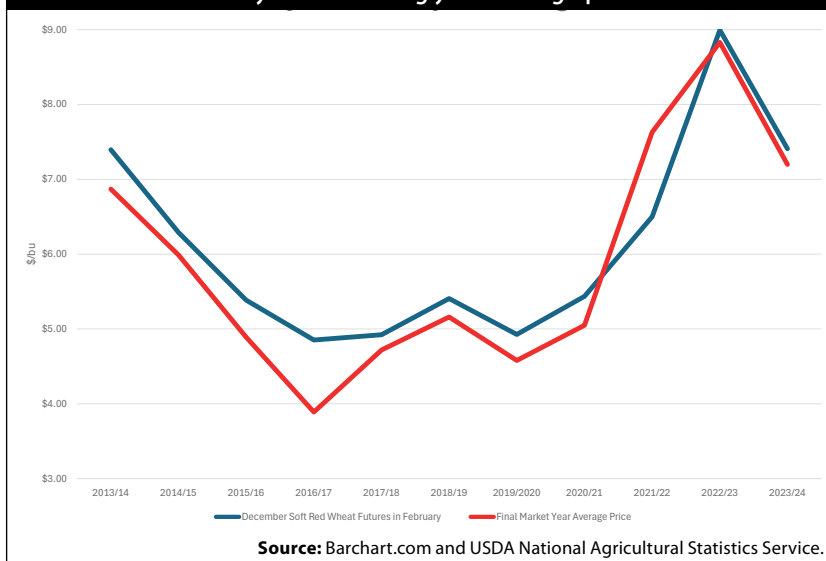
Based on the USDA Winter Wheat and Canola Seedings report released in January, Washington farmers planted 1.8 million acres of winter wheat for the 2024 harvest, equal to planted acres last marketing year and 3% less than the 2021-22 marketing year. On a national basis, winter wheat planted acres are down 6% compared to last year.

While there has been significant year-

**Figure 2: USDA initial market year price forecast for wheat vs. final price**



**Figure 3: December soft red futures price last trading day of February vs. marketing year average price**



to-year variability, trend winter wheat yields in Washington have been quite flat over the last 20 years, averaging 65.1 bushels per acre across the state. Over the last 20 years, Washington producers have harvested 97.2% of planted winter wheat acres. If we experience a similar harvest rate this year with average yields, Washington farmers will harvest about 113.9 million bushels of winter wheat this year. This compares to a total of 70.98 million bushels in 2021, 122.4 million in 2022, and 94.5 million last year. Thus, total wheat revenue could increase for Washington farmers if 2024 yields match the long-term trend even with lower average marketing year prices. ■

**Randy Fortenbery** holds the Thomas B. Mick Endowed Chair in Grain Economics at Washington State University. He received his Ph.D. in Agricultural Economics from the University of Illinois-Urbana/Champaign.



## Keeping farmers' lights on at a lower cost

David Funk, Zero Emissions Northwest

By Trista Crossley  
Editor, *Wheat Life*

David Funk, president of Zero Emissions Northwest, wants to shine light on ways farmers can reduce their on-farm energy costs and reliance on traditional forms of fuel.

“Zero Emissions Northwest is all about helping farmers access grants from the U.S. Department of Agriculture (USDA) and from other sources to help their farms save money on energy costs,” he explained. “In addition to grants, we also deploy what I call practical energy solutions, which have very short payback periods and impact the bottom line. Everything I do saves the farmer money.”

USDA’s Rural Energy for America Program (REAP), which is partially funded with Inflation Reduction Act (IRA) money, is currently offering reimbursable, matching grants of up to 50% for rural businesses and ag producers who make energy efficiency improvements, such as lighting upgrades, insulation, drones, or renewable energy investments, in their operations. Switching to solar panels to power a shop, for instance, looks extremely attractive, when one adds a tax credit of up to 30% and accelerated tax depreciation to the REAP grant.

