

at all times often results in serious problems and should be avoided," warns Manuel. "Extreme stress is placed on the turf, and jeopardizes its survival, especially during periods of difficult weather." Usual tactics for fast greens include mower maintenance and adjustment, plus manipulation of other cultural practices such as fertilization, irrigation, verti-cutting and rolling, which Manuel says has come back into vogue.

Manuel advises that, if super-fast greens are mandated at a course, the crew must make every effort possible to control or minimize other stress factors, any one

of which is a challenge:

- ✓ the effect of trees: shade, root competition and poor air circulation;
- ✓ moisture stress due to poor irrigation system;
- ✓ heavy traffic from both mowers and golfers;
- ✓ insect/weed/disease control;
- ✓ poor drainage or irrigation; and
- ✓ soil compaction.

A recent USGA green speed study revealed:

- Each change in nitrogen levels per 1000 sq. ft. annually created an inverse

speed change of three to five inches.

- Increased speeds of 8 to 10 inches were measured following daily mowings. Multiple daily mowing increased speeds up to 8 inches.

- Increase in speeds from double mowing was more significant on greens cut at 3/16 per quarter vs. 1/8 or 5/32.

- Weekly, light verticutting through the growing season increased speeds by an average of 7 inches.

- You can gain up to 6 inches with a single roll, and up to nine inches with double rolling.

Early application reduces incidences of lyme disease

■ Results of a nearly completed one-year field research study conducted by New York Medical College indicate that a single application of insecticide in early summer can reduce the risk of lyme disease by 70 percent to 90 percent.

Homeowners in Westchester and Fairfield counties have been directed to spray their lawns with insecticide in mid-June if they want to substantially reduce the risk of contracting lyme disease,

according to researchers at the college's Lyme Disease Center.

Three insecticides were tested and proven effective. The most effective, cyfluthrin, is not yet approved for lawn application in New York. Insecticides carbaryl and chlorpyrifos are, however, available. These insecticides were found equally reliable in liquid and granular formulations. The researchers emphasize that users should follow directions for the use

of these insecticides at the rates recommended for lawn insect control.

"We know from our earlier studies that there are infected ticks on 60 percent of the residential properties we examined in Westchester County," says Dr. Durland Fish, director of the college's center.

"Since alternatives to spraying are either ineffective or unavailable, the prudent course of action is to apply lawn insecticides," he adds.

Results of the study showed that the use of insecticide-treated cotton did not measurably reduce the number of ticks or the proportion of infected ticks at any of the residential, recreational and woodland study sites.

Fabrics shown to minimize weeds

■ Landscape fabrics, though generally unable to suppress all weed species, can greatly reduce the need for hand or chemical weeding, according to tests conducted at Auburn University.

In the first trial, the five fabrics tested were Dewitt Weed Barrier, Geoscape Landscape Fabric, Amoco Rit-a-weed, Phillips Fiber Duon 2.5 ounce and Easy Gardner Weedblock.

The Dewitt product was the only woven fabric.

The Geoscape, Amoco and Phillips products were mesh, while the Easy Gardner product was perforated polyethylene.

In the second trial, American Woven Fabrics Weed Barrier Mat, DuPont Tyvar 307 and Tyvar 312 were added. The only woven fabric was the American Woven product.

Results of the two experiments, below, were first published in the *Journal of Environmental Horticulture* by the Horticultural Research Institute.

EXPERIMENT 1: Number of seedlings after 30 days

Weed	Dewitt	Geosc.	Amoco	Phillips	EasyGard.	Control
yellow nutsedge	1.3	0.3	2.5	1.3	3.8	11.8
bermuda-grass	0.0	7.0	11.3	13.8	92.3	126.1
johnson-grass	0.8	1.7	7.5	8.0	5.3	21.0
pigweed	0.0	0.0	5.3	12.5	111.7	139.0
sicklepod	0.0	0.0	0.0	0.0	0.0	33.3
morning glory	0.0	0.0	0.0	0.0	0.0	15.5

EXPERIMENT 2: Number of seedlings after 30 days

Weed	Dewitt	Geosc.	Amoco	Ph'lips	E.Gard.	Amer.	307	312	Cont.
y. nut.	1.0	0.8	2.5	3.3	1.8	0.3	0.0	0.0	8.3
berm.	0.5	0.0	8.3	7.8	20.3	0.0	0.0	0.3	48.8
j'son.	1.5	9.3	17.5	12.0	72.6	0.0	2.5	0.8	112.8