

Controlling the Bermudagrass

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BERMUDAGRASS, long known for its resistance to most pests, has found a challenge to its survival in a new plant-feeding mite, *Aceria neocynodonis*. It was first observed and recorded from Phoenix, Arizona, in 1959, and later at several locations in southern California in 1960. Observations have shown it to be widespread throughout southern California from the inland boundaries near the Colorado River to the coast. Local infestations have also been reported to the east in New Mexico and Texas. The mite has been reported present in Florida and Georgia. Experts feel that it will spread into all areas where Bermudagrass is cultivated in turf.

Turf injury may vary from light or almost negligible to severe damage; complete kill of the Bermudagrass has been reported in some cases.

Although common Bermudagrass, *Cynodon dactylon*, has been shown to be the most susceptible to damage, the newer hybrid Bermudagrasses have

been infested, resulting in severe injury.

Damage is first noticeable in the spring. Lawns fail to begin their normal growth even when irrigated and well fertilized. The grass that does appear is damaged by the mites and has a typical rosetting and tufting of the growth, known as "witches'-broom." This is due to the shortening of the internodes. With heavy infestations the grass turns brown and dies in irregular patterns.

Weakened turf is susceptible to damage by summer blight fungi which also take a toll.

The mites remain hidden under the leaf sheaths. By using a hand lens of 14 power or larger, these pests can be seen by removing the outer sheath cover and looking near the crown of the plant. They appear as tiny white larvae, sometimes slightly curved, and may vary in number from a few to a hundred or more under a single sheath.

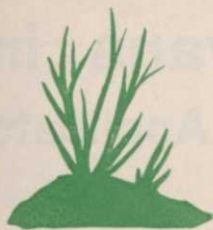
Suggestions for chemical control of the mites come as the re-

sult of testing various insecticides in 1961. These tests were conducted in cooperation with J. S. Morishita, Department of Entomology, University of California, Riverside. Most effective of the materials tested was diazinon at the rate of 6 ounces of the liquid or 7.4 ounces of the 25% wettable powder per 1,000 square feet. For each 1,000 square feet add one ounce of a wetting agent and apply in 25 gallons of water. Although applying the spray at 300 to 400 pounds pressure so that it can reach down into the crown of the plant has been shown to be very effective, satisfactory results have been reported from applying the material in a garden hose sprayer or a 3-gallon tank-type sprayer. A repeat spray may be applied if needed in 10 to 14 days.

The results of another experiment demonstrated the importance of proper cultural practices in controlling these mites. Good management practices which include thatch removal

Five years ago in Arizona a new threat to the hardy Bermudagrass began to crop up. Now the pest, a mite known as *Aceria neocynodonis*, is spreading rapidly into other states. In this article, Author Morgan tells how to recognize damage wrought by the pest, how to recognize the organism itself, and how to control it effectively with today's chemical pesticides.

mite



and control, aeration, sufficient irrigation and fertilization will reduce the damage done by the mites and the number of insecticide treatments necessary for their control.

Low fertility lawns treated in spring will require a urea-sulfur, ammonium nitrate, or ammonium sulfate fertilizer along with the insecticidal spray to restore greenness to turf.

Cultural practices alone will not necessarily entirely eliminate the need for insecticides to be applied.



Damage described in this article is a result of the Bermudagrass mite, *Aceria neocynodonia*, (top right). Green circles point out some of the long, slender organisms. Photo is by Dr. George D. Butler, Jr., Associate Professor of Entomology, University of Arizona, Tucson. Dr. Butler says the mite is rapidly spreading through Texas, Florida, Georgia, and other states.

Author Wayne Morgan (right center) is a turfgrass specialist for the University of California Extension Service. Here he demonstrates how to check for damage from this pest which he has carefully studied for some time.

A closeup of turf afflicted with the Bermudagrass mite. Growth at top is normal plant. Grass damaged by mites (bottom) shows tufting of turf which is typical result when *Aceria neocynodonis* attacks.