“Right now, there are a few utilities that service wheat growers, charging approximately \$.07 per kilowatt hour. If 80% of your energy is coming from sunshine, it means your blended energy cost is \$.01 a kilowatt hour,” Funk said. “To me, the biggest impact to a farm is not only solar, but what you choose to invest in after solar. It’s not happening immediately, but if your water heater goes out and you’ve been run-



David Funk (left) and Jake Tanke work through different grant scenarios and financial modeling. Funk is owner of Zero Emissions Northwest, a company that helps farmers get federal grants to make energy efficiency improvements. Photo courtesy of David Funk.

ning on propane, maybe you get an electric one next. If your car dies or utility vehicle dies and you need a new one, maybe in three years, there are attractive electric options. It’s basically free energy from the sun and allows that farm to continue to invest in efficiency.”

To qualify for the REAP grant, producers have to have at least 50% of their gross income come from agriculture, and the energy usage has to be existing energy usage tied to the farm. Solar is only one of many options, and there is a fair amount of legwork and paperwork that is required. That’s where Funk comes in.

Funk has been involved in renewable energy and the financing of renewable energy for more than 15 years. It was his marriage to the daughter of a Harrington, Wash., farmer that started him down the path towards Zero Emissions Northwest. During the pandemic, Funk and his family moved to Spokane to be closer to his wife’s family. During a visit to the farm, Funk said he was looking at his father-in-law’s shop and realized there was likely some sort of financial incentive available to farmers to help them reduce their energy costs. He did a little research, found the REAP grant, and helped get solar installed on the shop.

“Then a bunch of neighbors came out and asked if I could get them a grant. I

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A USDA Rural Energy for America Program-supported solar project at a Harrington, Wash., farm. Photo courtesy of David Funk.

was doing this for fun. I was better at paperwork than the farmers, and I enjoy seeing steel in the ground and seeing progress,” he explained. “I don’t sell solar. It just happens to be lucrative for farmers who can stack grants and tax stuff on top of each other. That’s why solar is a screaming deal.”

In summer 2023, Funk contracted with the USDA to market their programs in Washington and Idaho and assist farmers in applying for them. He said very few people seem to be having conversations with farmers about renewables, energy efficiency, and transportation, because energy usage tends to be just one of the costs of doing business for farmers. They have to use the combine to harvest, and the combine needs fuel.

“There’s no magic bullet with energy, but if you can use 5% less here, 5% there, the incremental changes add up. That’s impactful,” Funk said.

Some of the obstacles Funk has run into is the idea that the deals are “too good to be true” and educating farmers (and their accountants) on how to apply the deductions and tax credits.

“This is real, but it’s not going to last. The 50% grants are from the IRA, and then it will go back to the standard 25% grants from the farm bill. Even then, you’d be about 70% covered, so it’s still viable, you’ve just got to do the paperwork, and jump through a few other hurdles.”

Funk is expanding Zero Emissions Northwest with a new project, Solarize WA Ag, that aims to use the combined purchasing power of multiple buyers to drive down

the cost of installing solar. So far, he estimates he’s got more than 50 grant-eligible farmers between Spokane and the Tri-Cities who are interested in winning grants and installing solar. He plans to package those customers and let solar companies bid on that business in hopes of getting a lower installation price.

Solar is only one area that Funk looks at when he’s trying to find ways for a farmer to save energy; another area that could be eligible for a grant includes putting insulation into a shop. The first step is generally doing an energy audit to find areas where energy efficiencies could be deployed. The process isn’t quick; for solar, Funk said it can take 12-18 months from the initial grant application to installation and funding reimbursement.

More information is at [zeroemissionsnorthwest.com](http://zeroemissionsnorthwest.com). ■

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# THE BOTTOM LINE

## What to watch for in energy leases

By Norman D. Brock  
Attorney at Law, Brock Law Firm

Many of our widespread agricultural base of clients have, over the last several years, been presented opportunities to participate in an energy lease, whether solar or wind. Many of these leases were entered into years ago, most especially wind energy leases, and now are producing very significant income streams for the landlord/family. Having read and reviewed a good number of such leases, my take is that while these typically very long, complex leases are essentially the same, they all raise concerns when reviewed. As a general statement, I have found that the proposed tenant/lessee, especially on a more current basis, is very willing to discuss all areas of concern you have and address them in the lease.

In no particular order of priority, here are a number of concerns or issues we want to address:

**Rental rate.** Ask yourself, “What is the highest and best rate structure



this lessee will go for?” and include a clause that the lease rate will be adjusted to automatically include any subsequent rental rate structures agreed to by the lessee with any neighbor or landlord owner in the proposed target area.

