

Most of the U.S. Encounters Low Levels of Fusarium Head Blight, Impacted Crops Found in Regions Where FHB is Generally Not a Concern

By Dr. Amber Hoffstetter

Disease pressure for Fusarium head blight (FHB or scab), caused by the fungus *Fusarium graminearum*, was low throughout most of the United States in 2023. A few states (Colorado, Kansas, and Nebraska), experienced FHB development in isolated regions where FHB is typically not a concern. Other states reported FHB concerns in late planted crops and organically managed small grains. Drought conditions plagued most of the small grain production from the Midwest (Illinois, Indiana, Kentucky, Michigan, Missouri, Ohio, Tennessee, and Wisconsin) through the Great Plains (Colorado, Kansas, Minnesota, Montana, Nebraska, North Dakota,



Wheat heads infected with Fusarium head blight in Colorado, where growers experienced high levels of FHB for the first time in recent history. (Robyn Roberts, photo)

Oklahoma, South Dakota, and Texas). Despite the hot dry conditions, overall, yield and quality of most grain classes was good. In areas where moderate to high risk of FHB was predicted by the [FHB Risk Tool](#), growers applied preventive fungicides to successfully mitigate their risk. In regions where FHB historically hasn't been prevalent, extension experts are proactively increasing awareness about FHB as an emerging pathogen on small grain production. The [U.S. Wheat and Barley Scab Initiative \(USWBSI\)](#) reached out to state experts for their assessment of FHB for the 2023 growing season; an overview of each region is presented here.

FHB Poses Issues for Spring Cereals in the Northeast

(Malting Barley, Spring Wheat, and Soft Winter Wheat)

For growers in the Northeast region, issues with FHB and its most prevalent mycotoxin, deoxynivalenol (DON) were highly variable. Conditions seemed to be better for those growing winter than spring grains. Spring type grains faced the most challenges from FHB due to rain events at flowering and resulted in higher levels of DON in the finished grain.

Spring in **Vermont** started off dry and cool. Most areas in the state received less than two inches of rain during May with drought conditions persisting up until July. Many locations were able to plant spring grains on time but reported slow, uneven, and often poor germination. During July, the Northeast received record-setting rainfall. Constant rain persisted through harvest in mid-September.

Issues with FHB and DON were highly variable for growers in the region. Infection rates of *Fusarium graminearum* varied across locations. “The levels of DON from samples submitted from the Northeast to our testing lab have been very low in winter wheat and much higher in spring grains, especially spring wheat,” said Heather Darby, University of Vermont extension agronomist. Darby’s lab tested samples of corn, einkorn, spring barley, spring wheat, winter wheat, triticale, and rye from all Northeastern states. “Much like the 2023 growing season weather patterns, DON has been extremely variable even within regions and grain types,” Darby added. The majority of samples tested have been of spring wheat. On average, spring wheat samples are testing at higher DON concentrations (2.6 ppm) than those of winter wheat (0.3 ppm). Overall, 62% of the spring wheat samples were over the 1 ppm threshold while only 10% of the winter wheat samples fell over this threshold and only 2% tested higher than 2 ppm. Thus far, the highest winter wheat measured concentration is 2.5 ppm. All the samples from einkorn, barley, oats, and triticale tested so far this season have been below the 1 ppm FDA threshold.

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Heather Darby

Spring grains in **New York’s** Hudson Valley region met the same fate as those in Vermont. Frequent and heavy rainfall from late June through July meant many of the spring grains were left standing in the field or sold as livestock feed. “Grains grown under organic culture had high levels of DON, illustrating our continuing need for effective organic alternatives to synthetic fungicides for FHB management,” said Gary Bergstrom, professor of plant pathology at Cornell University. Growers using conventional methods to produce spring grains were able to manage FHB and DON sufficiently with timely fungicide applications. Still, most of the conventional spring grains were sold as animal feed due to the excessive amount of preharvest sprouting.

