

How to stop scab from scarring next year's grain

NEWARK, Del. — This year's scab can scar next year's grain fields, according to University of Delaware Extension plant pathologist Bob Mulrooney.

He cautions farmers to be aware of the amount of scab that occurred in this year's wheat crop and to keep in mind that the disease can be carried over from one crop to the next, both in the seed and on crop refuse in the fields.

"The fungus carried with the seed can infect wheat seedlings next year as seedling blight, while the fungus from cornstalks or wheat or barley straw allowed to remain over winter on the surface of the ground may infect the heads on next year's crop, causing head blight," he explains. "Scab occurs most commonly when wheat follows corn in the rotation."

The scab fungus attacks both the seedlings and also the heads of plants. Infected seedlings are killed or greatly weakened. The infected parts of heads are killed. The most conspicuous symptom in this case is a premature drying of one or more spikelets, giving the infected part a bleached or whitened appearance.

Usually pink- or salmon-colored masses of spores of the scab fungus are evident at the edges or bases of affected glumes. The kernels in killed parts of the head are greatly shrunken, almost white

and scabby in appearance — hence the name "scab".

The milling value of scabby wheat is low, and infected grain is objectionable as feed because it makes animals sick. Growth of fusarium fungi in scabbed grain produces toxic compounds (mycotoxins) that cause muscle spasms, acute vomiting, nausea, dizziness, diarrhea and soreness in man, young chickens, pigs, dogs, horses and other non-ruminant animals with simple stomachs. More than three percent scabby kernels in swine feed is poisonous to hogs.

Pigs that are fed 10 percent or more of badly scabbed grain vomit and then refuse to eat the mixture. Cattle, sheep and mature poultry (except pigeons) do not react to scabbed grain. But because one of the mycotoxins involved has some estrogenic activity, scabby grain should not be fed to breeding animals.

Scabbed wheat kernels are easily removed by modern grain cleaning equipment. Scabbed barley and oak kernels are much harder to separate from healthy grain.

Scab is difficult to control, says Mulrooney. In areas where it is frequently severe, the most effective control is obtained by not sowing wheat after corn. If you must do this, cornstalks should either be plowed under thoroughly

or cut as low as possible and removed from the field before the land is disked. The seed should always be cleaned thoroughly and treated with a protective chemical before sowing, if you're saving over some of your own grain as seed.

Some wheat varieties are less susceptible to scab than others, but none is even moderately resistant, says the specialist. He recommends growers consult their copy of the extension Wheat and Barley Review for disease ratings.

The plant pathologist recommends growers adopt the following practices to minimize the incidence of scab in their grain crop next year:

✓ Plow under cleanly and deeply all infected stubble and straw of

small grains and weed grasses, cornstalks and rotted ears. Complete coverage of crop residues helps reduce head blight infections. Sanitation is most effective when it is done on a community-wide basis, so talk with your neighbors about doing this, too. Manure containing infected straw or cornstalks should not be used for top dressing.

✓ Sow only plump, small-grain seed that has been thoroughly cleaned to eliminate all lightweight seed and then treated with carboxin (Vitavax) or a combination of carboxin plus captan, maneb or thiram (sold as Vitavax 200). Proper seed treatment controls seedling damage from infected seed. But it will not control the head blight or scab, foot

rot and stem blight phases of the disease.

✓ Delay the sowing of winter cereal grains until the temperature is 60° Fahrenheit or below, to reduce the chances of severe seedling blight.

✓ Sow adapted and recommended small-grain varieties in a fertile, well-prepared seedbed. Rotate small grains and corn with legumes, allowing at least one-year break in cereal, grass or corn cultivation. Plant small grains as far as possible from old cornfields.

✓ No highly resistant varieties of wheat, oats, barley or rye are available. Some varieties are infected less frequently, apparently because of physical barriers to the infection of florets and spikelets.

Hammer is new Deputy under Secretary of Ag

WASHINGTON, D.C. — Secretary of Agriculture, John R. Block has appointed Thomas A. Hammer, of Falls Church, Va., to be deputy under secretary of agriculture for international affairs and commodity programs.

In his new position, Hammer will help formulate and administer policies for USDA's Agricultural Stabilization and Conservation Service, Federal Crop Insurance Corporation, Foreign Agriculture Service and Office of International Cooperation and Development.

Before his appointment, Hammer worked as an agricultural consultant for several

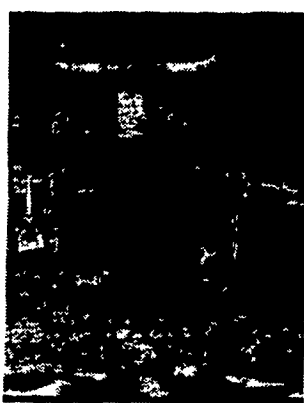
agricultural businesses and as national affairs director with the American Farm Bureau Federation here. During 1974-75, he worked as an economist with Mitsubishi International Corporation in Washington. He has also worked as a banker and served as a pilot in the U.S. Navy.

Hammer earned a bachelor of arts degree in political science from Marietta, Ohio, and a master of business administration in finance and international business from George Washington University, Washington, D.C.

Hammer is married to Jennifer Florer of Marietta, Ohio.

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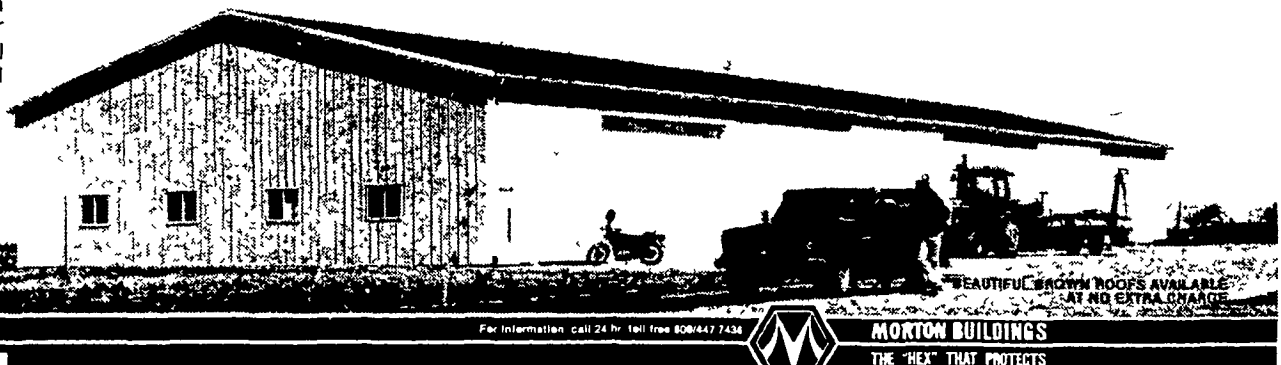
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