UNIVERSITY OF DELAWARE
COOPERATIVE EXTENSION

Fusarium Head Blight

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Pest Background

- FHB, or scab, affects wheat, barley, oats, corn, and other grasses.
- Fusarium graminearum (syn. Gibberella zeae) is favored by warm, humid conditions during flowering and early kernel development.
- In addition to yield losses, this fungus produces mycotoxins such as deoxynivalenol (DON) that can accumulate in grain.

Identification

- FHB symptoms include bleached spikelets (Fig 1A) first visible 18-21 days after flowering.
- Spores may be visible on infected spikelets as pink or orange spore masses (Fig 1B).
- Infected grains may shrink and wrinkle, producing tombstone-like kernels which can be pink, gray, and light brown (Fig 2).

Fig 1: Symptoms of FHB. 1A) Bleached spikelet; 1B) Orange sporulation on symptomatic head. Photo by Dr. Alyssa K. Betts

Fig 2: Healthy kernels (left) and "tombstone" Fusarium damaged kernels (right). Photo by Dr. Alyssa K. Betts.

Fig 3: From left to right Feekes 10.3, Anthesis, Feekes 10.5.1 (yellow anthers beginning flowering), 4 days after anthesis (white anthers post flowering). Photo by Dr. Alyssa K. Betts

Management

- Spikelets are most susceptible at early flowering (Feekes 10.5.1) when anthers emerge. Weather conditions leading up to and following anthesis greatly impact disease development.
- Monitor risk at wheatscab.psu.edu.
- An integrated management approach is best.
- Moderately resistant wheat varieties are available.
- Corn is the most common rotation partner of small grains in the region and a host of F. graminearum. Minimizing corn or wheat

residues and rotating to a non-host crop when possible, helps to reduce pathogen survival over winter.

- Fungicides are most effective in reducing FHB and DON when applied at anthesis (Feekes 10.5.1) but may be applied up to 7 days after flowering (Fig 3).

References

Crop Protection Network (2022, January 28). Fusarium Head Blight of Wheat. Retrieved from: https://cropprotectionnetwork.org/encyclopedia/fusarium-head-blight- of- wheat