Despite the issues reported in spring grains, it was a banner year for winter wheat and winter barley production in New York. Fall of 2022 saw an increase in the planted acreage of winter wheat due to the early harvest of soybeans. The average yield for winter wheat, 81



bushels per acre, set a new state record for New York. The dry weather from flowering through grain maturation likely led to little FHB being observed in winter cereals. The quality of both the winter wheat and winter barley crops was excellent. Bergstrom is unaware of any winter wheat lots rejected for DON contamination and winter barley met the regional malt houses standards for purchase.

Production Good in Most of the Mid-Atlantic, with One Exception

(Malting Barley and Soft Winter Wheat)

Conditions for the production of small grains in the Mid-Atlantic were fairly good for most growers. Few issues were reported in regards to FHB and yields were exceptionally high despite the lack of moisture. Rain events just prior and during harvest led to some growers experiencing low falling number issues. One state, Virginia, reported FHB development in fields along the coast which received favorable conditions for FHB development in May.

The absence of rain from early April through mid-June had agronomists in **Pennsylvania** worried about grain fill. However, both yield and quality were excellent for those farmers whom were able to harvest early or on time. Even in the areas experiencing the driest conditions, yields neared 80 bushels per acre. Wheat yields in the northern tier of Pennsylvania were also average. FHB levels were low across the state. Proactive fungicide applications were useful when some areas of the state received repeated wet/dry cycles near harvest causing many fields to become infected with sooty mold which took a toll on grain weight. “The benefit of fungicides at flowering became apparent in these fields even in the absence of FHB as they were able to suppress the growth and establishment of these secondary nuisance fungi,” said Alyssa Collins, associate research professor at Pennsylvania State University and the director of the Southeast Agricultural Research and Extension Center.

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Alyssa Collins

The season in **Delaware** began dry, keeping foliar disease pressures low. Winter temperatures were mild resulting in higher levels of Barley Yellow Dwarf virus in malting barley, with stunted patches observed in fields during green up. Rain near anthesis increased the risk of FHB for susceptible varieties. “But inoculum levels did not have time to ramp up, and overall Fusarium Head Blight pressure remained low with no notable cases of elevated DON,” said Alyssa Koehler, University of Delaware extension plant pathologist. Moderate temperatures during May and June favored grain fill and growers saw exceptionally high yields across the state. Late rain events delayed harvest in areas and issues with low falling numbers were seen in the grain from these fields.



Low humidity during wheat flowering and grain fill in **Maryland** meant that FHB was not a major concern. DON levels in the harvested grain were also very low. Some wet conditions occurred during harvest, but by then, most of the wheat had escaped FHB infection. “Overall, 2022-23 was a good year for wheat and barley farmers,” said Nidhi Rawat, University of Maryland small grains pathologist.

While April was relatively dry and FHB risk was low in **Virginia**, favorable conditions occurred in May for disease development. “Virginia’s Northern Neck, Middle Peninsula, and Eastern Shore had moderate to high FHB disease pressure in around half of the fields visited in 2023,” said Doug Higgins, assistant professor of plant pathology and extension specialist at Virginia Tech. Growers reported timely applications of fungicides for management. However, managing FHB continues to be a challenge for the state’s small grains producers.

Southern Atlantic Late Planted Wheat Has Higher FHB

(Malting Barley and Soft Winter Wheat)

In the Southern Atlantic, most small grains fields had dry cool conditions during the FHB infection period. For many growers in the region, this season was a good one with decent yields and quality. Only late planted fields in Georgia reported issues with FHB.

In **North Carolina**, there were no reports of FHB in wheat or barley. “North Carolina and indeed the entire Southeastern U.S. had mainly dry conditions and low FHB risk in 2023,” said Christina Cowger, USDA-ARS plant pathologist located at North Carolina State University. The state’s wheat yields were decent; however, test weights were low most likely due to the drought and possibly from some severe cases of leaf rust.

The wheat growing season in **South Carolina** was good. Spring lasted longer than usual keeping temperatures low during grain fill and providing good moisture across most areas of the state. Due to the cool damp conditions, there was an increased incidence of foliar diseases, especially powdery mildew. During heading and flowering, a few weather systems could have caused issues for FHB. “However, I did not receive any calls or grower complaints about FHB. All in all, the 2022-2023 growing season was pretty favorable in South Carolina,” said Alex Coleman, Clemson University extension small grains specialist.

