# Green World

AN INDUSTRYWIDE PUBLICATION OF THE NEW JERSEY TURFGRASS ASSOCIATION

#### Volume 4, Number 3

Fall, 1974

## O'Knefski Filling Call It Fusarium or Frog Eye In for Indyk But Spell It B-A-D N-E-W-S

"Where is Dr. Henry Indyk?" Many who have missed him are asking, not knowing that the Extension turf specialist at Rutgers is on leave for a year, broadening his experience on a turf farm and gaining new insights into the problems of the industry.

Robert C. O'Knefski began covering Dr. Indyk's duties on Sept. 1 and will continue until Dr. Indyk returns next June 30.



Mr. O'Knefski, in turn, is on sabbatical leave from his job as Cooperative Extension agent in Nassau County, Long Island. Like Dr. Indyk he is broadening his horizons and also taking courses at Rutgers to complete the master's degree that he started at Cornell University.

Bob began his Extension Service duties in Nassau County in 1954. His contributions to the turf program there included elimination of bentgrass seed from grass mixtures and the first demonstration in the county of the effectiveness of 2, 4, 5-TP in the control of chickweed.

He resigned in 1961 to accept a position as turfgrass consultant with O.M. Scott and Sons, where he trained garden center operators in diagnosing turf problems, set up turf programs for grounds maintenance men, and worked closely with sod growers. He returned to Nassau in 1966.

## **Fusarium Facts** At a Glance

Philip M. Halisky, Turfgrass Pathologist, Cook College

NAMES - Fusarium blight, Roseum blight, Frog-eye spot

CAUSE - Fusarium roseum and Fusarium tricinctum

DESCRIPTION - Light green patches develop typically 3 to 15 inches in diameter. Initially these patches may be elongated streaks, crescent-shaped, or circles. The color of the patches changes from light green to dull reddish-brown and finally to a light straw color. Sometimes the patches develop into donut-shaped circles with a tuft of green grass in the center. This distinctive symptom is referred to as "frog eye."

CONDITIONS FAVORING DIS-EASE - The fungi that cause Fusarium blight survive winter in infected grass roots, crowns, and thatch. During summer months the disease is favored by high temperatures (75 to 90°F.) coupled with high humidity. High temperatures when accompanied by rainfall, dew, drizzle, or even ground fogs lead to turf injury by Fusarium blight. This is especially true if the grass has been subjected to growth stress from heat, drought, over-fertilization, or prolonged, drenching rainfalls. Such grass is predisposed to fungal attack.

CULTURAL CONTROL - Since the Fusarium fungi live in the thatch layer, turf management practices

(Page 6, please)

Fusarium blight, caused by the fungi Fusarium roseum and Fusarium tricinctum, has been particularly severe on Merion Kentucky bluegrass as well as on many other lawn grasses. It is now one of our major turf diseases.

(No one who works with turf needs a reminder of the losses and sometimes

devastating effects of Fusarium blight on lawn grasses. Bob O'Knefski, acting

turf specialist at Cook College, has long been in the fight against those twin

devils, Fusarium roseum and Fusarium tricinctum. He outlines his observations

and suggestions in the article that follows. Mr. O'Knefski graciously consented

to the insertion of information concerning experience with the disease at Rutgers,

notably a section prepared by your editor relative to nitrogen fertilization and

disease incidence in Experiment Station test plots in New Brunswick.)

#### **SYMPTOMS**

The disease has a characteristic pattern of development. Affected turfgrass first shows scattered light green patches 11/2 to 2 inches in diameter. As the disease progresses, the color of the grass changes to a dull reddish brown, then to a light straw color. Within a few days the discolored grass area may enlarge to a total width of 2 feet or more. In the final stages, distinct streaks, crescents, and uniformly blighted circular patches of grass will be scattered throughout the lawn. Also, centers of green grass, apparently healthy plants, occur within the circles of dead grass and have taken the name of "frogeye." This pattern is characteristic of the disease and provides one of its key field diagnostic features.

