

OSU research fights squash-killing fungi

Soil-borne diseases are hampering production

By **GEORGE PLAVERN**
Capital Press

Pumpkin seeds and pumpkin pie are synonymous with autumn, but as the season draws closer, researchers at Oregon State University are targeting a complex of diseases that have hampered winter squash in recent years.

Winter squash is a \$7 million industry in Oregon, with 4,000 acres grown in the Willamette Valley near Corvallis. The crop is a close pumpkin relative used for making fall favorites like “pumpkin” soup, seeds and pie filling.

But farmers began noticing something was infecting their plants, and in some severe cases causing entire fields to wilt and die. Oregon State received a grant from the USDA Western Sustainable Agriculture and Research Education program to study the problem in 2014.

Hannah Rivedal, lead researcher and graduate student studying botany and plant



Winter squash is a \$7 million industry in Oregon, grown for soup, seed and pie filling.

pathology at OSU, said they have homed in on five distinct soil-borne fungi at the root of the trouble — literally — including one species never before found in cucurbits in Oregon.

“We’ve had a couple of

years where there have been more significant reductions in yield, and more instances of this disease problem occurring,” Rivedal said. “This is a really complicated problem with multiple pathogens and multiple different environ-

mental factors.”

Between 2014 and 2016, Rivedal surveyed around 60 fields, randomly sampling both healthy and diseased plants. She took thousands of disease cultures, with five species of soil-borne fungus con-



Oregon State University
Pink root rot is caused by a soil-borne fungus known as *Setophoma terrestris*, which can hamper plant productivity and yields.

sistently showing up — *Fusarium oxysporum*, *Fusarium solani*, *Fusarium culmorum*, *Plectosphaerella cucumerina* and *Setophoma terrestris*.

Setophoma terrestris was unexpected, Rivedal said, since it has never been seen before in squash in Oregon. It’s more widely known in other crops such as onions and garlic. The fungus can cause a disease known as pink root rot, which attacks the roots and turns them an unhealthy shade of pink.

Rivedal, along with OSU faculty Alexandra Stone and Ken Johnson, have published their findings in the journal *Plant Disease*. The next step, Rivedal said, is to develop a set of recommendations and best practices to help farmers break the disease cycle.

First off, Rivedal said growers should rotate their fields out of squash for at least four years, if possible. As for which rotation crops will work best, she said that has yet to be determined.

“If they plant onions right before squash, the next year they have really bad pink root rot in their field,” Rivedal said. “We’ve been looking into management strategies.”

Another tip is irrigating less at the beginning of the growing season, since damp soil is more conducive to fungi. Because the pathogens are soil-borne, Rivedal said applying chemicals will not help. Any fungicide would need to be fumigated.

“All of these things are acting really interestingly here,” she said. “And we think it has a lot to do with the environmental factors and the rotation practices ahead of the squash that we (grow).”

Feds change cover crop policy for wildfire victims

RMA decision will allow farmers to protect land from wind, rain erosion in wake of massive devastation

By **MITCH LIES**
For the Capital Press

The USDA Risk Management Agency has agreed to temporarily change its policy to allow farmers in Wasco and Sherman counties that were affected by wildfire to plant cover crops without affecting their crop insurance.

“We will make changes where we modify the definition of summer fallow in a way that will not invalidate their summer-fallow designation, even though they planted a cover crop in the fallow year,” said Ben Thiel, director of the Spokane Regional Office of the agency, in a phone interview on Aug. 22.

The agency changed its policy after hearing concerns from farmers about leaving ground exposed to the elements in the 2019 fallow year and checking with agricultural experts, Thiel said.

“Pretty much the consensus was, yes, this would be a good farming practice and that you would help reduce yield loss for 2020 by planting a cover crop, as long as it is terminated in the spring and doesn’t continue to grow later in the spring and through the summer where it would deplete moisture,” Thiel said.

Normally, growers are restricted from planting cover crops in a fallow year under the USDA summer-fallow crop insurance program. The provision is in place to ensure farmers are optimizing yield potential in crop years, Thiel said.

“Generally, you get better moisture retention if you leave a field fallow every other year, and that will produce a better crop in low rainfall areas, such as Sherman and Wasco counties,” Thiel said.