For the most part, FHB incidences were low across the state of **Georgia** this season. Some fields in the southwestern part of the



Fusarium head blight infected heads obtained from commercial fields in southwest Georgia.
(Alfredo Martinez-Espinoza, photo)



state (Grady, Seminole, Sumter, and Taylor counties), did have high FHB severities. “Late planted fields seemed to be the most affected,” said Alfredo Martinez-Espinoza, University of Georgia small grains extension plant pathologist. During the wheat growing season, the weather was unusually cool with some irregular humid conditions which may have prevented FHB epidemics from developing. Fortunately, many growers were proactive, applying preventative fungicides during the flag leaf stage and/or at flowering. Fungicide applications in the state can be attributed to two things this year: the higher cost of wheat allowing applications to be profitable and the FHB Risk Tool indicating “moderate to high risk” for short periods throughout the season.

Midwest Yields High; Dry Conditions Keep FHB at Bay

(Malting Barley & Soft Winter Wheat)

Wheat and barley specialists in the Midwest reported mostly dry conditions this year, with little to no disease pressure from foliar diseases or FHB. Despite the lack of rain, wheat yields were average to above-average with multiple states reporting possible record yields. Overall, it was a good year for producing small grains for the region’s growers.

Despite the dry conditions this season, **Michigan’s** wheat yields were better than growers expected. Extremely dry conditions reduced foliar disease pressure and the need for fungicide applications. “Dry conditions during flowering also resulted in low risk for head scab,” said Martin Chilvers, Michigan State University extension plant pathologist. The FHB Risk Tool reflected these conditions in its predictions for the state and minimal issues with mycotoxins at harvest were received. Rain events near harvest caused conditions to be right for black sooty mold to appear on the heads, but quality was not impacted. Chilvers continues to remind growers to control volunteer wheat to help reduce virus diseases in the 2024 crop.

The production of soft winter wheat in **Ohio** was up. A mild winter meant little to no damage occurred to the 590,000 acres planted. The crop did suffer some drought and heat stress in late May and early June. “This held most diseases in check,” said Pierce Paul, extension plant pathologist at The Ohio State University. Rainfall and temperatures varied within the state, but most areas experienced several weeks of moderate temperatures and sufficient rainfall following the dry spell. This, coupled with low disease pressure, extended grain-fill leading to above-average yields and good grain quality. “Ohio had the largest area harvested in over the past five years,” said Clay Sneller, professor and soft winter wheat breeder at The Ohio State University. The [USDA National Agriculture Statistics Service](#) reports the average state yield at 90 bushels per acre, which if final would set a state record. Due to the dry conditions and heat, FHB was at very low levels throughout the state. “It was a good year in Ohio!” added Sneller.

Many of the wheat acres in **Kentucky** are planted following corn using a no-till system. This leaves *Fusarium*-infected corn stalks and debris that serve as sources for FHB inoculum in

“These management practices...have helped limit the impact of FHB and DON.”

Carl Bradley



the soft winter wheat. Most growers take this into consideration when making their management decisions and choose to plant moderately resistant varieties and to apply the most efficacious fungicides. “These management practices, often utilized by Kentucky farmers, have helped limit the impact of FHB and DON,” said Carl Bradley, University of Kentucky extension plant pathologist. This year, the impact of FHB and DON was low and growers

harvested a total of 460,000 acres with an average state yield of 88 bushels per acre.



While incidence of Fusarium head blight was low in Indiana this season, infected heads could still be found. (Darcy Telenko, photo)

Soft red winter wheat in **Indiana** had a record year too. Average yield for the state was reported at 92 bushels per acre. Wheat production was up 67% from 2022 with a total of 335,000 acres harvested. Conditions were dry during flowering, reducing the risk of FHB and only low levels of DON were reported. “Fusarium head blight was extremely low in Indiana wheat for 2023,” concluded Darcy Telenko, extension plant pathologist at Purdue University.