Fifty Fusarium blight patches were measured at the Rutgers Turf Research Plots in August 1972. The grass hosts were Poa annua, Poa pratensis, and Poa trivialis. The average dimension of the patches was 6 by 8 inches. Only three patches out of 50 developed the frog-eye symptom.

#### **CULTURAL INFLUENCES**

**Temperature** – The disease usually first appears in late June or early July as soon as the weather turns hot. It is most severe during the hot months. It

## **Comments and Opinions**

### - - Yours and Ours

#### HOW DO YOU EVALUATE SUMMER OF '74?

How good is the turf grower's judgment of summer weather? Some appear to have uncanny ability to judge the season. At least they are keenly interested in summer weather since summer is the most difficult season for turf in the Northeast. The turf superintendent's astuteness in planning maintenance to fit the weather may determine if the turf comes through with little or no loss of stand and quality.

Looking back on a good summer season is one of his great satisfactions as well as a relief that it's over. Each good summer is a badge of success that marks the superintendent as a professional.

Many turf growers are saying that the 1974 summer was not as difficult as those of 1972 and 1973. Not much has been written about the summer to suggest it was less difficult. Records show the average temperatures for June, July, and August of 1973 totaled 165°F. above average, while they total  $-7^{\circ}$  below average for the same 1974 period. Also, there were 16 days of 90° or above in 1973 as compared with nine days in 1974. Thus, the records show that 1973 was less difficult overall from the standpoint of temperature. All this shows the turfgrower's comments about 1974 being easier than 1973 prove his keen sense of appreciation for the weather.

The 1972 and 1973 seasons were a contrast in other ways with the 1974 season. Both former seasons were very wet in spring and early summer, and each had some severe hot, dry weather in late summer.

#### **Cries of Pythium and Anguish**

In 1972 we had 19 consecutive days of unmercifully hot and wet weather in July, and in 1973 there were three hot, wet, turf-destroying periods spaced from late spring through Labor Day. This last hot spell may have been the worst. Certainly, it drew the most cries of *Pythium* and anguish.

What is it in summer weather that turf growers should dislike? The amateur will say heat and drought. To be sure, they make the summer difficult, but the most feared is the combination of heat and excessive moisture.

Thus, if we can say 1974 was an easier summer, the absence of prolonged hot, wet periods may have been the difference. Certainly, we must be thankful that high temperatures did not accompany the excessive wet weather of late August through Sept. 7 of 1974.

The 1974 season had dry periods from April into August when fine turf or drought-sensitive areas could be hurt. I am still a great believer that a lot of grass, especially fine turf and intensely fertilized areas, are lost in our humid climate because they go without water for a few hours or several days too long. It is a mistake to underemphasize drought injury.

#### Small Error Can Bring Ruin

Also, I am impressed that in the easy summers, the margin of error is still dangerously narrow. This means that a small error in judgment in delicate summer care practices can ruin a good turf and the season.

Thus, any summer season requires constant caution along with good management.

In conclusion, our lesson from the past three years is to develop extra alertness to summer troubles in those wet periods when temperatures are  $80^{\circ}$  at night and  $90^{\circ}$  or above in the daytime. Of course the situation becomes more dangerous when these conditions prevail for several days or more. Turf growing would be more fun if summer care could be made less demanding.

#### **Time Is Now**

Now is the time to lighten the summer load and gird for severe summers that are sure to come. There are no miracles in sight.

For example, the golf course superintendent can now evaluate his experienced summertime touch, and check the need for better drainage, improved irrigation, a better fungicide program, and proper planning.

The time is at hand to determine what your program needs and start working on them.

Like you, I have observed and read about the greatly proliferated use of sand only on turf sites from football fields to putting greens. I have no disagreement with the fact that such heavily used areas need high sand content to give good water percolation. Certainly, many sites lack this desired condition.

While our Experiment Station has not had the privilege of conducting profound formal studies on the physical problems of turf soils, we have had great experience with a wide assortment of sands that occur in our state, as well as a very stimulating association with the most sophisticated topdressing preparation business in existence.

