Montana small grain insects

Wheat stem maggot

***Meromyza americana* Fitch (Diptera: Chloropidae)**

Wheat stem maggots cause white heads in wheat. They are native, and occur across the state.

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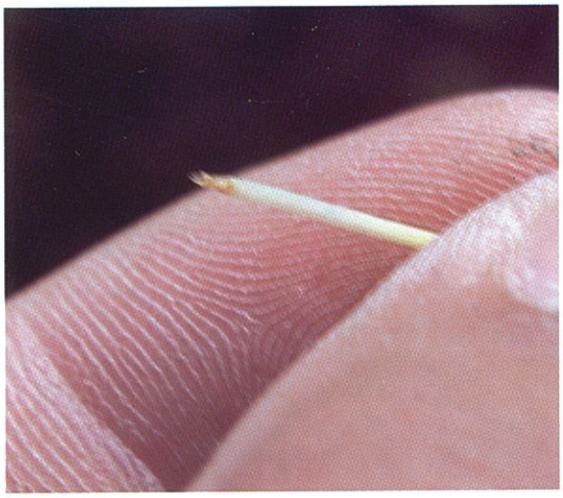
Wheat stem maggots

Normal and white head

White heads are easily seen among green uninfested heads. No kernels will be produced in damaged heads. Estimate infestation rates by counting green heads and white heads. Losses seldom exceed 1%, although infestations appear to be higher.

Adult

Flies are yellow and black, and may be difficult to identify in the field. Flies lay eggs on leaves and stems. Maggots which hatch from the eggs enter plants by crawling between the stem and leaf sheath. Maggots make circular cuts around stems which causes stem and head to die and bleach white in the sun. Maggots feed only on the inside of stems, and do not leave the plants. Each maggot damages only one plant. Maggots mature, pupate, and produce adult flies before harvest. Flies leave the fields when plants are mature. Therefore, stubble tillage has no effect on overwinter survival of the insect.



Chewed end of stem

Maggots which cause white heads feed above the top node. Heads and damaged stems can easily be pulled from plants. Ends of stems are ragged and frayed due to feeding. Maggots are light green, and have tiny black mouth hooks. Maggots complete their development in about 2 weeks. The pupae are found between the stem and sheath of the flag leaf.

Some Concepts:

- No control practices are available.
- There may be several generations per year.
- Maggots from the first generation may kill young tillers.
- Flies migrate from ripe wheat fields to wild grasses.
- Maggots overwinter in lower stems of wild grasses.
- Native parasites are importannt in controlling wheat stem maggot populations.
- White heads are also caused by hail and plant pathogens.
- No other insect pest chews the stem without damaging the flag leaf sheath.

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Written by Wendell Morill. Approved for publication by the Montana Agricultural Experiment Station, Montana State University, Bozeman 59717.