With 410,000 acres planted for the 2022-23 season, **Tennessee** saw a slight increase in wheat acreage. The majority (82%) is harvested for grain while the remainder is used in cover cropping systems. More FHB was observed in 2023 compared to either 2022 or 2021, however, FHB incidence and severity remained low. Yield reductions were not reported and the

average state yield was 73 bushels per acre compared to 71 and 74 bushels per acre in 2022 and 2021, respectively. “Local rain events and cooler temperatures along with variety selection influenced incidence and severity, as did fungicide applications that went out around bloom in some fields,” said Heather Kelly, extension plant pathologist at the University of Tennessee.

Statewide, **Wisconsin’s** disease pressure in winter wheat was lower this year than in 2021 when the state had record low levels of FHB and DON. Hot dry weather during stem elongation and flag leaf emergence kept foliar diseases and FHB at bay. “One small exception in 2023 was the occurrence of powdery mildew that could be found on susceptible varieties,” noted Damon Smith, University of Wisconsin extension plant pathologist. Powdery mildew caused by *Blumeria graminis* f. sp. *tritici* thrives in cool, dry, humid conditions. The pathogen’s progression slowed once daytime temperatures reached above 81 degrees Fahrenheit. This season, no other diseases were prevalent in Wisconsin.

Illinois growers had a record year with 780,000 acres of soft winter wheat and an average yield of 87 bushels per acre, which was within 8 bushels per acre of the Illinois Wheat



Association’s yield prediction made in May. Across most of the state, conditions were dry for wheat production. This meant conditions were not favorable for FHB and DON levels were either very low or undetectable in most grain. “Overall, it was an exceptionally good year for wheat production in Illinois,” said Jessica Rutkoski, University of Illinois small grains breeder.

Spring in **Missouri** was drier than normal and by mid-May, 60% of the state was classified as “Abnormally Dry” to “Extreme Drought” by the [U.S. National Drought Monitor](#). Winter wheat acreage was up at an estimated 600,000 acres harvested. Dry conditions lead to non-uniform wheat stands but also meant low disease pressure, including from FHB. The University of Missouri’s Extension Specialist for field crop pathology, Mandy Bish, fielded few questions from growers regarding the need for fungicide applications this year. As with the other states in the Midwest, drought did not seem to affect the statewide yield. “Total yield was estimated to be approximately 40% higher in 2023 compared to 2022,” said Bish. This season, the current state average is estimated to be 70 bushels per acre.

Low Levels of FHB Reported in the Southern States

(Soft Winter Wheat)

Across the Southern states only trace amounts of FHB were reported in growers’ fields. Each state in the south reported different issues through the growing season. Some growers experienced a late spring frost leading them to abandon their fields while others battled Hessian Fly infestations. Overall, wheat diseases in the south were rare for growers.

“Overall, yield impacts and DON levels caused by FHB infection were minimal across **Alabama** in 2023,” said Amanda Strayer-Scherer, Auburn University assistant professor and extension plant pathologist. During the flowering window for soft winter wheat, the FHB risk levels were highly variable throughout the state. Variety resistance reduced the FHB risk. The highest risk was predicted in the southwest region where cool temperatures and prolonged periods of high humidity increased the chances for FHB development, though little disease resulted. “No samples for FHB were submitted to the Plant Diagnostic Lab of Auburn University in 2023 for wheat or



Amanda Strayer-Scherer and her research assistant rate Fusarium head blight and other diseases in the Auburn University Small Grains Official Variety Trials located at the Gulf Coast Research and Extension Center in Fairhope, AL. (Amanda Strayer-Scherer, photo)



barley,” said Eros Francisco, assistant professor and extension specialist for grain crops agronomics at Auburn University.

Growers in **Arkansas** planted approximately 230,000 acres of soft red winter wheat in the fall of 2022, an almost 4.5% increase in acreage from 2021. The occurrence of foliar diseases in the spring was low due to warm dry weather. However, some fields had concerning levels of *Septoria tritici* blotch which triggered growers to apply a fungicide. Levels of FHB were low throughout the flowering period. Quality and test weights were both good with little to no dockage reported. The average state yield was up 7.5% from 2022, at 57 bushels per acre. “Overall, the 2022-2023 wheat disease season was rather uneventful with a good crop harvested,” said Terry Spurlock, University of Arkansas extension plant pathologist.

