

USDA approved changes to assist farmers impacted by fires

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All that fire and smoke has a big effect on agricultural producers, who now must recover the charred landscape. Not only did the Belshes lose 870 acres of wheat, two barns and an empty guest house in the Substation fire, but the bare ground is more vulnerable to soil erosion, as seen during recent high winds that choked the sky with hazy dust.

Shortly after the fire passed, Marty Belshe went out with a chisel plow to break up the soil, which he said has helped to reduce wind erosion in his field. The USDA also approved changes to assist local farmers impacted by the rash of fires, allowing them to plant cover crops next season without affecting their crop insurance.

As for ranchers who lost forage in the fires, the USDA will allow emergency grazing on land currently enrolled in the Conservation Reserve Program, or CRP, in six counties: Gilliam, Hood River, Morrow, Sherman, Wasco and Wheeler. The CRP normally pays farmers to take environmentally sensitive land out of agricultural production for up to 15 years.

Emergency grazing was approved for 90 days starting Oct. 1. About 85 miles south in Madras, Ore., Craig Nichols, livestock and natural resources manager for the R2 Ranch, faces his own challenges following the fires of 2018. The ranch lost its entire 12,000-acre public grazing allotment to the Boxcar Fire in June. About 200 head of cattle were to be turned out on it with their calves for the winter.

“We won’t be able to graze (that land) for at least one year, and probably two,” Nichols said.

Bigger, hotter

It is no secret wildfires are getting bigger and hotter across the West.

So far in 2018, 49,658 fires have burned more than 8.1 million acres, according to the National Interagency Fire Center in Boise, Idaho. The 10-year average from 2008 to 2017 is 53,347 fires totaling a little more than 6 million acres — meaning 2018 had 3,689 fewer fires than average, but roughly 2 million more acres burned.

Research shows fire seasons also start earlier and last longer. A study published in 2016 by the Sierra Nevada Research Institute at the University of California-Merced calculated Northwest fire seasons are now 93 days longer than they were three decades ago.

Meanwhile, firefighting costs for the U.S. Forest Service and Department of the Interior have skyrocketed, topping \$2 billion in three of the last four years, including a record \$3.1 billion this year.

Kathie Dello, associate director of the Oregon Climate Change Research Institute, said worsening drought conditions are in part to blame for the increasing severity of forest and rangeland fires.

“We’ve seen some really tough summers as a result of snow drought,” Dello said. “We really do rely on that natural



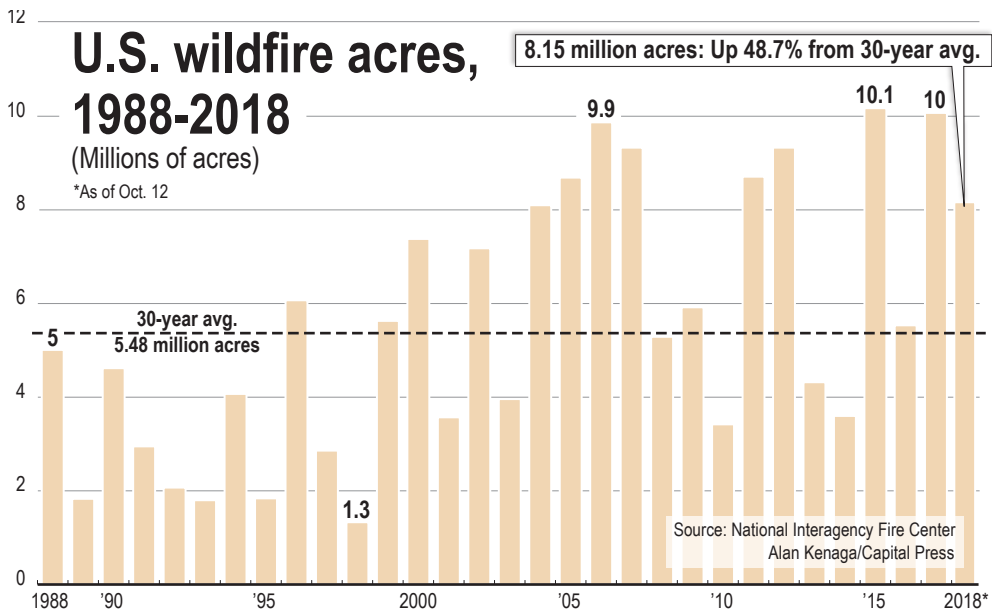
George Plaven/Capital Press

Darren Padget, a wheat farmer near Grass Valley, Ore., was one of many who delayed harvest to fight a rash of wildfires in Wasco and Sherman counties.



