

THE WINTER GRAIN MITE WINTER PEST OF TURF

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The winter grain mite, *Penthaleus major* (Dugés), is a well-known and important pest of small grains in the south central states. Though early literature lists bluegrass, *Poa pratensis* L., and fescue, *Festuca* sp., as hosts, reference to this mite as a pest of turfgrass is not found. In 1969 and 70, Dr. Herbert Streu, of Rutgers University, studied the life history of the winter grain mite and was the first to collect it from home lawns, golf courses and other turf areas in New Jersey. He regarded this mite as a potentially important pest of turfgrass.

Fairways Damaged — In March 1977 a golf course in Pennsylvania reported large patches of what appeared to be winter desiccation on Penncross bentgrass fairways. Upon closer examination, extremely high populations of winter grain mite were found in the thatch and upper turf roots of these patches. Blades of grass from these areas showed evidence that the mite had fed on the surface cells, leaving a streaked appearance. Leaves severely damaged died and turned a light tan to gray color. Damage and mites appeared again in November and December 1977.

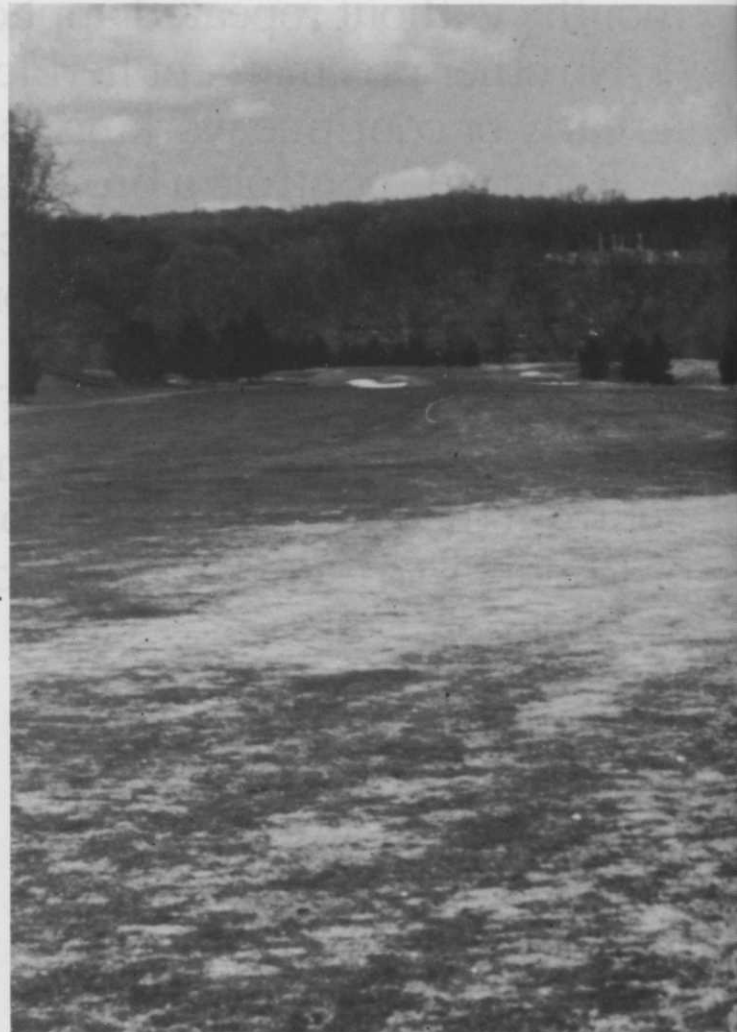
The winter grain mite has an olive-black body with the anal opening on the upper surface and 8 red legs, characteristic of this species. The body of each mite is usually filled with chlorophyll.

Greens Damaged — Brown areas on the bentgrass greens of a southern Ohio golf course were noticed in late November 1977. Examination of turf samples taken from these areas in December showed the winter grain mite was present. The golf course superintendent reported the mites occurred only in the damaged areas. The investigation is continuing.

Life History — Based on the work of Dr. Streu in New Jersey, the mites over-summer as eggs which begin hatching in late October. The new mites are active and apparently feed throughout late fall and winter whenever the temperature permits. Beginning in March, the mites lay bright orange eggs in the thatch and in the soil. Within a day or so the

eggs turn white and appear shriveled. By early May the egg-laying population dies and no further mites are seen until the following October.

Feeding and Damage — Like most mites, the winter grain mite has mouthparts called chelicerae that are well adapted for rasping at plant surfaces. After removing the surface from epidermal cells, the mite sucks the cell contents into its body as food. Grass blades fed upon extensively first show a typical silvered or scorched appearance and later turn brown. Snow cover tends to accentuate areas of injury. Whether this mite feeds on turf roots is not known.



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Report Infestation — The extent to which damage from the winter grain mite occurs in late fall and winter is not known; therefore, turf managers are encouraged to carefully examine turf apparently damaged from winter desiccation or disease for the presence of this mite. If damage and the mite are found, this fact may be reported to Dr. Harry Niemczyk, Wooster, Ohio, (216) 264-2540.

No insecticides are specifically labeled for control of this mite on turf. Depending upon the extent to which this mite is reported causing injury to turf, it may be necessary to initiate research to develop methods and materials for control. **WTT**



Bright reddish orange eggs are deposited in thatch from March to May. Eggs turn white and appear shriveled soon after being laid.

Bentgrass fairways of a Pennsylvania golf course in March showing areas damaged by the mite. Courtesy Clyde Lyons.