Planting conditions in **Louisiana** in the fall of 2022 were good for growers seeding soft red winter wheat. Producers planted 84,400 acres. In mid-March, a severe frost occurred across the state. For some early-maturing varieties the cold was detrimental, leading some growers to abandon their fields. “I did not observe or receive any reports of scab or any other diseases (leaf rust, stripe rust, tan spot, bacterial streak) in commercial fields during the growing season,” said Boyd Padgett, a plant pathologist at Louisiana State University (LSU) Agricultural Center. The LSU AgCenter official variety trials bulletin reported that some varieties developed leaf rust late in the season. Hessian fly was also observed in some areas in the central and southern regions of the state with some fields showing severe damage. “Despite the problems faced during the 2022-23 season, there is interest in planting wheat this growing season,” said Padgett.

Heavy rains delayed fall planting in the **Texas** Blackland Prairies. The crops in this area did experience heavy Hessian fly infestations. “Head scab pressure was low across the region in the south, central, and northeast Texas due to drier weather conditions around flowering,” said Amir Ibrahim, Texas A&M University small grains breeder.

Reports of FHB Low from Northern Great Plains Growers

(Durum, Hard Winter Wheat, Hard Spring Wheat and Malting Barley)

Hot dry conditions in the Northern Great Plains prevented FHB development for most grain classes in the region. Some durum fields were in areas that appeared to be at high-risk based on predictions from the FHB Risk Tool at flowering, the optimal time for infection. Despite the high-risk predictions, most of these fields either escaped it or were protected by fungicide applications from proactive growers.

“The **Minnesota** small grains growing season was in many ways a carbon copy of the 2022 growing season,” said Jochum Wiersma, University of Minnesota extension agronomist. Little to no FHB meant that grain yields and quality were surprisingly good despite that fact that drought conditions and heat set in early in the growing season.

In **North Dakota**, a hot dry start to June resulted in very low scab risk for the entire state, however, rain and prolonged dew during the last ten days of June elevated the risk on



susceptible varieties in some areas in early July. The southeast and southwest regions of the state saw the greatest scab risk.

Scouting efforts reported finding FHB in only 4% of all wheat fields. Winter wheat acreage in the state was around 130,000 acres. The vast majority of the winter wheat headed in June during the time when the risk of scab was low. Seeding of spring crops was spread out over the month of May and into early June. This resulted in a wide range of heading and

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Andrew Friskop

flowering dates and thus variation in FHB risk throughout the state. Approximately 5.6 million acres of hard red spring wheat were seeded in 2023. Some hot dry days in June reduced growers’ yield expectations. But, cool nighttime temperatures and moisture later in the month lead to average to above-average yields in preliminary reports. “Some of the hard red spring wheat crop was under moderate to high risk in July, but timely fungicide applications likely mitigated scab and DON,” said Andrew Friskop, extension plant pathologist at North Dakota State University. This year, 750,000 acres of durum were planted in North Dakota. The northwest region of the state, where most of the durum production is, in general escaped FHB. Some acreage in the southwest part of the state was considered to be under high risk in July. In conversations with growers and crop consultants, Friskop heard that fungicide applications were common this season in durum, with few reports of scab and DON.

North Dakota’s barley acreage increased this season with a reported 840,000 acres seeded. Barley heading was spread out over several weeks, but in general, heading occurred during periods of low scab risk. During scouting, FHB was found in 5% of the fields. Applications of fungicides targeting FHB and DON were common among growers this season and few reports of problems occurred.