Brian Tuck, field crops extension agent for Wasco and Sherman counties, said RMA’s decision could be critical in helping protect soil left bare by wildfire from wind and rain erosion.

Typically, wheat stubble protects ground in fallow years, he said.

“The stubble is a big deal,” Tuck said. “Having that surface stubble on there provides biomass to the soil for nutrient cycling and is a huge factor in



Associated Press File

The USDA Risk Management Agency will allow farmers in Wasco and Sherman counties to plant cover crops on land burned by wildfires without impacting their crop insurance.

keeping the soil cooler and protecting it from both wind and rain erosion.”

“Now we just have to hope we get some fall rains here” to help establish the cover crops, he said.

He advised growers to check with the Natural Resources Conservation Service and their local Soil and Water Conservation District for cost-sharing opportunities potentially available to help offset the cost of purchasing and planting cover crop seeds.

Three wildfires, the Substation, South Valley and Long Hollow fires, burned approximately 135,000 acres in the two counties in a two-week span beginning in mid-July, just when wheat harvest was kicking off.

The fires cost growers millions of dollars in lost crop,

particularly given that growers were looking at above-average yields. “This was looking to be a pretty good year,” Tuck said. “We had some really good rains in some places, so the yields were looking very good.”

Growers with crop insurance are eligible to recoup losses based on average yields.

Also, while prices “haven’t been the greatest,” Tuck said, they are up from the previous three years, with wheat at \$5.92 a bushel in Portland on Aug. 23.

Many growers also lost equipment, fencing, structures, pasture and rangeland to the fire, Tuck said, and the fire cost the life of Wasco County farmer John Ruby, 64, who died digging a firebreak to protect a neighbor’s property.

Organic lawsuit against USDA can proceed

By **CAROL RYAN DUMAS**
Capital Press

A U.S. district judge has ruled a lawsuit against USDA over its withdrawal of the Organic Livestock and Poultry Practices rule can proceed. The rule included new standards for raising, transporting and slaughtering organic animals.

The lawsuit, brought by seven nonprofit organizations led by the Center for Food Safety, seeks to reinstate the rule on the grounds USDA’s action violates the Organic Food Production Act and failed to comply with the Administrative Procedure Act.

USDA moved to dismiss the lawsuit, arguing plaintiffs do not have legal standing.

U.S. District Judge Richard Seeborg last week ruled the plaintiffs do have legal standing, but sided with USDA on two other issues.

He dismissed, without leave to amend, the plaintiffs’ claim that USDA did not have the authority to withdraw the rule based on alleged costs to producers.

He also dismissed their claim that withdrawing the rule without involving the National Organic Standards Board exceeded USDA’s statutory authority. He did, however, give plaintiffs



leave to amend that claim.

USDA’s motion to dismiss did not address two other claims by the plaintiffs, regarding the agency’s two main rationales for the withdrawal.

Those claims will proceed, Amy Van Saun, a staff attorney with the center, told Capital Press.

Those rationales are that USDA doesn’t have authority to set organic standards that relate to animal welfare beyond the substances used and that there must be significant market failure in order to change the organic standards and justify the associated costs, she said.

The center will challenge the withdrawal based on those rationales, she said.

The lawsuit, which was filed in March, also includes plaintiffs Center for Environmental Health, Cultivate Oregon, International Center for Technology Assessment, National Organic, Coalition, Humane Society of the U.S.

and the Animal Legal Defense Fund.

The Organic Trade Association filed a lawsuit against USDA in September 2017. It originally targeted USDA’s failure to implement the rule finalized in the waning days of the Obama administration. OTA amended its original complaint in February to reflect USDA’s announced intention to withdraw the final rule.

In a statement to Capital Press, OTA said: “The Organic Trade Association welcomes the decision of the Northern District of California U.S. District Court that recognizes our colleagues’ standing to challenge the USDA’s handling of the Organic Livestock and Poultry Practices final regulation.”

Conventional livestock and poultry groups have fiercely opposed the rule, citing health threats to animals and the public. They have argued the animal-welfare standards aren’t based on science and are outside the scope of the OFPA, which limits organic to feeding and medication practices.

They have also argued that it would vilify conventional livestock practices, open the door to activists’ lawsuits and create barriers for existing and new organic producers.



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