#### **Complicated Business**

Adding these to my agronomic training, I would wish to express two concerns:

First, synthesizing a soil is a complicated business where mistakes are too common. Do we know enough about soil texture, size and proportions to be sure of the performance of synthetic soil? Also, synthesizing or changing a soil involves complicated fundaments of sand layers and abrupt transition from sand to loam soil horizons. The limited knowledge of fundamentals on this subject does not help the chances of success.

Secondly, what is wrong with a soil of high sand content, a soil that permits rapid water percolation, but has enough colloidal material (clay and organic matter) to give some shrinking, swelling, and nutrient-holding capacity? Such soils can be had with patient and professional effort.

#### Easy But Not Best

Possibly pure sand is the easiest way out where controls and expertise are lacking. But, in my opinion, they are not the epitome of the best. While I support the principle of using high sand content that allows ready water percolation, why the bold departures to pure sand if there is a textural zone in between that does not raise so many other questions?

R.E. Engel

#### Turfgrass Expo Dec. 2-5, Cherry Hill

A turfgrass symposium at Cherry Hill Dec. 2-5 will take the place of the traditional turf short course in January.

R.E. Engel

#### **SOMETHING ON YOUR MIND?**

What in the green world are you thinking about today?

Do you have an opinion differing from those expressed here? Do you agree or agree only in part?

Have you had an experience in your professional life that you'd like to share with other turfgrass people?

This new editorial section for comments and opinions is meant to be a place for an exchange of thoughts. You can make it your place by writing your views to the editor.

Let's all hear what in the green world you're thinking about.



Rice plants grown aboard the Skylab space station were unable to tell which way was up. In the experiment to observe the effects of weightlessness on vegetative growth, roots grew in random directions. One seed put out roots growing away from a constant light source. Another pointed its roots at the light.

#### **OFFICERS OF THE N.J.T.A.**

**Roy Bossolt** President

**Peter Loft** Vice President

**Ralph Engel** Secretary and Consulting Editor

> Henry Indyk Treasurer

#### **EXECUTIVE BOARD**

Anthony Grasso William Ritchie **Bert** Jones Frank Cacavio **Paul Boizelle Edgar Krause Eugene A. Field** Past President

Please address letters to the editor, P.O. Box 231, New Brunswick, N.J. 08903.

## Life-Saving Kit

To guard against accidental pesticide poisoning, assemble a special first aid kit of inexpensive materials and keep it handy.

That's the advice of Loren Bode, University of Illinois Extension agricultural engineer. Use a lunch box, small tool box or any box with a tight cover, he suggests. Then keep in it the following:

\*Small plastic bottle of liquid detergent for washing spilled pesticide from the skin. Mixed with water, the detergent can also be used to induce vomiting.

\*Container of table salt to aid a person in shock. Salt can also induce vomiting.

\*Container of baking soda or bottle of milk of magnesia. Mix either with water and use to neutralize any acid material spilled on the skin or swallowed.

\*Lemon juice or vinegar. Mix with water to neutralize alkaline chemicals.

\*Package of activated charcoal. Mixed with water and swallowed, this can absorb pesticides.

\*At least a pint of clean water in a plastic bottle.

\*A shaped plastic airway for mouth-to-mouth resuscitation.

\*Adhesive first-aid strips, bandages, and adhesive tape. Use to cover any break in the skin to prevent easy entrance of pesticide into the body.

\*Small plastic jar with tightly fitting lid. Use as a drinking glass to induce vomiting or for feeding activated charcoal.

\*A dime. Tape it to the container to call a doctor or hospital, as the kit is intended for first aid only, and not to be substituted for professional help.

#### ABSTRACT

A Benzimidazole-resistant Strain of **Erysiphe graminis** 

J.M. Vargas. From Phytopathology 63: 63:1366-1368 (1973)

Experiments were conducted on Merion Kentucky bluegrass turfs in growth chambers. A common powdery mildew and a strain suspected of benzimidazole resistance were used.