Courtesy Marty Belshe

Marty and Molly Belshe at their farm in Sherman County, Ore.



reservoir of our snowpack, and we’ve built systems around that being there.”

According to the U.S. Drought Monitor, all of Oregon is in some level of drought, including 33 percent in “extreme drought.” In Washington, 92 percent of the state is in drought, along with 90 percent of Idaho and 85 percent of California.

Any relief from Mother Nature may be slow to come. The National Weather Service Climate Prediction Center is calling for an increased likelihood of more warm and dry weather over the next three months, possibly setting the stage for another torrid year in 2019.

“This is going to keep happening,” Dello said. “We’re stacking the deck with more of these low snowpack years.”

‘The new normal’

Nichols, with R2 Ranch, said he talks a lot with his neighbors about what the longer fire seasons will mean for them in the long term.

“It’s becoming the new normal,” he said. “You have to wonder how next spring will look after that bad of a fire season.”

R2 Ranch includes 83,000 acres north of Madras and runs 1,200 to 1,500 mother cows.

While the 100,207-acre Boxcar Fire was the largest blaze locally, it was hardly the only one to make headlines. The Jack Knife, Substation, Long Hollow and South Valley fires also erupted in rapid succession, turning vast swaths of farms and rangeland into ash.

Nichols said he has not found any burned carcasses on the ranch, but that doesn’t mean they won’t be paying for the fires in other ways. The 200 cows that would normally graze on BLM ground will instead need to be fed hay at a cost he estimates at \$150 per head.

Then there is the combination of drought and smoke,

which Nichols said appears to have an impact on the growth of calves. This year’s crop of 800 calves averaged about 22 to 25 pounds lighter than normal, he said, due to a combination of factors such as stock ponds and springs running dry and less milk production in mother cows from stress.

At \$1.70 per pound, that quickly adds up to \$34,000.

“That’s a pretty sizable chunk of change right there,” Nichols said.

Barbara and Bill Hammel, who live on Fifteen Mile Road in The Dalles, Ore., said the Substation Fire came about 50 feet from their backyard. The couple lost 8,860 acres of cattle pasture and 83 percent of their wheat acres to the Substation and Long Hollow fires, which started just 20 days apart from one another.

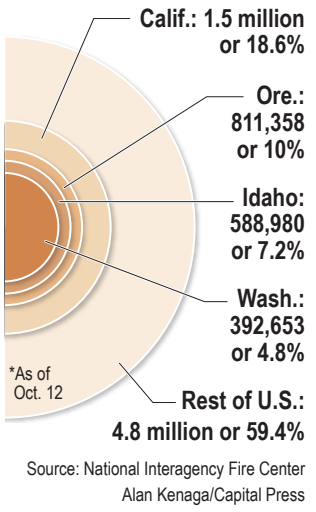
“We had to start feeding almost two and a half tons of hay a day to the cattle at all the ranches,” Barbara Hammel said. “That makes cutting the remainder of the grain a little slow when you have to take almost half a day to do the feeding and then get on the combine to cut wheat.”

Ranchers in north-central Washington state are also struggling with wildfire recovery in the wake of the 75,538-acre Grass Valley Fire, which hit mostly private rangeland in northern Douglas County. The Foster Creek Conservation District estimates \$20 million to \$30 million in damage, and like in Oregon, it will be at least a year or two before cattle can graze the land again.

“My big concern is May to November next year. What to do. Where to go. If anyone has summer pasture for the next two years, we’d sure like to have some so we don’t have to sell cows and cut into our genetic program,” rancher Wade King, of Coulee City, told the Capital Press.

Wildfire acres burned in 2018*

Wildfires burned more than 8.1 million acres this year, down 18.7% from 2017.



‘Devastation’

Back in Oregon, Grass Valley wheat farmer Darren Padget spent a blustery morning seeding 700 acres in his GPS-guided tractor, pulling a 56-foot no-till drill to penetrate the stubble.

