

WHITE-HEAD DIAGNOSTIC KEY

(From Wm. M. Brown, Jr.-Colorado State University)

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| 1. Awn tips white and sometimes bent | Frost or Freeze |
| 2. Part of the head dead: neck still green | |
| a. Dead parts white to gray | Frost or Freeze |
| b. Dead parts (sometimes whole head) pink | Scab |
| 3. Head and neck dead down to the top node with the rest of plant green. Pull head out and examine for chewing or maggots above the top node | Stem Maggot |
| 4. Single tillers with white heads | |
| a. Lodging Not Common | |
| i. Vascular discoloration evident in stripe in leaves and/or nodes | Cephalosporium |
| ii. Lens shaped lesions on the lower internode | Sharp Eyespot |
| b. Lodging Common | |
| i. Small pupa under leaf sheath above node | Hessian Fly |
| ii. Grayish lesion on lower internode with the stem collapsed, bent or broken in the middle of the lesion | Strawbreaker |
| 5. All tillers die at the same time – no lodging | |
| a. Stem pulls out easily. Roots, crown are black, subcrown internode sometimes shiny black | Take-all |
| b. Does not pull out easily. Crown and lower internode medium | Common Root Rot |
| 6. Plant dying, leaves rolling and/or purpling but none of the above | Poor Roots, Drought, Drowning, Hot Winds or Russian wheat Aphid |

