mow it tall . . .

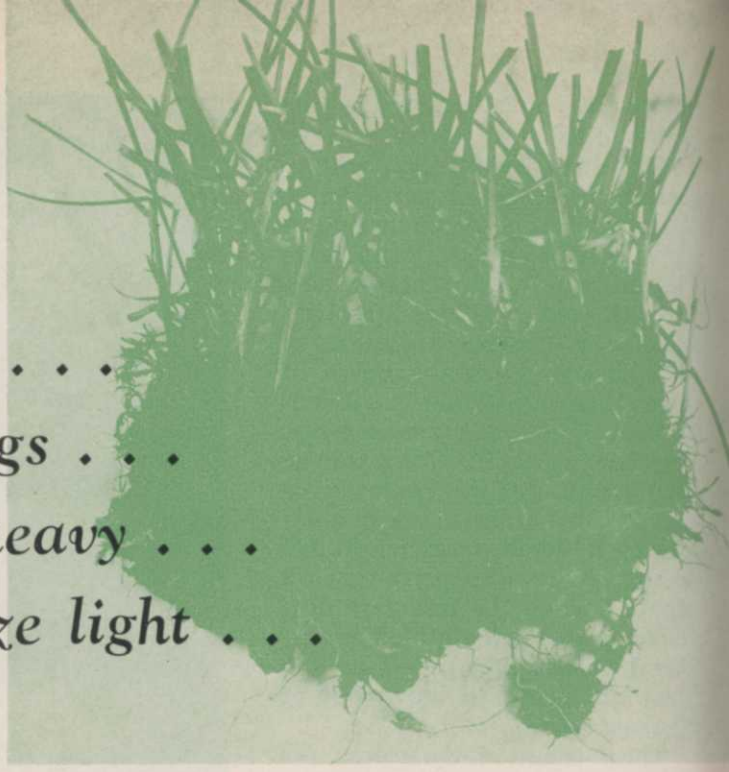
mow it short . . .

collect clippings . . .

leave clippings . . .

fertilize heavy . . .

fertilize light . . .



Remarkable Kentucky Bluegrass

By

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KENTUCKY bluegrass, *Poa pratensis,* including its many select varieties such as Park and Merion, is one of man's most coveted and widely used plants. Generally in combination with one or more of the fine fescues, such as Chewings, Illahee or Pennlawn, Kentucky bluegrass is responsible for most of the lawns and play turf in the northern two-thirds of the United States.

Thatch removal was part of the bluegrass test; here performed with an attachment to the John Deere garden tractor.

In spite of this importance, and in spite of no little resarch at experiment stations within the bluegrass belt, the relative consequence of various management factors is still elusive. Although we know that Kentucky bluegrass requires at least reasonable fertility to look well, it is puzzling that sometimes the untended pasture survives better than the pampered lawn. And what happens to all these materials we deposit on bluegrass turf? Where does all the nitrogen go, particularly on lawns where the clippings are left? The phosphorus and the potassium, too? How does clipping collection and thatch removal relate to fertility and grass response, over a protracted period?

For the short term such questions have been at least partially answered for circumscribed conditions and particular soils, to the satisfaction of many experimenters. But, there is often nagging wonder how really important certain practices are to lawn survival through the years.

Kentucky bluegrass is a truly remarkable plant, in its tenacity. It can suffer seemingly complete disaster, only to revive and spread the next favorable growing season to the extent that its former decimation is unrecognizable. In drought years on the eastern plains, bluegrass appears to have disappeared; but it's back in as great abundance as ever when rains revive it. Some fields in Kentucky are said to have been continuously in bluegrass for more than a century. Certainly the grass thriving in them must clearly be well adapted to its environment. On the other hand, "disease" sets back the bluegrass on many a lawn, and the weeds invade. Why?

Five Year Search For The Answers

Wondering about the longer term influence of several lawn management practices, a section of the Lawn Institute grounds was set aside for several-year observation. The original seeding was to natural Kentucky bluegrass, and invasion by volunteer bluegrass as well as other adventives is likely. For the last five years certain treatments have been continued consistently. Part has been mowed at 3 inches, part at 1½ inches. Part of each of these sections had the clippings collected, part not. Some sections received frequent

and generous fertilization, some relatively little. And, more recently, thatch was mechanically removed in strips across several of these interacting treatments.