Padget, a member of the Oregon Wheat Commission and secretary-treasurer of the U.S. Wheat Associates, lost just a sliver of cropland he mowed down with a disc plow to buffer his farm from the Jack Knife Fire in June. Like a lot of farmers in the area, he spent many days assisting firefighters and working to protect neighbors’ property. The Substation Fire, driven by furious winds, was unlike anything he had ever seen before.

“I’ve never seen such widespread devastation,” Padget said. “I guess that’s the difference this year.”

Summer is always hot and windy, Padget said, but farmers have been especially overwhelmed this year. The Substation Fire started near The Dalles before it made a 25-mile run southeast to Grass Valley in just one day, putting firefighters on their heels.

“You didn’t know where to go. It was moving so quick and so fast,” Padget said. “We had about two days with nobody harvesting. It’s the only time I’ve ever seen the entire county shut down.”

Padget praised the USDA for acting quickly to approve cover crops and emergency grazing, though he stressed the importance of timely rains to establish a cover crop on bare acres. Marty Belshe, who farms north of Padget, said he is still not sure whether he will plant a cover crop on his burned fields.

The Belshes consider themselves lucky. Yes, they did lose roughly a third of their crop, but they know it could have been worse. One farmer, 64-year-old John Ruby of neighboring Was-

co County, died in the Substation Fire trying to dig a firebreak.

It is common practice for farmers to look out for each other, drop what they are doing and pull together when a fire erupts, Belshe said, though he added that wheat is not worth anyone’s life.

“We all need to keep a little perspective on what we are doing when we’re out there fighting fire,” he said.

Smoke scares

Farmers question how the weeks of smoky skies might impact crop quality, with perhaps the most prominent example being smoke taint detected in the region’s wine grapes.

Burning wood produces naturally occurring organic compounds known as guaiaicol and methylguaiaicol, which are metabolized and stored by wine grapes, creating an unwanted smoky flavor described by some as “leather,” “burnt” or “ashtray.”

A popular Napa Valley winery, Copper Cane LLC, has already rejected 2,000 tons of grapes from vineyards in Southern Oregon due to smoke taint. Southwest Oregon has experienced smoke this season from several large fires, including the 167,423-acre Klondike Fire, which flared up again Monday near the small community of Agness, prompting evacuations.

The Oregon wine industry criticized Copper Cane for rejecting grapes and is defending this year’s vintage. One Umpqua Valley grape grower, Vehrs Vineyard, is even suing Copper Cane, seeking \$112,500 for alleged breach of contract.

Sally Murdoch, spokeswoman for the Oregon Wine-

growers Association, said vintners in the Willamette Valley, where nearly 70 percent of all Oregon wine grapes are grown, escaped the worst of the smoke.

Smoke not only threatens agricultural commodities, but it can also pose a risk to worker health and safety.

Ramon Ramirez, president of Pineros y Campesinos Unidos del Noroeste — the largest farm union in Oregon — said he heard reports of workers with watery eyes and respiratory problems while working in smoky conditions.

“We had a lot of issues,” Ramirez said. “This year has really brought it to our attention.”

Bobbi Ryder, president and CEO of the National Center for Farmworker Health based in Buda, Texas, said farmworkers are often more seriously impacted by natural disasters such as fire because their living arrangements may be fragile and their jobs may be suspended if crops are damaged, resulting in lost income with fewer resources available to recover.

“Smoke, heat and inadequate hydration can hurt anyone working out in those conditions,” Ryder said.

Forest management

Northwest lawmakers, meanwhile, are taking aim at forest management policies they say will help reduce the size and severity of future wildfires.

Rep. Greg Walden, R-Ore., sent a letter in July to Sens. Pat Roberts, R-Kan., and Debbie Stabenow, D-Mich., urging them to include provisions passed by the House in the 2018 Farm Bill. The proposals would make it easier for the Forest Service and BLM to cut down dead trees and replant forests after a fire, while encouraging collaborative forest projects.

“The provisions in the House-passed Farm Bill would bring needed change to the way we manage our forests to address the root cause of these fires,” Walden said. “We can reduce red tape and streamline management practices to get more work done in the woods.”

Congress missed its Sept. 30 deadline for passing the 2018 Farm Bill, though House Committee Chairman Michael Conaway, R-Texas, has made a commitment to passing the legislation before the end of the year.

