



Oregon Seed eUPDATE

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Some Tillage Better Than None

Growers may not need to till annual ryegrass fields annually to achieve good seed yields. But an Oregon State University research trial is showing that putting the plow aside for good can be costly.

“What our research is telling us is some kind of moderate frequency of tillage is important,” said OSU professor Tom Chastain at the Hyslop Field Day May 28.

Chastain reported on findings of a trial analyzing tillage and establishment systems in annual ryegrass seed production. Now in its ninth year, the trial is showing some distinct differences in yield response between continuous conventional tillage and continuous no-till.

After eight years, the plot under continuous no-till was yielding 1,337 pounds to the acre, or 204 pounds an acre less than the 1,541 pounds an acre in the plot under continuous conventional tillage.

“You’re going to lose a whole year’s worth of yield over an eight year period,” Chastain told field day participants. “That’s real money.”

Conversely, the loss in yield when cycling in tillage every second or third year in the trial was minimal, typically about 50 pounds to the acre per year. Given the savings in production costs in a no-till system, alternating tillage in continual annual ryegrass systems is something growers might want to consider, Chastain said.

“Anytime you cycle in a lower production cost system, it might be worth a slight loss in yield,” he said.

Chastain identified slug damage as the main reason yields were down in continuous no-till.

To date, the best yields in the trial have come from the combination of burning and no-till and conventional till. Annual ryegrass was yielding an average of 1,701 pounds to the acre under that scenario.

“Burning kept those slug populations lower, so we saw yield increases in subsequent crops,” he said.

In plots where he utilizes volunteer seeding and a combination of no-till and conventional till, yields are averaging 1,491 pounds to the acre or about the same as when cycling in tillage every second or third year under a conventional planting regime.



Oregon State University professor Tom Chastain at the Hyslop Field Day May 28 said research shows “some kind of moderate frequency of tillage is important.”

Among agronomic features Chastain is analyzing in the long-term trial are changes in soil health in continuous no-till systems. After nine years, the research is showing that deeper parts of the soil profile haven’t changed much in the no-till plot, he said. “Only in the top couple of inches are we seeing greater organic matter,” he said. “Soil changes very slowly.”

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New Agent Ready to Dig In

New South Willamette Valley field crops Extension agent Clare Sullivan won't start in her new position until June 16, but she was in Corvallis May 28 participating in the Oregon State University Extension Service's Hyslop Field Day.

Sullivan, who currently lives in Vancouver, B.C., said the field day offered her a chance to learn about issues facing field-crop growers in the Willamette Valley.

Sullivan said she is excited with her new position, in part because it offers her opportunities to conduct "hands-on work out in the field with growers and field reps."

Sullivan also likes the fact that as an Extension agent, she will serve as a liaison between growers and researchers.

"We don't have an extension program in Canada," Sullivan said, "and since starting my studies in agriculture, I've wanted to work in extension. I like the idea of working between researchers and growers and making sure issues growers are concerned with are getting researched."

Sullivan holds a bachelor's degree from the University of British Columbia and a master's degree in soil science from the University of Saskatchewan, which she obtained in 2012.

She succeeds Paul Marquardt as a South Valley field crops Extension agent. Marquardt left for personal reasons after serving less than a year in the position.

Sullivan's responsibilities will include field crops Extension activities and applied research in Linn, Benton and Polk counties, with limited responsibility to Mid-Valley growers, said Russ Karow, head of the Crop and Soil Sciences Department at OSU.



Pictured at the Hyslop Field Day on May 28, new South Willamette Valley field crops extension agent Clare Sullivan said she is looking forward to working with grass seed growers. Sullivan starts June 16.

Sullivan said she didn't grow up on a farm, and initially didn't major in an agricultural field. She became interested in agriculture while in an interdisciplinary science program, she said.

"The more I studied agriculture, the more I became interested in it," she said. "Then I started working at the student farm in B.C., then working with growers in the summers, and the interest just sort of grew."

As for what she has learned to date about Oregon grass seed, she said slugs stand out as the number one concern.

"I'm looking forward to going to work on that issue and others," she said.

Multiple Pronged Approach Needed to Control Ergot

No one single approach will control ergot in grass seed production, according to what researchers are learning in an extensive study of the disease.

"We are pretty certain at this point that applying a fungicide a couple or three times during flowering isn't good enough, and that short of resistant varieties, no one thing is ever going to be good enough to control ergot," said Oregon State University Extension plant pathologist Phil Hamm.

"We think an IPM approach using all sorts of different aspects will be required to manage this disease," he said.

Hamm is part of a team of researchers working on developing solutions for controlling ergot in grass seed production.

Growers received an update on the team's work from Jeremiah Dung, OSU plant pathologist from the Central Oregon Agricultural Research Center, and Navneet Kaur, a post doctoral scholar, during a grass seed field day in Hermiston on May 28.

In addition to Hamm, Kaur and Dung, the team includes Steve Alderman from the USDA Agricultural Research Service in Corvallis, and Union County Extension agent Darrin Walenta.

The research is being funded by the Oregon Seed Council, Columbia Basin and Northeastern Oregon grass seed grower associations, and the Washington State Turf Grass Commission, Hamm said.

"They have all contributed significant dollars to help fund the post doctorate who is working on the project and all the equipment and the travel to do the work that we are doing," Hamm said.

Hamm said about 70 growers participated in last month's Hermiston Agricultural Research and Extension Center grass seed field day.

Growers also were provided information on plant nutrition, nitrogen volatilization, insect pressure in fields this year and stripe rust and powdery mildew control in bluegrass.