**Building roads.** Review wordage about building roads — the location and such. If construction of a right of way is involved, make sure you have some say in location and, ultimately, have a clause covering maintenance by the lessee, i.e. weeds etc.

**Termination clause.** The lease typically has wordage that the lessee can, at any time, terminate the lease early and be absolved of all responsibility, including paying of rent under the lease. We have been successful in asking such wordage to be modified and to include a penalty fee for such early termination.

**Bonding.** Look for the bonding wordage. At the end of the lease, the lessee is to clean up and/or restore the premises to “as was” prior to the lease. Who will that lessee be? Will they have the financial ability to comply? Presumably, this is not an issue YOU will face, if the lease is programmed for the long term (i.e. 40 years or more), but for your heirs, removal costs and such could be a financially huge burden.

**Farm Service Agency (FSA) programs.** Is any of your property under the proposed lease enrolled in FSA programs such as the Conservation Reserve Program or the Conservation Stewardship Program? Removing even a small parcel unilaterally from inclusion in the FSA program can result in possible termination of the entire contract by FSA. Review the wordage carefully and include protective wordage that the lessee will be responsible to fully reimburse the landlord (or operator of the land) for all possible FSA early termination fees and penalties, not just applicable to the small parcel(s) being removed.

**Lease assignment.** Always, there is wordage giving the lessee the right to unilaterally assign the lease “in toto” without your (the landlord’s) consent. This wordage should be negotiated to at least have some protection for you, i.e. “your

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consent not to be unreasonably withheld, tied to financial review, etc. of the proposed successor assignee.”

**Escalation clause.** A client was successful in negotiating an escalation clause in a proposed wind energy lease as to future rents, meaning every five to 10 years, lease rental rates are reviewed and adjusted to the current industry standard.

**Construction.** Watch wordage concerning lease activities in relation to the construction of roads, towers, etc., that such cannot interfere with existing farming activities.

You’ll want to specifically cover possible crop damage issues resulting from such construction.

**Signing bonus.** Recently, at least, a prospective lessee was willing to pay a significant signing bonus.

**Attorney fees.** The lessee should agree to pay you an advance for your attorney’s review of the lease. The range I have seen is \$1,000 to \$3,500.

**Site location.** Pay attention to possible proposed sites, especially for a solar panel farm. For example, is it near your main farm homestead? Or where you look out the kitchen windows and will see it forever? The same goes for ultimate siting of wind turbines, not just the possible obstruction of view, but consider the noise factor.

**Possible “sub” lessor issue.** Energy leases typically restrict changes to the named landlord or leaser, so if the land to be leased is held in a separate farming entity, such as a Limited Liability Company, any potential changes to that entity (and the different combination of family members and ownership percentages present) need to be addressed in lease negotiations. ■

**Norm Brock** has been representing farm families throughout Eastern Washington, Idaho, and northwestern Oregon for more than 40 years. He works out of the firm’s Davenport and Spokane offices and can be reached at (509) 721-0392.



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Michelle (7) and Shaun Bingman (10) at the end of a day of harvest at Bingman Farms in Garfield County.  
Photo by Brian Bingman.



Heath Moore (2) waiting to ride with Grandpa Joe in Kahlotus. Picture by Mandi Matthews (driving the bank-out wagon).



Nonnemacher Farms Joint Venture in Davenport. Photo submitted by Joel Cronrath.



# Your wheat life...



Kevin Paulson, Arlin Paulson, and Marc Lundt cutting at KHEM Farms in Rosalia. Photo by Erin Lundt.



(Above) The 2023 Hat Rock fire near Wallula. Photo by Mike Nelson. (Left) Three generations of Melchers. From left are John Melcher, Alice and Gorden Melcher, and Jeff Melcher. Photo by Heather Melcher.



# HAPPENINGS

All dates and times are subject to change.  
Please verify event before heading out.

## MARCH 2024

### 1-3 SPRING ARTS AND CRAFTS SHOW.

Professional artists and crafters from across the Northwest will display and sell their fine art, hand crafts and specialty foods. Spokane Fair and Expo Center, Spokane, Wash. custershows.com

### 12 LANDLORD/LANDOWNER

**WORKSHOP.** AMMO workshop 10 a.m. to 3 p.m. at the Hampton Inn in Spokane, Wash. Lunch is provided. No charge for WAWG members; cost for nonmembers is \$25. Preregister by calling (509) 659-0610 or print out and mail registration form at wawg.org/ammo-workshops/.