Results after six weeks of treatment showed that benomyl, thiabendazole, thiophanate-methyl and triarimol effectively inhibited the development of the benzimidazole-susceptible strain of powdery mildew. In contrast, benomyl, thiabendazole and thiophanatemethyltreated turfs exposed to the benzimidazole-resistant strain proved ineffective in controlling this powdery mildew. The one systemic fungicide that did prove effective in controlling the benzimidazole-resistant strain of powdery mildew was triarimol.

The benzimidazole-resistant strain of powdery mildew utilized in these experiments developed in only one and one-half growing seasons after use of the benzimidazole fungicide was initiated.

#### Comments by R.E.E. and P.M.H.

This is more proof that various fungicides, under continuous use, may fail abruptly to control a pathogenic species of turfgrass fungi. A buildup of resistant strains of the species of fungi is most commonly suspected. However, other causes may exist. The May 1972 issue of "Green World" abstracted several findings of this phenomenon with other diseases. All this adds up to a need for more research and a need for turf growers to be on guard against habitual use of one fungicide.

#### **The New Sticker-Extender That Prolongs Pesticide** Effectiveness\_

There's no doubt that today's pesticides do an ever-better job in fighting turf and plant problems. And there's no doubt that Exhait 800 Sticker-Extender prolongs that effectiveness. Gives you longer action. Prevents wash-off. Cuts your costs substantially over a season. Exhait 800 encapsulates and holds pesticides where you want them—on the turf and plant foliage. It flexes with eaf growth, for longer action. Even if it rains an hour after application you still get full extender activity! Full pesticide effectiveness.

Simple and economical to use. A pint per 100 gallons of solution. Readily water-soluble, just add while agitating and keep agitating during use. Rinaes out easily using just water; residue will not clog. Exhalt 800 is the new way to stop pesticide wash-off. To prevent pesticide build-up in the soil. To keep costly pesticides working longer on plants and turt. To cut down the labor costs of more frequent applications. Find out more. Write for our literature. Kay-Fries Chemicals, Inc., Crop Protection Division, Stony Point, N.Y. 10980



Distributed by Andrew Wilson, Inc., Union, N.J. and Lawn and Golf Supply Co., Inc., Phoenixville, Pa.

#### (FUSARIUM from Page 1)

can usually be seen first in those areas that are in direct sun, such as on a slope facing south, near a road or sidewalk, or in a hot spot of the lawn. It is seldom found in heavily shaded areas, and is less severe on north slopes. The disease is most severe during prolonged periods of high humidity with daytime temperatures of 80 to 95°F. and night temperatures of 70° or higher. As the weather begins to cool in the fall, the grass begins to fill in, so that, by the following spring, the dead areas may be completely filled in by regrowth.

#### NITROGEN FERTILIZATION AND DISEASE INCIDENCE

It is a general belief that Fusarium roseum is worse with high nitrogen fertilization. In the very hot wet weather of late Augustearly September 1973, a severe attack of this disease occurred on Kentucky bluegrasses that received varied fertilization at the Agricultural Experiment Station of Rutgers University.

The table shows that all fertilizer treatments increased the incidence of this disease. Season of application did not appear to have a strong influence on the disease attack. This suggests the influence of fertilization on the disease was more complex than increased nitrogen level creating a softer plant. The results to date warn against using more nitrogen fertilizer than necessary for proper growth where *Fusarium roseum* is concerned.

*Fusarium roseum* Incidence on 5 Kentucky Bluegrasses\* Receiving Varied N Treatment With 12-4-8 Fertilizer. Sept. 10, 1973

Fertilization Date	N Rate M Sq. ft.	Estimated Disease (%)
None	0	12
Aug. 1972	1 1/2	21
March 1972, 73	1 1/2	24
Sept. 1972	1 1/2	18
Dec. 1971, 72	1 1/2	20
Dec. 1971, 72	3	28
May, June 1972, 73	3	25

\*Varieties were Bonnieblue, Fylking, Merion, Nugget, and Park. -R.F.F.