An estimated 850,000 acres of winter wheat were planted in **South Dakota** for the 2023 growing season. During fall of 2022 planting, 90% of the state was experiencing drought conditions, impacting stand establishment and overall yield. Prolonged wintery conditions that lasted into April hindered the planting of spring wheat, though by mid to late April, 750,000 acres were planted. “During the critical flowering period, scab risk was low primarily due to dry conditions which also saw low foliar diseases,” said Madalyn Shires, South Dakota State University assistant professor and extension plant pathology specialist. Growers saw decent yields ranging from 54 to 64 bushels per acre. Shires noted that most growers opted not to apply fungicides due to the low risk of FHB.

Frankie Crutcher, plant pathologist at **Montana** State University Eastern Agricultural Research Center, had no reports of FHB this year. “I suspected that we would have had a lot of disease this year – the weather was just right for it,” said Crutcher. The MSU diagnostic lab is unaware of any incidence of FHB and thus far Crutcher hasn’t found any either. Most of the state was late getting planted and thus harvest was delayed. Therefore, no results for DON have been received.



Localized FHB Events Occur in the Great Plains

(Hard Winter Wheat)

The hard red winter wheat crop in the Great Plains suffered from drought leading to abandonment by some growers. For the most part, disease pressure was low due to the lack of moisture. Localized rain events led to the right conditions for some FHB development and for those it affected discounts, and even rejection by grain elevators, were reported.

Drought-like conditions in the eastern region of **Nebraska** prevented the development of FHB this season. But, frequent rainfall during hard winter wheat flowering in the western half of the state meant conditions favored the disease and low to moderate levels of FHB were reported. FHB was also found in the Panhandle this season where it is rarely a problem, as moisture is generally limiting.

“Epidemics were not widespread but were rather localized....”

Stephen Wegulo

“Epidemics were not widespread but rather

localized, and the overall economic impact from the disease and the associated mycotoxin DON was insignificant,” said Stephen Wegulo, an extension plant pathologist at the University of Nebraska.



(Top) Fusarium head blight infection in untreated plots of the USWBSI Integrated Management Trials grown in Kansas.

(Bottom) Fungicide treated plot (left) compared to an untreated control plot (right). *(Kelsey Anderson Onofre, photo)*

In northwest **Kansas**, FHB caused considerable problems for growers this season. Reports of discounts and even grain rejection by elevators due to the high levels of DON were noted. FHB was problematic due to the high moisture and relative humidity at the end of May, coinciding with the flowering of the winter wheat crop. “Severe scab in this region of Kansas is atypical and most varieties are susceptible or highly susceptible,” said Kelsey Andersen Onofre, the wheat and forage crops plant pathologist at Kansas State University. Drought affected most of the state’s 2023 crop with the most extreme cases found in the southwest. According to

the USDA-NASS, 8.1 million acres of wheat were planted in Kansas last fall and 5.8 million acres harvested this year, with an average yield of 35 bushels per acre.



In the fall of 2022 and into spring of 2023, drought conditions prevailed throughout most of **Oklahoma**. These dry conditions suppressed foliar diseases in the winter wheat crop but favored the development of symptoms of the common root rots, including *Fusarium* root rot, in the state's western hard winter wheat. The highest levels of rainfall in the spring of 2023 were recorded in late April to May (8.07 inches total), which favored late season development of some foliar fungal diseases, especially leaf spotting diseases. Trace levels of FHB symptoms were reported in Morris, OK (Okmulgee County). Last year, one grower in Morris had high incidence and severity of FHB in his field. "This season, the same wheat grower applied fungicide to protect his crop. This could have contributed to the reduction of FHB incidence and severity in his fields this year," said Meriem Aoun, Oklahoma State University small grains pathologist. In the rest of the state, no other observations of FHB were reported.

Most of the hard winter wheat growing regions in south central **Texas** were under severe drought during the 2022-23 season. In the Rolling Plains, where 15-25% of the state's wheat is grown, many acres were abandoned. In the High Plains, low frequencies of FHB were reported in some irrigated fields, where wheat followed corn in the rotation.

For the first time in recent history, northeastern **Colorado** experienced high levels of FHB in wheat in 2023. The FHB Risk Tool predicted a high risk of FHB, which suggested to growers that an application of a preventative fungicide was warranted. However, growers in the state did not implement preventive measures. Likely because of a lack of historical necessity combined with the cost of a fungicide application.

