

Seed Treatments for Disease Control in Wheat

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Five Reasons to Treat Wheat Seed with a Fungicide

5. To reduce loose smut
4. To reduce powdery mildew
3. To reduce seedling disease
2. To increase germination
1. To reduce scab

Head Scab
caused by
the fungus
Fusarium spp.



Scab





Scab on wheat

Wheat Scab Control

- ✱ **There are no resistant varieties.**
- ✱ **Varieties differ in flowering times.**
- ✱ **Bury crop residue.**
- ✱ **Chopping down corn stalks helps.**
- ✱ **Practice crop rotation (not corn or grain sorghum).**
- ✱ **Foliar fungicides are not effective.**
- ✱ **Seed treatments provide some prevention.**

Seed Treatment Fungicides

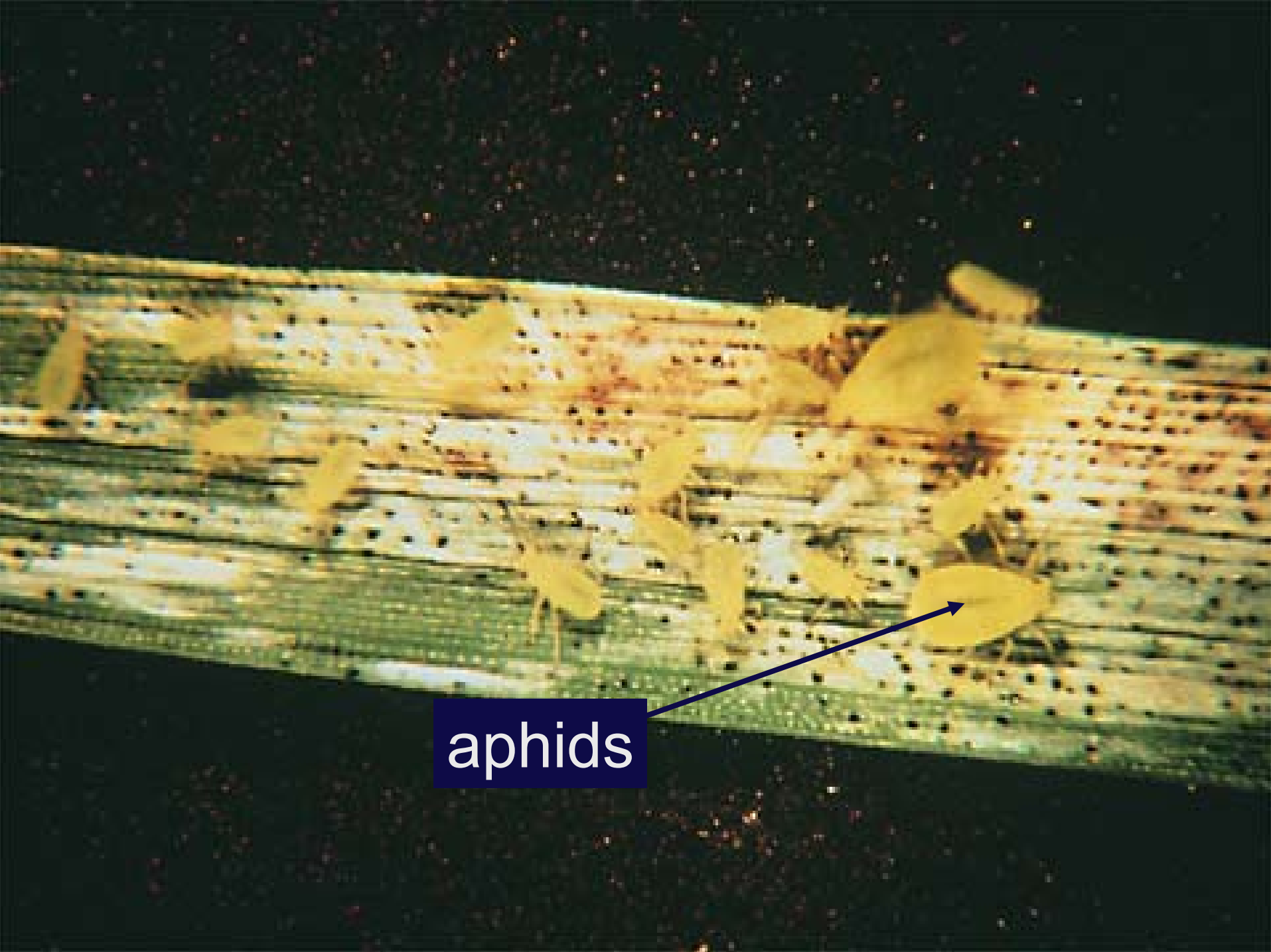
- ★ Seed rots & seedling diseases (*Rhizoctonia*, *Fusarium*): captan, difenoconazole, fludioxonil, PCNB, tebuconazole, thiram
- ★ Damping-off diseases (*Pythium* spp.): metalaxyl, mefenoxam
- ★ Smuts (loose smut): carboxin, difenoconazole, tebuconazole
- ★ A combination material is needed, especially for adverse planting conditions or no-till.

Barley Yellow Dwarf Symptoms





Barley Yellow Dwarf Symptoms on Flag Leaf



aphids

BARLEY YELLOW DWARF (BYD)

- ★ **SPREAD BY AT LEAST 20 APHIDS SPP.**
- ★ **MAJOR APHIDS: OAT BIRD-CHERRY, CORN LEAF, ENGLISH GRAIN, GREENBUG, AND **RICE ROOT APHID****
- ★ **FIVE PROMINENT STRAINS OF BYDV: RMV, RPV, MAV, PAV, SGV**
- ★ **OVER 80 GRASS SPECIES ARE SUSCEPTIBLE.**

Why Should Aphids be Controlled in the Fall ?

- ★ Aphids carry the Barley Yellow Dwarf Virus (BYDV), and young seedlings are very susceptible.
- ★ Yield loss can be significant in some years.
- ★ Once aphids feed on young seedlings, it is too late to control BYD.
- ★ Scouting for aphids is difficult in the fall.

BYD CONTROL IN WHEAT

With seed treatments of imidacloprid (Gaucho) insecticide

WTES, Jackson, TN 1993-2001

Yields in bushels/acre; rate in ozs./cwt

Gaucho 480	1993	1994	1995	1996	1997	1998	1999	2000	2001
Untreated	62	96	40	69	65	48	78	72	73
1.0 oz	66	99	44	68	59	60	78	75	80
1.5 oz	67	103	50	63	62	58	78	76	76
Increase 1.0 oz	4	3	4	0	0	12	0	3	7
Increase 1.5 oz	6	7	10	0	0	10	0	4	3

BYD Control

- ✱ **Avoid early planting.**
- ✱ **There are no resistant varieties.**
- ✱ **Use insecticides to control fall aphids.**
- ✱ **Spring aphids do not cause as much damage.**