**Fertilization** – It is best not to fertilize a lawn beyond its basic need. Two to three pounds of nitrogen in a complete fertilizer for each 1,000 square feet should suffice for most bluegrass lawns. Since summer fertilization tends to stimulate other diseases and heat injury, apply most of your fertilizer in the fall. Fertilize in Sep-



At first, light green patches develop typically 3 to 15 inches in diameter in Fusarium-infected turf. These patches may be elongated streaks, crescent-shaped, or circles. Finally, a dead patch shaped like a donut with a tuft of green grass in the center results, and this is called "frog eye."

tember and again in October and late fall if more growth is needed. Any spring applications should be made before early June.

**Reaction** – Turfgrass grown under deficient calcium nutrition is more susceptible to Fusarium blight. High soil acidity (pH of 6.0 or less) favors the disease. Turfgrass soils with a history of Fusarium problems should be tested each year. The required amounts of limestone should be added to maintain levels between 6.2 and 6.5. It is also important to keep sufficient limestone in the thatch layer to keep it from becoming too acid.

Water Management – The disease is greater when soil moisture is so low that turf approaches the wilting point. Areas which are allowed to dry out such as along sidewalks, roadways, sandy areas, and southern slopes get the disease first. Adequate deep watering for proper grass growth is essential. Excessive water that causes waterlogging, however, is detrimental to proper grass growth. It appears that light syringing during the hot part of the day may reduce the severity of this disease. Fusarium is less of a problem during cool, wet summers.

Thatch Management – The grass residue layer between the soil and the current season's live vegetation is called "thatch." It serves as the major source of the disease in wellestablished grass. For most grasses, this layer never should be more than onehalf inch thick. This may require mechanical removal by vertical slicing machines and/or aeration in addition to proper fertilization, liming, and water management. April and early fall are good times for slicing, thinning, or aerating.

#### CHEMICAL CONTROL

Fungicide Program - Fusarium blight affects turfgrass which is under the stress of high temperatures, high soil acidity, fertility, and/or water management. The use of fungicides alone is unsatisfactory. However, if fungicides are used in conjunction with proper cultural practices, excellent control can be expected. The fungicides giving control are systemic in their action. They require time to get into the roots of the grass plant to prevent the disease. If a lawn has a prior history of the disease, it is advisable to treat before the disease strikes again. Research indicates that good control has been obtained with very low rates of systemic materials when they are applied a month or more before the disease is expected. The systemic fungicides presently registered for control of Fusarium blight are Benomyl (Tersan 1991), Thioallophanate Ethyl (CL-3336) and Thioallophanate Methyl (Fungo, Spot-Kleen). On lawns where the disease occurred the previous year, apply fungicides by mid-June or when the night temperatures first begin staying above 70°. The suggested rate is 6 to 8 ozs. in 6 gal. of water per 1,000 square feet, with a followup treatment in 14 days. One 10 to 16 oz. application is also effective. Treat newly affected lawns at the same rate as soon as the disease has been properly identified. It is important to drench the materials into the root zone with about one inch of water immediately after application. Some systemic materials are also available in granular form.

Be sure to follow manufacturers' directions carefully as materials and rates may vary from those listed above. Avoid using high rates of systemic fungicides on bentgrasses.

#### ABSTRACT

Fungicidal Control of Stripe Smut and Melting-Out With Consequent Maintenance of Sward Density in Merion Kentucky Bluegrass Turf.

Dr. Noel Jackson and J. M. Fenstermacher, University of Rhode Island, Kingston. From Plant Disease Reporter 58: 573-576. (1974.)

A single fall application of benomyl and two related fungicides, Bay Dam 18654 and U32104 gave excellent control of stripe smut (*Ustilago striiformis*) in Merion Kentucky bluegrass turf. Thiophanate methyl was less effective and thiabendazole was ineffective under the same trial conditions.

Application of these systemic fungicides to Merion turf aggravated a smut-associated infection of *Helminth*osporium vagans and thereby adversely affected sward density.

Pentachloronitrobenzene (PCNB) maintained good sward density primarily through suppression of *H. vagans*, because its direct effect in reducing stripe smut was marginal.