"Historically wheat samples tested by the Colorado Seed Lab are not contaminated with wheat scab," said Laura Pottorff, director of Colorado Seed Programs at Colorado State University. This season, due to above average rainfall, FHB was detected in 13% of the lab's samples. Of these, 98% of them would not pass seed certification standards without further conditioning and/or seed treatments to improve seed viability.



In April, *Fusarium* head blight symptoms were observed in a misted nursery located in College Station, TX. (Amir Ibrahim,



Pacific Northwest Had Few FHB Cases, Except in Irrigated Acreage

(Malting Barley and Hard Spring Wheat)



Up close, an FHB infected wheat head in Aberdeen, Idaho displays signs of the fungus, *Fusarium graminearum*, through the production of orange sporodochia. (Juliet Marshall, photo)

The weather in the Pacific Northwest was cool and wet this spring. For the most part FHB did not have time to develop in the barley, spring, or winter wheat crops. Rainfall near harvest caused sprouting issues for some malting barley growers in Idaho, while drought conditions in the northern part of the state reduced winter wheat yields. In Oregon, educating growers on how to identify FHB is a top priority for extension professionals, as the disease is increasingly becoming a problem for the states' growers.

Idaho's weather was cooler and wetter than normal this growing season and was not conducive for FHB development or DON accumulation. In the higher elevation production regions, significant delays in crop maturity occurred, ultimately delaying the barley harvest. Barley acreage was at 540,000 acres this year and yields were average to above-average due to excellent crop growing conditions during the spring. Despite the high yields, end-of-season rains resulted in significant sprouting. Sprout damage was reported in 60% of the northern barley crop, and in the eastern and southern regions reports

are averaging about 10% damage.

FHB was low in the wheat crop as well. There were no reports of DON causing issues with marketing grain. Spring wheat was planted on 410,000 acres. Winter wheat was planted on 770,000 acres last fall for this season's crop. Winter wheat production was at or above-average in southern Idaho, however, northern Idaho's yields were significantly less than average due to drought conditions in that part of the state.

"Unsettling weather conditions throughout the summer resulted in damaging hail events, in some cases resulting in 100% crop loss," said Juliet Marshall, University of Idaho plant pathologist. Despite the weather, yield predictions for wheat in 2023 remain the same as 2022.

FHB is a newly emerging disease in **Oregon**; therefore, the acreage impacted is unknown. Many growers and crop consultants are still learning to identify the disease in the field. "We are ramping

"We're ramping up our grower education extension events and released a diagnostic guide."

Christina Hagerty



up our grower education extension events and released a [diagnostic guide](#),” said Christina Hagerty, Oregon State University cereal pathologist. While the acreage affected is unknown, FHB is considered to be an increasing problem with extension agents fielding calls from growers and crop consultants concerned about a malady impacting their wheat heads prior to crop senescence. This year, spring conditions were dry during flowering; the irrigated acreage was impacted more by FHB than the dryland acreage.

Overall, the 2023 Small Grains Crop Looked Good for Most

Overall, 2023 was a hot dry year for small grains crop production. Despite the lack of moisture, most states reported average to above-average yields. A few reports of concerning levels of FHB were received. Issues with FHB and/or DON were generally associated with rainy, humid weather that coincided with heading and flowering. Most growers are actively communicating with their state extension specialists and utilizing the FHB Risk Tool to make informed management decisions. In cases where moderate to high risk was predicted, growers were able to mitigate their risk through the timely application of fungicides. Growers are encouraged to continue to implement best management practices recommended by state experts and utilize tools and information developed in part by the USWBSI. ■



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The USWBSI is a national multi-disciplinary and multi-institutional research consortium whose goal is to develop effective control measures that minimize the threat of Fusarium head blight (scab), including the production of mycotoxins, for producers, processors and consumers of wheat and barley. The USWBSI's more than \$8.6 million annual budget comes from Federal funds appropriated through the USDA-ARS and is distributed to nearly 140 research projects in more than 30 states.



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