### 13 STOP FIGHTING ON THE WAY TO

**THE FUNERAL HOME.** AMMO workshop with Jolene Brown 10 a.m. to 3 p.m. at the Hampton Inn in Spokane, Wash. Lunch is provided. No charge for WAWG members; cost for nonmembers is \$25. Preregister by calling (509) 659-0610 or print out and mail registration form at wawg.org/ammo-workshops/.

### 15-17 SPRING ARTS AND CRAFTS

**SHOW.** Professional artists and crafters from across the Northwest will display and sell their fine art, hand crafts and specialty foods. HAPO Center, Pasco, Wash. custershows.com

### 30 EASTER EGG HUNT.

St. John City Park, St. John, Wash. stjohwna.com/events

## APRIL 2024

### 13-14 EASTERN WASHINGTON AGRICULTURAL MUSEUM HORSE AND MULE FARMING.

Free family event. 9 a.m. to 5 p.m. daily. Pomeroy, Wash. Camping available. Call 509-843-3701. ewamuseum2008@gmail.com

**19-20 COMMUNITY FAIR.** St. John, Wash. stjohwna.com

### 26-27 30TH ANNUAL FRONEN STEPPEDECKER ODESSA SPRING FLING QUILT SHOW.

Featured Quilter is Shelley Sieverkropp, an accomplished machine quilter. A Hoffman Challenge Trunk Show and over 200 quilt entries, merchant mall are included in the show. A craft market and car show are planned by the Parent Teacher Organization plus yard sales around town. 9 a.m. to 5 p.m. each day at the Odessa High School Gym. Admission is \$5. odessaquiltclub.com

### 25-MAY 5 WASHINGTON STATE

**APPLE BLOSSOM FESTIVAL.** Parade, carnival, golf tournament, apple pie and dessert bake-off, live entertainment, auction. Wenatchee, Wash. appleblossom.org

## MAY 2024

### 1-4 JUNIOR LIVESTOCK SHOW OF

**SPOKANE.** Spokane County Fair and Expo Center. juniorshow.org

### 4-5 RENAISSANCE FAIR.

Music, entertainment, food, arts and crafts and maypole dances. East City Park, Moscow, Idaho. moscowrenfair.org

**5 BLOOMSDAY.** Spokane, Wash. bloomsdayrun.org

**10-12 WINTHROP '49ER DAYS.** Parade, cowboy songs, poetry, dancing, Saturday dinner, Sunday cowboy breakfast. Winthrop, Wash. winthropwashington.com/events/old-west-festival/

### 16-19 SELAH COMMUNITY DAYS.

Carnival, car show, entertainment, vendors. Selah, Wash. selahdays.com

### 17-19 WAITSBURG CELEBRATION

**DAYS.** Classic car show, cornhole tournament, street dance, vendors, parade, soap box derby, music. Waitsburg, Wash. waitsburgcd.com

### 18 WATERVILLE COMMUNITY GARAGE

**SALE.** Event runs from 9 a.m. to approximately 3 p.m. Maps and a list of addresses will be available for pick up on W. Locust Street. The event is sponsored by Waterville Main Street Association. historicwatervillewa.org/

### 23-26 MOSES LAKE SPRING FESTIVAL.

Three-on-three basketball tournament, car show, parade, carnival, entertainment. McCosh park in Moses Lake, Wash. springfestivalinmoseslake.com ■

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# WEED-IT

## THE NEW GENERATION WEED-IT QUADRO



**Robb Soliday**

 (509) 988-7018  Ritzville

**Jason Emerson**

 (509) 681-0466  Coulee City

 [info@agritechamerica.com](mailto:info@agritechamerica.com)

### WEED-IT QUADRO FEATURES

SAVE UPTO  
**90%**  
CHEMICALS



#### 40" Sensor Spacing

Improved detection on small plant  
increased power efficiency.



#### 50% Less Weight

1.5lbs per sensor  
places less stress  
on your sprayer.



#### Blue Light

Improved detection on small plant  
increased power efficiency.