In combined applications, the complementary activity of some systemic fungicides and PCNB in controlling disease and maintaining turf quality was demonstrated. Anilazine and chloroneb were ineffective substitutes for PCNB.

A combined application of benomyl at 4 oz. active ingredient and PCNB at 6 oz. active ingredient per 1,000 sq. ft. applied **in the fall** is recommended as a practical means of controlling stripe smut in Merion turf.

#### Comments by Philip M. Halisky, Turfgrass Pathologist, Cook College

Systemic fungicides control a wide spectrum of turfgrass diseases. Helminthosporium leaf spot and meltingout, however, are excluded. Research observations from several experiment stations have now confirmed the conclusions that systemic benzimidazole fungicides fail to control Helminthosporium diseases and may even aggravate them.

The concept of combining a systemic f u n g i c i d e w i t h a n a n t i -Helminthosporium protectant fungicide as a means of controlling diseases and maintaining turf density is a practicable approach to a formidable disease problem.

The systemic fungicides to use for stripe smut control are benomyl or thiophanate methyl; for Helminthosporiums, PCNB (pentachloronitrobenzene) or chlorothalonil (Daconil): or maneb protectant fungicides1 (Tables 1 and 2)



AQUATROLS CORPORATION OF AMERICA 1400 Suckle Hwy., Pennsauken, N.J. 08110

Table 1. Effect of single drenches (October) of six systemic fungicides on the incidence of stripe smut in Merion Kentucky bluegrass turf during the following spring (May).

Chemical Name 1/	Smutted tillers per sq. ft. of turf
EL-273 (Triarimol)	4.0 a
Tersan-1991 (benomyl)	7.25 a
Topsin-M (thiophate methyl)	14.75 ab
Fungo (thiophanate methyl)	25.5 b
Mertect-360 (thiobendazole)	36.5 b
Cleary-3336 (thiophanate ethyl	l) 81.5 c
Checks (no fungicide)	129.0 d

1/ Single drenches applied at 100 gal/1,000 sq. ft. containing 6 oz. of fungicide (formulated product) per 1,000 sq. ft.

Table 2. Effect of a single application (October) of benomyl fungicide on stripe smut incidence in Merion Kentucky bluegrass during the following spring (May).

Dosages of benomyl 1/		
50-WP	A. I.	Smutted Tillers/sq. ft.
0	0	233 a
3	1.5	78 b
6	3	7 c
9	4.5	3 с
12	6	1 c
24	12	0 c

1/ Dosages of Tersan-1991 (benomyl) fungicide applied as a single drench at 100 gals/1,000 sq. ft. of turf.

## 'I Was Mistaken - -You All Look Alike'

#### by Erma Bombeck

(Whose widely syndicated newspaper column gives a daily chuckle to millions)

I just figured out if my husband paid just half the attention to me as he does the lawn, my 70-year-old mailman would never have started to look like Robert Redford.

If ever there was a valid suit for alienation of affection, it's that lousy lawn.

There is something about the ability of a man to grow a few blades of grass that contributes to his masculinity. He is either a grass grower or he is not a grass grower. I have seen virile men move into the neighborhood with tattoos on their lips, but if they have fungus on their dwarf tiff, forget it. They're just not one of the boys.

A LAWN enthusiast has two moods: terrible and irritable. These are interchangeable depending on whether the grass is growing or whether the grass is not growing.

When the grass is not growing, my husband goes to the library to see what could be missing, has his soil analyzed, waters, soaks, fertilizes, and has the nurseryman who sold him the seed make a house call.

THERE IS no pleasing a lawn freak.

Some say it is normal for a man to want a pretty lawn. I don't know what is normal anymore. I sent the kids to Mother's, blew an entire food budget on steaks and wine, put a dab of garlic on the lightbulb and slipped into something that had not been paid for. "What are you thinking?" I teased, turning off the TV set.

"Did you turn the hose off?" he asked.

**IS IT** normal for a man to call the police and report a flock of birds who are eating our grass seed? Is it normal for a grown man to mourn a brown spot for three years?