Personnel Changes Abundant in Seed Research

In addition to research updates, participants in the Hyslop Field Day May 28 were provided personnel updates from a university official and an industry executive.

Roger Beyer, executive director of the Oregon Seed Council, introduced Steve Salisbury, the Council's new research and regulatory coordinator. Salisbury, who was on his second day in his new position, comes to the Council after having spent the past seven years with Wilbur-Ellis in Shedd.

Russ Karow, head of the Department of Crop and Soil Science at Oregon State University, next introduced the new South Willamette Valley Extension Agent Clare Sullivan. Sullivan, who holds a master's degree in soil science from the University of Saskatchewan, had traveled to Corvallis from Vancouver, B.C., to participate in the field day. Scheduled to start June 16, Sullivan said she was looking forward to working with growers on trying to find solutions to agronomic issues.

Karow next announced that a search committee was looking through candidates to fill a soil fertility specialist position in OSU's College of Agricultural Sciences that currently is vacant. He said the college hoped to fill the position this fall.

Risk High for Nitrogen Volatilization

As much as one-fourth of the nitrogen applied to a grass seed crop can be lost to ammonium volatilization, according to an Oregon State University Extension agronomist, costing money, wasting resources and potentially harming the environment.

"On a dry year like this year, the risk can be high," Extension agronomist Don Horneck said. "You can lose 20 to 25 percent to volatilization. And not only are you losing that nitrogen, but what goes up must come down. We're getting ammonia where we've never seen it before."

Speaking to growers on May 20 at this year's North Valley Field Crop Tour near Carlton, Horneck said the risk for ammonium volatilization isn't as high in the Willamette Valley as in areas of the state that have higher soil pH, but nonetheless is a concern.

"The biggest risk is during dry spells when the nitrogen is sitting on the soil surface exposed to environmental conditions for an extended period of time," Horneck said.

The idea that less ammonium volatilization occurs in cooler temperatures isn't necessarily accurate, Horneck said. It will still volatilize in cooler temperatures, but will do so at a slower rate, and occur over a longer period of time, he said.

Of particular concern are urea-based fertilizers. Urea fertilizers are not "plant available" and must first convert to ammonia, he said. Also, he said, urea raises soil pH as it converts to the nitrate form.

Karow said the college also was searching for his replacement. Karow, who is retiring at the end of the year as head of the College's Crop and Soil Science Department, said college administrators were interviewing candidates from North Carolina, North Dakota, Washington State University and an internal OSU candidate.

Karow started as cereal grains extension specialist in 1983. In 2001 he was selected to head the department.

Also at the field day, Joyce Loper was introduced as the new interim research leader for the USDA Agricultural Research Service Forage Seed and Cereal Research unit based in Corvallis. Loper is the second scientist to serve as interim leader while the USDA works to find a permanent replacement for Gary Banowetz, who retired as research leader January 10.

Stephen Griffith served as interim director for the unit from January until May. Loper will return to her position as research plant pathologist at the USDA ARS Horticultural Crops Research Lab in Corvallis after her stint as interim research leader.

Loper said that the USDA ARS will conduct a national search to fill the research-leader position.



Oregon State University Extension agronomist Don Horneck at the North Valley Field Crop Tour on May 20 provides a presentation on nitrogen volatilization.

Applying nitrogen as ammonium nitrate or as Agrotain-coated urea removes most of the risk of ammonium volatilization, Horneck said.

Horneck said it takes about one-half inch of rain or irrigation to incorporate urea into soil to minimize nitrogen loss.

Early Summer Update for Willamette Valley Field Crops

By Nicole Anderson, OSU Extension Agent

Stem rust disease levels are increasing in many perennial ryegrass and tall fescue seed crops, primarily in first year fields. Continued warm, dry weather will favor stem rust pressure. Fields will need to be continually monitored and treated on an as-needed basis. Dry conditions have been favorable for pollination, but are likely to cause an early harvest on some grass species. Many grass seed fields with irrigation are currently being watered.

Crimson clover is getting close to maturity, and swathing will likely start in some areas by mid-June. Red clover has been cut, and the crop is re-growing nicely. Irrigation is starting on some red clover fields. Broadleaf-herbicide and plant-growth-regulator applications have been going on, as well. Insecticide applications for aphid control will need to start as soon as buds begin to emerge. Most sheep are off of white clover fields, and bloom is coming in nicely. Weevils are beginning to be found in small numbers. Meadowfoam has started to dry down and there appears to be good seed set.

There is much less stripe rust on wheat this year, however septoria became a major problem for some growers in May. Most fall-planted varieties have obvious septoria in the lower canopy, however, several varieties including SY Ovation, Legion and Kaseberg were hit late and septoria infections were moderate to severe on the flag leaves even after well-timed fungicide applications had been made. Fungicide resistance is becoming a real issue for septoria control. There are some new tools coming into the marketplace that will be helpful in the future. This topic will be discussed at various winter grower meetings, and we will hopefully have some good management plans in place for next spring's spray season. Remember to scout spring wheat fields for rust and cereal leaf beetle and treat as necessary throughout early summer. It is also time to be scouting for cereal leaf beetles in spring planted oats.



Stem rust pressure is increasing in perennial ryegrass stands, particularly in first year fields.



Meadowfoam has started to dry down, and there appears to be good seed set.



THE E-NEWSLETTER

The goal of this e-newsletter is to provide timely updates to Oregon seed producers and field reps. It includes a snapshot of what's happening currently with respect to weather, pest and disease outbreaks, harvest, label updates, and other management activities. Growers or field reps can provide input anytime at mitchlies@comcast.net.

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