#### Full PWM Application Control

Controlled dosage per weed - speed and turn compensating.



#### In-Crop PWM

Control Rate & Droplet size for all applications.



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## ODESSA TRADING CO.

YOUR BOURGAULT DRILL DEALER

UNITS IN STOCK!

RELIABLE, DURABLE

**BOURGAULT**

AND BUILT TO LAST

### 3320



The 3320 Paralink Hoe Drill comes in 3 configurations. One just right for your farm.

### 3720



The 3720 Disk Drill has 7.5", 10" or 12" spacings available with 30 ft. to 70 ft. widths.

### 5810



The 5810 Air Hoe Drill-A Floating Hitch Drill with a range of packer options.

Bourgault Drills have many options, including automatic lift controls and packing pressure, precise seed depth adjustment and nutrient placement.

Match Bourgault Drills with a 6000 Series Air Seeder Cart for maximum efficiency various models available, with up to 4 product carry configurations.

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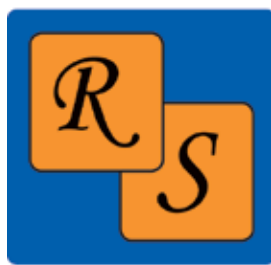
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# RUBISCO SEEDS

Hybrid Canola

## Winter Canola Hybrids: AKILAH, KICKER, MERCEDES, PHOENIX CL, PLURAX CL

**AKILAH:** NEW conventional hybrid stack with Turnip Yellow Virus (TuYV) resistance and extremely robust blackleg resistance, conferring the next level in plant health, and yield potential, coupled with excellent winter hardiness.

**KICKER:** Top yielding conventional hybrid, 2020 to 2023 PNW Winter Canola Trials. Excellent winter hardiness and resilience to pod shattering. Good drought tolerance. Medium maturity.

**MERCEDES:** Top yielding conventional hybrid, 2012 to 2023 PNW Winter Canola Trials. Vigorous fall establishment and early season cold tolerance. Responds to lower seeding rates relative to OP canola. Medium maturity.

**\*PHOENIX CL:** Two-gene Clearfield hybrid with proven performance in the PNW. Superior cold tolerance. Vigorous fall growth helps overcome insect feeding. Early maturity. Enhanced pod shattering resiliency. High yield potential.

**\*PLURAX CL:** Two-gene Clearfield hybrid with early maturity. High cold tolerance. Vigorous fall growth above and below ground. Prostrate fall crown development. Excellent yield and oil content. Strong pod structure.

NEW HYBRIDS- Intense focus on yield, disease & shatter : AKILAH, PICARD, MANHATTAN, MESSI & DRIFTER



PNWVT	2019	2020	2021	2022	2023	PNW	2023
lbs per acre							
Control Mean	4086	3743	3399	2683	3128	Private trials	
<b>Rubisco Seeds' Hybrids</b>							
<b>KICKER</b>	--	4972	4701	4383	3505	<b>KICKER</b>	4678
<b>MERCEDES</b>	5145	4419	4359	3756	3881	<b>MERCEDES</b>	4945
<b>PLURAX CL</b>	4959	4717	4465	3411	3753	<b>AKILAH</b>	5686
<b>PHOENIX CL</b>	4900	4611	4043	3398	3454	<b>DRIFTER</b>	4856

Data courtesy University of Idaho, Control Mean= Athena, Dwarf Essex, Ericka

\* Phoenix CL & Plurax CL compatible within Clearfield wheat rotations.

Strong cross tolerance to Imi / SU herbicides. Can be sprayed post emergence with Beyond herbicide. SU or SURT Canola cultivars are not viable in a Clearfield rotation. (50% yield reduction in soils containing IMI residues, independent research Caldbeck Consulting.)

### Contact Us



- 👉 Earn Non-GM premiums in addition to optimizing yields
- 👉 Locally based research on germplasm and agronomy
- 👉 All hybrids developed with a strong focus on shatter tolerance
- 👉 All seed is certified Blackleg free. Organic growers, please inquire
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EMAIL US

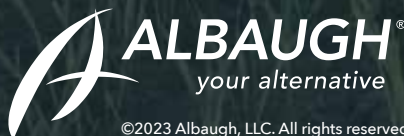
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