

# Wheat Scab Biology and Control

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# SCAB (HEAD BLIGHT)

**Pathogen:** *Fusarium* spp. Mostly *Fusarium graminearum*

## Symptoms:

- ✓ Usually first detected soon after flowering
- ✓ White head, while leaves and stems may remain green
- ✓ Often, only part of the head is attacked
- ✓ Bleached Spikelets often with a salmon-pink tint
- ✓ Stem directly below the head may turn to chocolate brown color
- ✓ Kernels above the infected spikelets may be shriveled
- ✓ Kernels are shrunken and chalky or pink in color
- ✓ Tombstone or light weight kernels
- ✓ Barren spikelets
- ✓ Mycotoxin



# SCAB SEVERITY AND FREQUENCY

- ✓ Very erratic
- ✓ Depends on wet weather conditions at flowering
- ✓ Happened once every six or seven years in Wisconsin

# ALTERNATIVE HOSTS

- ✓ Corn, oats, barley, sorghum, and other grasses
- ✓ On corn, it causes root, stalk, and ear rot (giberela)
- ✓ On sorghum, it causes stalk rot
- ✓ May cause root rot in small grains

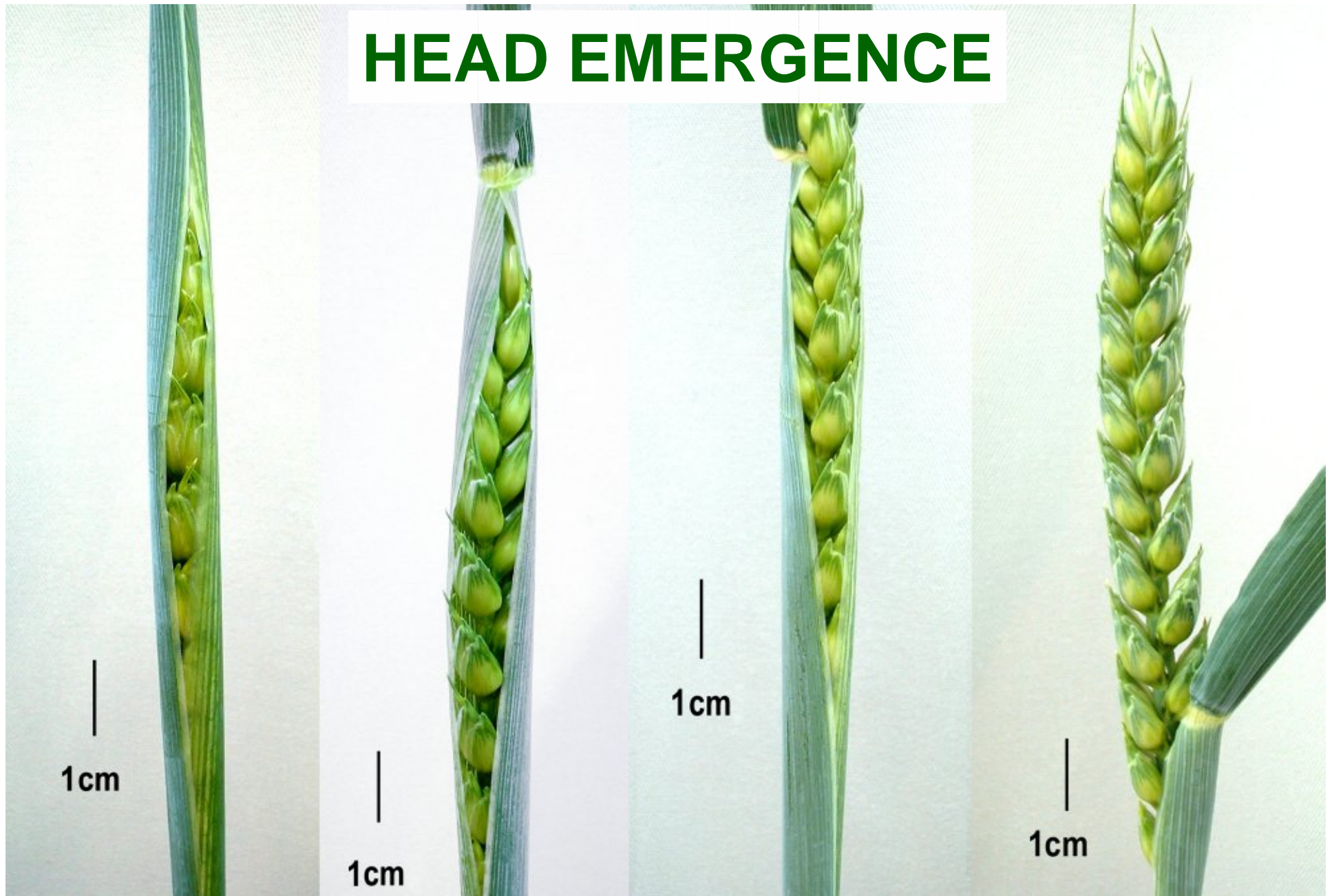
# ALTERNATIVE HOSTS

- ✓ Mainly crop residue of small grains and corn
- ✓ During moist weather, spores of the fungi are windblown or splashed onto the heads
- ✓ Seed borne *Fusarium* spp may cause seedling blight

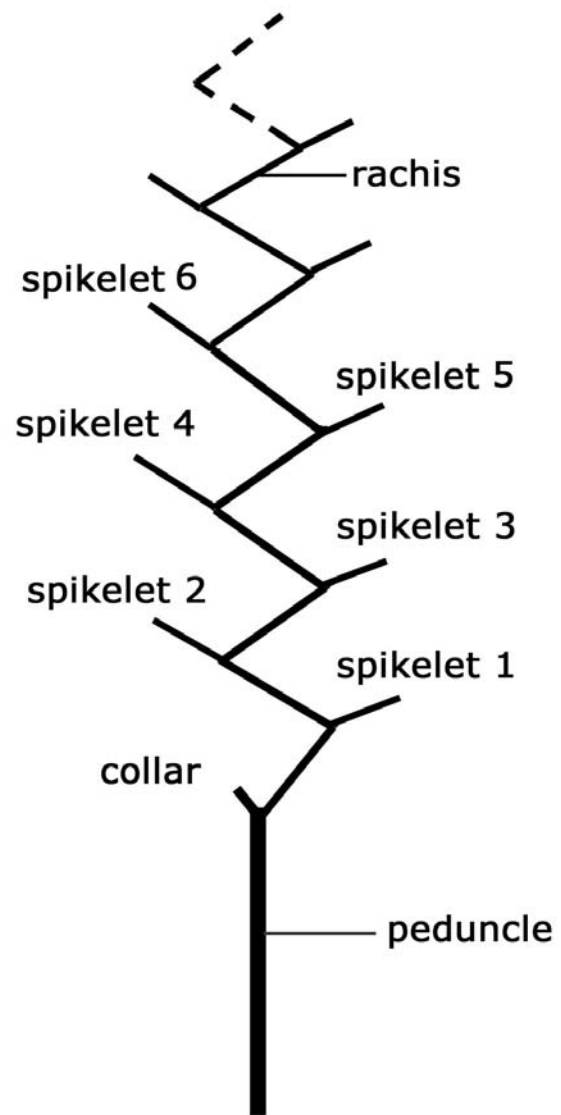
# INFECTION

- ✓ From flowering to soft dough stage.
- ✓ Mainly through anthers (flowers).  
Then grow into the kernels, glumes, or other parts of the head.
- ✓ Favored by prolonged periods (48-72 hs) of high humidity and warm temperatures of 75-85 °F.

