GREENBUG DAMAGE FOUND
ON KENTUCKY BLUEGRASS

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The greenbug, Shizaphis graminum, is a widely
distributed aphid in North and South America,
Europe, Africa, and Asia. It is a well-known and
serious pest of grain crops including oats, wheat,
and barley, particularly in the central states from
Texas to North Dakota and Minnesota. It also feeds
on other small grains, corn, rice, sorghum, and
forage grasses. Heavy infestations of greenbugs
have caused total destruction of both winter and
spring grain crops.

In 1970 and 1971, Dr. Roscoe Randell, of Univer-
sity of Illinois reported noticeable damage to Ken-
tucky bluegrass by the greenbug in central and
eastern Illinois during the late summer months.
This was the first time that the aphid was observed
as an epidemic on turf. Prior to this, aphids were
considered as incipient turf pests that contribute
slightly to the total stress on turfgrass, but not suf-
ciently to cause economic damage and justify
separate control. Greenbugs and their damage
have been observed occasionally on turfgrass
areas from 1971 through 1977 in Illinois.

Lawns damaged — In June 1978, large circular to
slightly irregular patches of dead grass were obser-
vied under trees, as well as in open, sunny areas on
lawns and other turfgrass areas. These patches
usually ranged in diameter from 3 to 15 feet or
more. Initial observation suggested dormant or
drought-stressed grass, especially since much of
the damage occurred underneath the tree canopy.
The outside perimeter of brown, dead turf was sur-
rrounded by a narrow band of yellow to reddish-
orange (rusty) grass. Immediately outside the
narrow band the grass was green. Upon closer
observation, individual plants taken from the
chlorotic turf were found to be hosting large num-
bers (100 or more) of aphids. Aphid feeding con-
tinued during the July and August months.

Greenbug description — The adult greenbug is
approximately 2-3 mm long, soft-bodied, some-
what pear-shaped, and pale yellow to bright green
with a dark green stripe running down the back. It
has one pair of antennae and 3 pairs of legs, char-
acteristic of members of the order Insecta. The
predominant form of the greenbug is winged and
wingless females and their young. The young are
produced parthenogenetically (without fertiliza-
tion) and viviparously (bear living young). Young
develop via simple metamorphosis with the young
passing through several nymphal instars in about a
week. As a rule, existing parthenogenetic biotypes
live about one month and produce 50 to 100 young.
As many as 20 generations of the viviparous
females may develop during one season.

The specific biotype and migration habits of the
greenbug feeding on turfgrass have not been
clarified. Outbreaks of other greenbug biotypes in
the north are considered to arise from the migra-
tion of winged aphids originating in southern grain
fields. The aphids leave wintering places in the
south during March and April with strong
southerly winds. These migrants feed on grain
crops in the central states. When grain in these
areas mature in May, aphids are again produced in
large numbers and carried by southerly winds to
more northerly states. Present greenbug biotypes
are not believed to survive in any of their stages in
the north due to the extreme cold winter tem-
peratures. Future research needs to be conducted
to define the specific biotype feeding on turfgrass
and its overwintering habits.

Feeding and damage — Like other aphids, the
greenbug has specialized mouth parts called
stylets that are well adapted for sucking juices
from the plant. There is also a duct for the ejection
of salivary secretions. The salivary fluids contain
enzymes that break down the cell and their con-
tents and kill the living tissue. Turfgrass blades
resulting from greenbug feeding first show yellow
spots with necrotic centers, then turn a rusty color,
and eventually turn brown. The greenbug appears
to be primarily a feeder on Kentucky bluegrass,
causing no damage to fine fescues and other turf-
grasses in adjacent areas.

Control — Although most commonly used turfgrass
insecticides are effective for greenbug control,
malathion is the only insecticide presently carry-
ing a label for use on grasses. The recommended
rate of malathion, 57% liquid concentrate, is one
tablespoon in 3 gallons of water per 1000 square
feet applied to the area infested by the aphid. Un-
der most situations, it is felt that spot treatment
would be sufficient to keep the problem to a
minimum.