I was all set to tell the mailman about my infatuation with him when he said, "I see your husband uses a chemical fertilizer of nitrogen, phosporus, and potash. Tell him is he invested in a little sheep dip, he'd do away with that crabgrass. Is there something you wanted?"

"I thought you looked like someone I knew," I said. "But I was mistaken. You all look alike.."

#### ABSTRACT

Evaluation of Turf, Reproductive, and Disease-Response Characteristics in Crossed and Selfed Progenies of Kentucky Bluegrass

G.W. Pepin and C.F. Funk. From Crop Science 14:356-359. (1974)

Kentucky bluegrass (*Poa pratensis* L.) selections 'Anheuser,' 'Belturf,' 'P-107,' and 'P-72' were selfed and crossed in several combinations. Resulting F, hybrids and selfed aberrants were compared with their parents for important turf, reproductive, and disease-response characteristics.

Variable parental ploidy levels and difficulties in determining the origin of aberrant progeny made data interpretation difficult. However, plant height, plant circumference, panicle production, and turf quality appeared quantitative in inheritance, whereas genetic resistance to powdery mildew (*Ervsiphe graminis* D.C.) and *Helminthosporium vagans* Drechsler appeared in completely dominant.

Because of a high incidence of triploidy (fertilization of unreduced female eggs by reduced male gametics), parental ploidy levels and direction of cross were significant factors in the success of hybridization. Some positive transgressive segregation was noted for every characteristic studied.

A high level of apomictic seed formation, as measured by the progeny test, was found in 86% of the Belturf X Anheuser F hybrids. Some hybrids appear to have excellent turf quality and disease resistance. Considerable inbreeding depression and variation was observed in S aberrants.

Comments by R.E. Engel, Research Professor in Turfgrass Management, Cook College

Recent work by Dr. C.R. Funk and others have shown that different Ken-

New Jersey Turfgrass Association P.O. Box 231 New Brunswick, N. J. 08903 tucky bluegrasses can be crossed successfully. You may recall that some plant breeders had said it could not be done. This study goes further by showing that crossing desirable but complementary types of Kentucky bluegrasses concentrates improved genetic characters in ample quantity to make development of new lines a worthy effort of the future. Inbreeding appears to have no direct value in producing new Kentucky bluegrasses.

Go Get 'em, Fang



Nobody wants any part of the Gypsy moths that have plagued the Northeast. And who can blame them?

Scientists at Michigan State University think that dogs can help containt moths, and so they are training German Shepherds to smell out eggs, larvae, pupae, and living female moths.

If plans work out in Michigan dogs will join an inspection team to find and destroy moths on vehicles leaving infested areas. So says Agri-News.

Something on your mind? Write a letter to the editor.

## N. J. TURFGRASS EXPO DEC. 2-5

A New Jersey Turfgrass Exposition, planned as the first of a yearly series, will be held Dec. 2-5 in the Sheraton Poste Inn, Cherry Hill.

This is a combined educational event and trade show sponsored by Rutgers University and the New Jersey Turfgrass Association.

It will take the place of the three-day and five-day turf courses formerly held in January. Also, it marks the end of an era of turf education seminars or conferences held on the Rutgers campus or near the campus since the turfgrass disaster in the summer of 1928.

#### (At a Glance, from Page 1)

should minimize thatch formation. Ideally, the thatch layer should not exceed one-half inch in thickness. Low calcium and high nitrogen both favor Fusarium blight. Therefore, adequate liming should be practiced in the spring, coupled with a **reduction** in summer fertilization. Ironically, the greenest, highest-fertilized lawns are most prone to injury from Fusarium blight.

**CHEMICAL CONTROL** The systemic fungicides appear to be effective against Fusarium blight. With Tersan-1991 (Benlate) apply as a drench at 5 to 8 oz. per 1,000 sq. ft. when the disease first appears. Repeat twice more at 7 to 10-day intervals.

The new Yankee Stadium will have a field of real grass when it opens in April, 1976, according to present plans. The city is reserving the right to substitute artificial turf - for simplified maintenance, they say - if a football team should join the Yankees in the use of the stadium.