Perhaps we shouldn't have been surprised to note that versatile Kentucky bluegrass adapted itself fairly well to almost any combination of treatments, and when once again (after five years) all the area was treated alike not a whole lot of difference could be noted in the sod attributable to former care.

Before resuming uniform care for this section of the grounds, the frequency of shoots and depth of thatch were measured, relative to the various treatments. This was accomplished by taking 20 plugs in spring from each test area under scrutiny, hand separating and counting the culms in the laboratory, and measuring the depth of thatch on the plug (as nearly as the exact limit of thatch can be estimated, often appreciably different on opposite sides of a plug). No claim is made for statistical significance to the differences noted; obviously, considerable chance is involved in just how dense a population of culms would occur in any given plug, depending where the plug was taken.

Some of the conclusions of Table I are the expected. For example, lower clipping should increase proliferation, giving a greater number of (but correspondingly dwarfed) tillers. On the other hand, it was somewhat surprising that the rate of fertilization seemed to make no long-term difference, either in extent of thatch or number of tillers.

Influence of clipping removal was not clear-cut. In most cases, leaving the clippings on the turf seemed to increase the thatch somewhat, but it had no influence on the density of the sod. However, under tall mowing, there was a slight indication that letting the clippings lie increased the number of shoots slightly.

Perhaps most strange was that thatch removal (the year previously) seemed not to decrease the thickness of the thatch, but actually to increase it slightly. The frequency of culms was increased somewhat, too, by thatch removal. Perhaps the area sampled here just happened to provide better growing conditions, which would tend to make more thatch more quickly, as well as provide somewhat denser turf.

Table I sums up these observations.

Summary

Kentucky bluegrass turf, after five years' comparative maintenance, showed:

Fertilization—Rate made little difference in amount of thatch or density of sod.

Mowing Height—Shorter mowing produced somewhat denser but weaker sod.

Clippings—When left, increased thatch slightly, but generally had no influence on sod density except possibly beneficial under high mowing).

Thatch—Removal seemed to have no permanent influence, though process possibly stimulates slightly greater culm production.

Table 1. Kentucky bluegrass turf, managed as indicated over 5-year span, with thatch thickness and culm density resulting under the various combinations of treatment.

	Average, from 20 Plugs Randomly Sampled			
	Thatch		Density	
	Average Thickness, in inches		Average number of culms per plug	
Treatment	Av. No.	Range	Av. No.	Range
A. Mowed tall, clippings collected, heavy fertilization.	.46	1/8"-3/4"	16	10-30
B. Mowed tall, clippings left, heavy fertilization.	.53	1/8"-1"	21	9-36
C. Mowed tall, clippings left, heavy fertilization, de-thatched 1 year ago.	.71	1/4"-1"	30	7-59
D. Mowed short, clippings left, heavy fertilization.	.58	1/4"-1"	27	9-45
E. Mowed short, clippings left, light fertilization.	.48	1/8"-1"	25	9-63
F. Mowed short, clippings collected, light fertilization.	.32	0-3/4"	25	8-61
G. Mowed short, clippings collected, heavy fertilization.	.31	less than 1/8"-3/4"	26	12-38

Northwest Spraymen's Association Defines Goals

"It is our main purpose to provide for our members a regional voice in any matters of concern to the professional applicator of pesticides, wherever that voice may be needed. In education, legislation, self-protection, self-inspection, public relations, and any other areas, the Pacific Northwest Spraymen's Association aims to be there providing leadership and help in any way that will best serve the public and our profession." These are the words of Bill Owen, president of the recently organized PNSA, as he describes the goals and functions of the association.

The Pacific Northwest Spraymen's Association is an organization of professional pesticide applicators, and is comprised of four regional groups in Oregon and Washington. It is incorporated under Oregon law and is also legally recognized in Washington, Idaho, and British Columbia. Owen notes that three years of effort have gone into incorporation and establishment of the organization.

Among the group's plans are the annual spraymen's conference (their 1966 Spray-O-Rama was held in Portland, Sept. 23-24), sponsorship of short courses for pesticide applicators in various spots throughout the area, public relations and educational programs, and the formation of committees to investigate group insurance plans and to work with legislators and other groups towards betterment of the profession.