

Central Oregon (Jefferson County) – May 28, 2015

Jeremiah Dung¹, Stephen Alderman², Kenneth Frost³, Navneet Kaur³, ⁴Darrin Walenta, and Philip Hamm³
¹OSU Central Oregon Agricultural Research Center, Madras; ²USDA-ARS NFSPRC, Corvallis; ³OSU Hermiston Agricultural Research and Extension Center, Hermiston; OSU Union Co. Ext. Service, La Grande⁴.

April 10 thru May 20 Ergot Spore Trapping

- In 2014, a spore trap was deployed in an established Kentucky bluegrass field at the Central Oregon Agricultural Research Center (COARC) between May 9th and the 4th of July. A total of 55 spores were detected between May 9th and June 19th.
- Twelve Kentucky bluegrass cultivars (KBG) were planted in the fall of 2014 at COARC (Table 1) and a Burkard spore trap was deployed on April 10, 2015.
- **Two spores were detected on spore traps from May 20th and germinating sclerotia have been observed in infested areas of the COARC cultivar plots.**

Suggestions for Ergot Management

- Ascospores (sexual spores) and germinating sclerotia have been detected in infested plots at COARC.
- Many KBG cultivars have initiated flowering, which is the only susceptible stage for ergot infection.
- Although only two ascospores have been captured at COARC through May 20th, the potential exists for ergot infection in KBG cultivars that are in the flowering stage. ***Fungicide applications may be required based on the developmental stage of the cultivar and the history of ergot epidemics in your area.***
- ***Timing your fungicide applications with the first emergence of stigmas or anthers of early emerging flowers is a key strategy for effective ergot management.****
- ***It is important to monitor fields that had some level of infection in 2014 (honeydew and/or ergot sclerotia in the field or during clean-out). It is also important to monitor fields that are in proximity to previously established fields that had ergot in 2014.***
- Spore traps sample only a small fraction of the air (2.6 gal/min) and do not capture ergot conidia (asexual spores), which are contained in honeydew and have the potential to be splash-, contact-, or insect-dispersed.
- Ergot has a wide host range among grasses, so earlier emerging cultivars, off-types, and grassy weeds can be potential sources of honeydew inoculum.

Please consult the PNW Plant Disease Management handbook for fungicide products available for ergot suppression in OR/WA grass seed crops or search the Pesticide Information Center Online. Links to the web resources are listed below:

- *Pacific Northwest Plant Disease Management Handbook:* <http://pnwhandbooks.org/plantdisease/grass-seed-ergot>
- *Washington State Pest Management Resource Service Pesticide Information Center Online Databases:* <http://cru66.cahe.wsu.edu/LabelTolerance.html>

****Application of a pesticide to a crop or site not on the label, or in a manner inconsistent with label directions, is a violation of pesticide law and may subject the applicator to civil penalties.***

Table 1. Location, cultivar, and growth stage of Kentucky bluegrass cultivars at the KBG-5 ergot spore monitoring site in Central Oregon.

County	Latitude/Longitude	Grass species	Cultivar	Feekes growth stage ¹
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Bluechip	10.5 to 10.51 ~60% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Blue Ghost	10.5 to 10.51 ~70% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	DB-1013	10.5 to 10.51 ~50% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Fielder	10.5 to 10.51 ~30% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Gateway	10.1 to 10.5 ~40% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Gladstone	10.5 to 10.51 ~75% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Jumpstart	10.5 to 10.51 ~60% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Midnight II	10.1 to 10.51 ~5% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Nuglade	10.1 to 10.51 ~15% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	PST-K4-7	10.5 to 10.51 ~75% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Right	10.5 to 10.51 ~15% of tillers at 10.51
Jefferson, OR	44°40'46.75"N / 121°8'54.95"W	Kentucky Bluegrass	Shamrock	10.5 to 10.51 ~40% of tillers at 10.51

¹Feekes 10.1 = early heading stage. Feekes 10.5 = head fully emerged. Feekes 10.51 = anthesis begins (first appearance of stigmas/anthers). **Ratings are current as of May 27, 2015.**

Cumulative Degree Days (Jan 1 thru May 26):

Air: 395

Soil (4" depth): 340

Cumulative growing degree days are calculated using data from the MRSO weather station in the AgriMet Cooperative Agricultural Weather Network (<http://www.usbr.gov/pn/agrimet/>). A lower baseline of 50° F and an upper baseline of 77° F are used in the calculations for both air and soil calculations. Cumulative growing degree days were calculated starting January 1, 2015.

*Please contact Jeremiah Dung, Plant Pathologist, with any question, comments or ergot observations at:
OSU Central Oregon Agricultural Research Center, 850 NW Dogwood Lane, Madras, OR, 97741
Phone: 541-475-7107 or **Email:** jeremiah.dung@oregonstate.edu*