# HEAD EMERGENCE









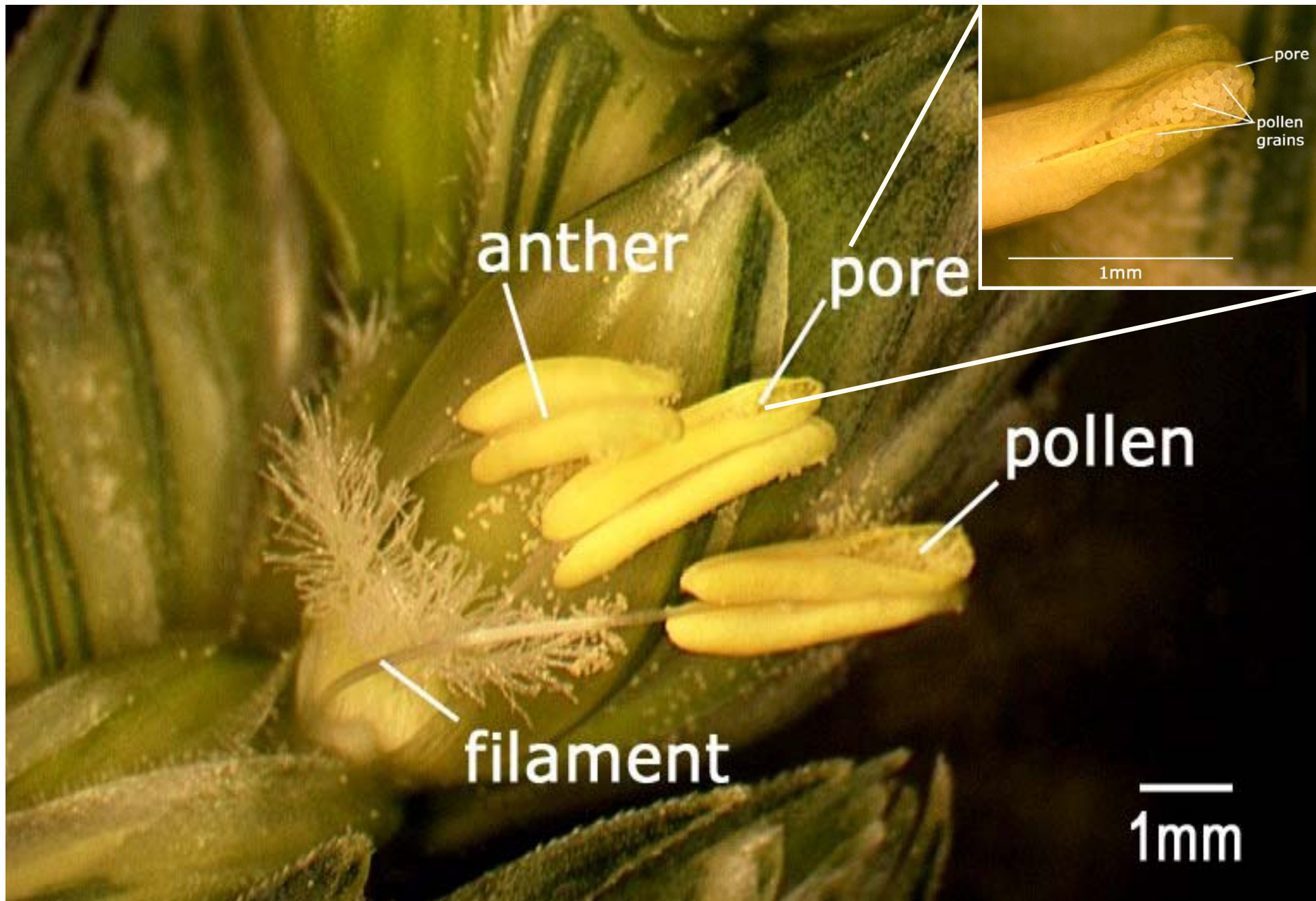


**Spikelets, row, or mesh**

**Flower**

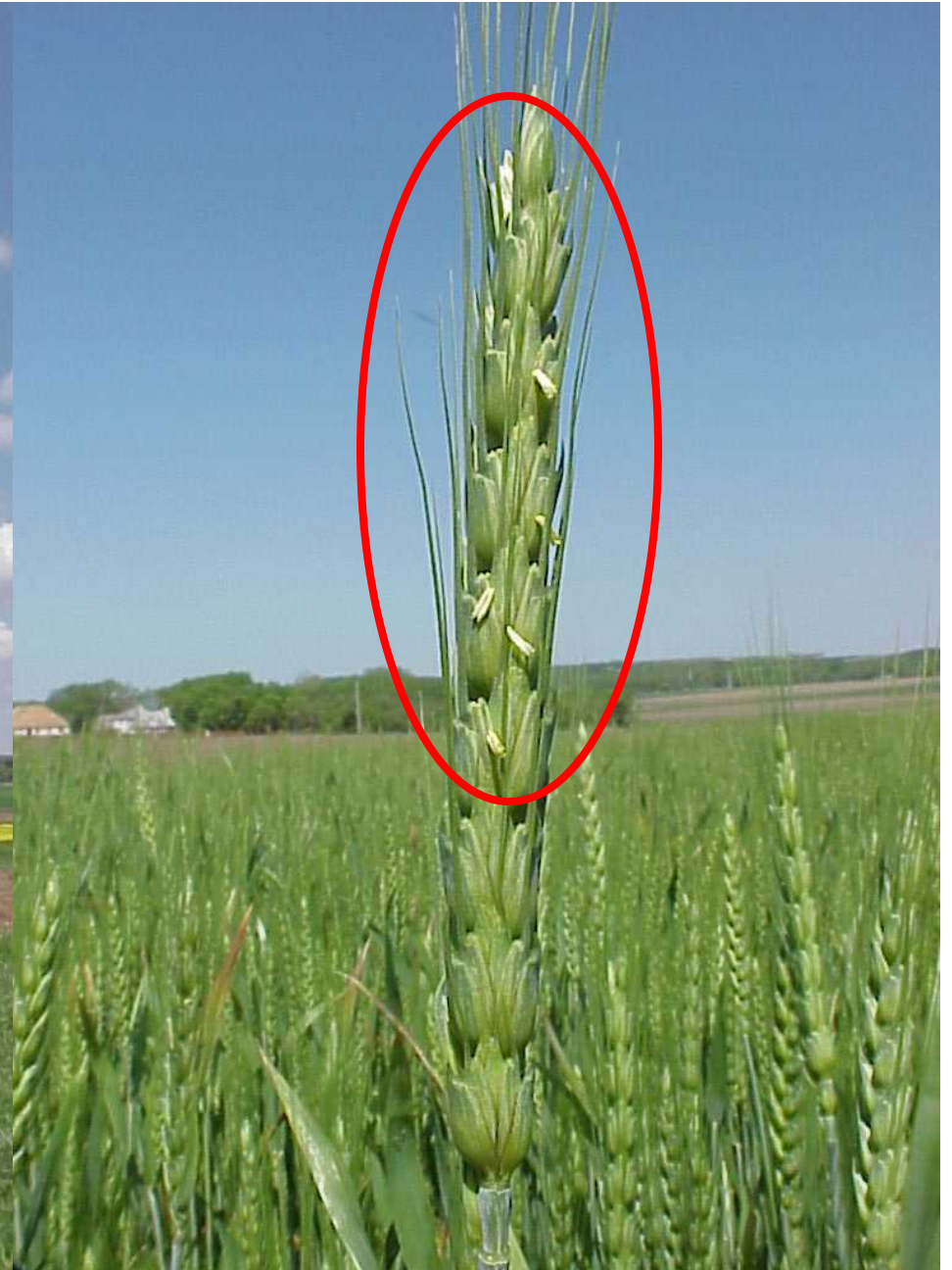
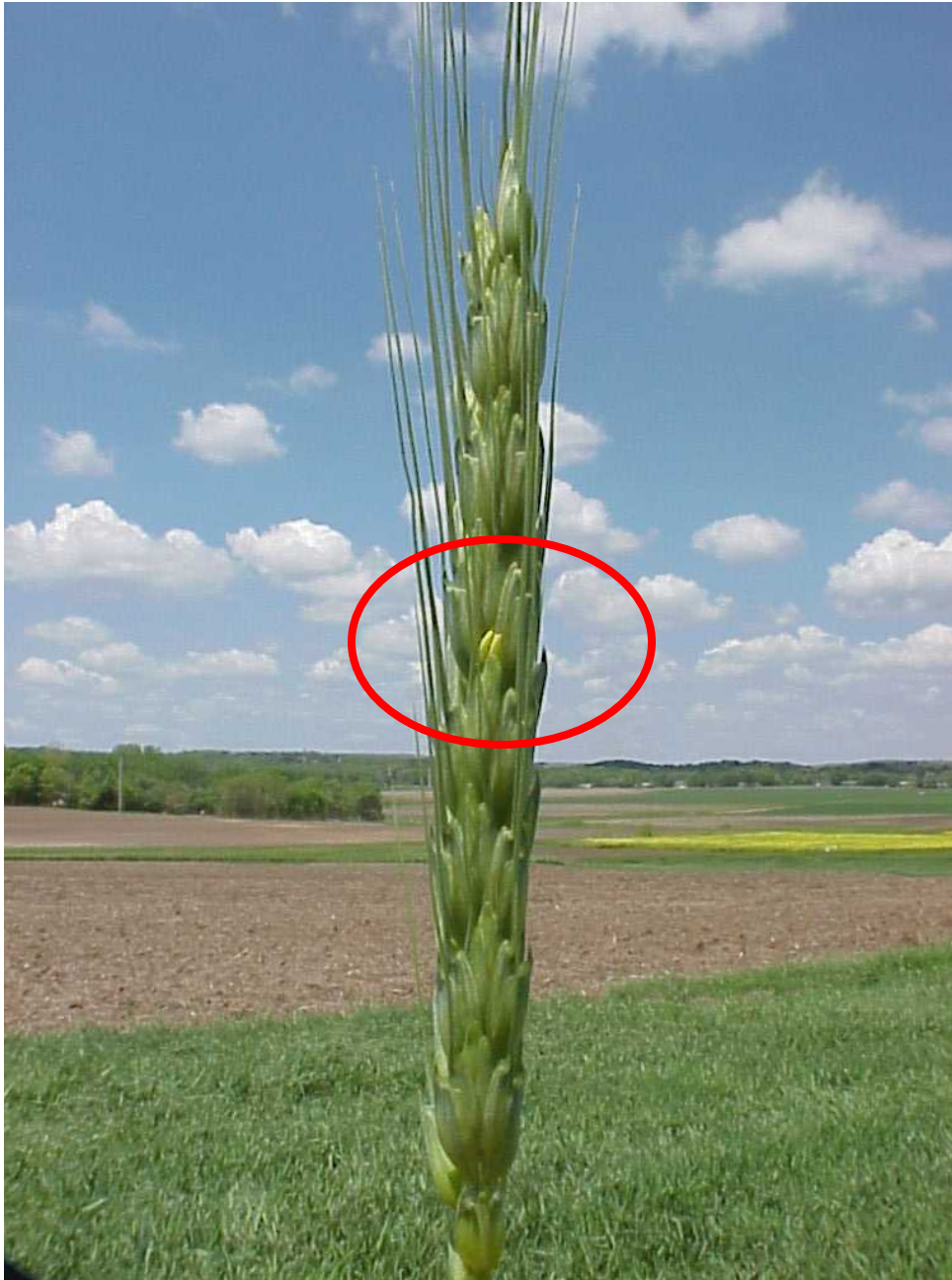














# SCAB MANAGEMENT

- ✓ Variety selection:
  - Some varieties are extremely susceptible
  - No variety is considered highly resistant
  - Choose varieties based on scab ratings from multi-location!
  - Spread risk by choosing varieties with different maturities.
- ✓ Crop rotation with non-host crops (i.e. soybeans)
- ✓ Chop, bury, or remove crop residue



# SCAB MANAGEMENT

- ✓ Seed treatments:
  - Help raise seed germination
  - May prevent or reduce seedling blight
  - DO NOT CONTROL HEAD BLIGHT
- ✓ Seed cleaning
  - Set combine fans higher during harvest
- ✓ Foliar fungicides
  - Not cost effective in Wisconsin



# THANK YOU!

## QUESTIONS? COMMENTS?