Sen. Jeff Merkley, D-Ore., also introduced the Wildfire Resilient Communities Act on Sept. 26, which would direct \$1 billion toward forest fuels reduction and create a county stewardship fund to help pay for collaborative work with federal agencies.

Dylan Kruse, director of government affairs at Sustainable Northwest, a Portland-based nonprofit, said the need to invest in federal forests has never been more urgent.

“We can’t afford to keep playing catchup,” Kruse said. “This bill takes immediate action to address the massive management backlog on our forests, and expands bipartisan programs to prepare for the future.”

Threats to precision ag something industry must recognize, prepare for

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The report examines the possibility of a farm cooperative becoming compromised, either unwittingly or because of a disgruntled insider or hostile outsider.

“Many co-ops are also aggressively entering the precision agriculture market from an agronomy standpoint, offering detailed consulting and prescription plans for members, which requires the members to provide access to sensitive land use information,” the report said.

Beyond just publicizing data, a “malicious actor” could actually falsify information to simulate an outbreak of a crop or livestock disease to potentially roil markets for months before the fraud is debunked, the report said.

“It is an easy threat to potentially manifest as it does not rely on original access to real data,” the report said.

Entering fake data into a system of “smart sensors” — either on purpose or by mistake

— could result in the destruction of crops by over- or under-irrigation or livestock losses from faulty heating, cooling or ventilation in barns.

Disruption to rural communication networks and tools such as global positioning systems and “real time kinematic” positioning would be damaging to agricultural production as well.

“That would almost paralyze us in the farming community,” said Fred Ziari, president of IRZ Consulting, an irrigation engineering firm.

Vulnerabilities in farm machinery, which often includes components from overseas, could allow the equipment to be “remotely disabled” in bulk during “key planting or harvesting windows” to create havoc for food security or the manufacturer’s reputation, the report said.

Farmers may introduce such weaknesses themselves by using third-party software to “jailbreak” their machinery to conduct their own diagnostics and repairs instead of using

manufacturer-approved technicians.

Such software may include a “built in backdoor” to steal information or even immobilize machinery and demand a ransom payment, the report said.

The American Farm Bureau Federation has several concerns about “big data” in agriculture, such as growers being able to own and control the information collected about them, said Karney.

“The farmer who owns the data should be able to move it from one device to another,” he said.

How such “interoperability” and the “right to repair” machinery will interact with security concerns will be the subject of more discussion, Karney said.

In the past, machinery manufacturers had different hydraulic components that eventually got standardized across the industry, which is something that’s already occurring with the portability of data, said Joe Luck, a precision agriculture engineer and biological

systems engineering professor at the University of Nebraska-Lincoln.

“We have to get better at sharing those data sets between different interested parties” while also securing sensitive information, Luck said. “You can see how they’re both pretty critical.”

While ignoring the threat of data breaches and other problems would be “foolish,” companies that work in precision agriculture are aware of the dangers, said Ziari of IRZ Consulting.

Progress is being made, with information increasingly moving away from local computer servers to “cloud” servers with multiple levels of security, he said.

“If it’s at the local level, it’s a lot more prone to a breach,” Ziari said.

In general, the threats to precision agriculture are something the industry must recognize and prepare for, he said. “You cannot stop technology advancement by being so fearful of it.”

Farm is challenging revocation of its permit

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an Oct. 11 meeting of the CAFO advisory committee in Salem, Ore.

Lost Valley Farm is challenging the revocation of its CAFO permit through an administrative process, and a hearing on the matter is scheduled for Nov. 13.

Even if the dairy is brought into regulatory compliance, its past actions — such as manure lagoon overflows — warrant the revocation, and the ODA has lost all trust in te Velde’s management, Matthews said.

Even if the facility operated properly over the short term, the agency has no confidence that te Velde could keep up the compliance, he said.

The ODA anticipates arguing in bankruptcy court that its revocation of Lost Valley’s permit isn’t subject to the “automatic stay” that protects the company against adverse creditor actions under the bankruptcy process, Matthews said.

“Do you allow a facility to continue to violate state and federal laws?” he said.

While the facility does have some design flaws, ODA believes the wastewater problems were fundamentally caused by improper operations, he said.

If the dairy is eventually sold to repay te Velde’s creditors, the new owner would have to apply for a new CAFO permit, Matthews said.