A discussion of the vital problems of lawn making and maintenance PUBLISHED SEVERAL TIMES YEARLY BY O. M. SCOTT & SONS COMPANY - SEEDSMEN - MARYSVILLE, OHIO

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Exterminating Earthworms

THE earthworm has long been classified as one of those helpful organisms with a mission in the world other than that of enticing hungry fish. There were supposedly no earthworms in Pandora's Box, yet in some instances they

have become so obiectionable that cruel methods of extermination now abound. Dispensers of various worm killers have vied with one another to determine who could qualify as the leading executioner. It is our purpose to describe herein the three most successful methods of ridding a lawn or any piece of turf of

its earthworms, the evidence of which are unsightly castings.

In justice to the earthworm, which one of the lower grade text books told us loosened up the soil and benefited vegetation, it may be well to state that the wrong conclusion can be reached regarding it. For instance, it is likely to be assumed that worms injure grass because most castings appear where the turf is thin. This may be due to the fact that worms by choice locate in the dense shade of trees or shrubs where grass is growing thinly or not at all. They might be as plentiful in dense turf but not as noticeable. In other words, grass may be thinning out in spite of them. If the castings are not too abundant the surface may be brushed or raked occasionally to



Comparison of A, burrow, and castings of an earthworm, with B, burrow aud castings of the green June beetle. About natural size.

abundant the surface raked occasionally to eliminate them without going to the trouble of killing the earthworms.

Furthermore, earthworm casts in the southern half of the eastern states may be mistaken for the boring of the grubs of the June Beetle. Grubs make larger burrows and throw greater quantities of earth than worms. Grubs also

may loosen the roots of grass sufficiently to kill it over a space several inches in diameter. Earthworms do not bring about such a condition. Consequently it is important to learn whether the damage is caused by grubs or by earthworms.

1. CORROSIVE SUBLIMATE.

Several poisons are used successfully but Corrosive Sublimate (bichloride of mercury) is least expensive. Dr. R. A. Oakley of the U.S. Department of Agriculture is responsible for the following suggestion:

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"Two or not to exceed three ounces of corrosive sublimate dissolved in fifty gallons of water are sufficient for 1000 square feet of lawn. After the solution is applied it should be followed with at least twice the quantity of water to wash it thoroughly into the soil. If it is desired to apply the corrosive sublimate dry, it should be mixed at the rate of two or three ounces to two cubic feet of dry sand and the mixture scattered evenly over 1000 square feet of lawn. Liberal watering should follow. When corrosive sublimate is applied in this way and at the rates suggested, especially if water is used freely afterward, no injury to the turf should result. In very hot, dry times, applications as suggested may cause a very slight burning of the turf; and furthermore, it is rarely that earthworms are in action at such times. The effect of burning from the suggested rates, however, will not be lasting or serious."

After this treatment worms will start coming to the surface. They should be swept up and disposed of immediately. If allowed to remain on the ground, birds may be killed by the poison which is left on the bodies of the worms.

2. Arsenate of Lead.

A more recent remedy also found efficient in destroying earthworms is arsenate of lead. Five pounds per 1000 square feet is sufficient. To insure a uniform application mix with sand at the rate of one pound of dry arsenate of lead to a bucket full of sand or loam. Make your application when the grass is dry. Sprinkle it afterwards and repeat in three weeks if there is still evidence of worms. The same treatment will also kill grubs.

3. SODIUM CYANIDE.

Another remedy is Sodium Cyanide. This may be used at the rate of ten ounces in fifty gallons of water. Of this solution use two and a half gallons per square yard of surface. In an hour this should be thoroughly washed off by sprinkling with the hose. Otherwise the grass is apt to be injured.

TESTS WITH LEAD ARSENATE.

Tests made at the New Jersey Experiment Station to determine the effect of arsenate of lead in connection with fertilizer treatments are quite interesting. Two applications of arsenate of lead each of five pounds per thousand square feet were made. This material was mixed with a liberal amount of top dressing which simply means soil, fertilizer and sand mixed and screened. The acidity of the soil was not affected. Weeds were reduced very noticeably and in addition to other slight changes in the growth of certain grasses, earthworms were eliminated. In check plots adjacent to those receiving arsenate of lead and which received no treatment there were 38 earthworms. It has been noted, however, that in certain types of soil arsenate of lead is not effective. We suggest it as the first remedy and if it does not do the work, one of the others, preferably corrosive sublimate, may be tried.

We shall be glad to receive the comments of any of our readers on their experience in ridding a lawn of earthworms. If you have used one of the remedies we have described won't you please tell us how effective it has proven? Perhaps in a later issue we shall then be able to give a majority opinion as to the one most reliable killer.

"The Lawn"

—a very informative book just off the press; written by one of the ablest grass growing authorities, Lawrence S. Dickinson, Assistant Professor of Horticulture at the Massachusetts Agricultural College. We have read the book and highly recommend it. There are fourteen chapters containing 128 pages devoted to the whole category of grass growing and maintenance. The publishers' price is \$1.25 per copy in quantity. We will keep a supply of these books on hand and send them out singly at the above price, postage paid.

Summer Maintenance

IN previous issues of LAWN CARE we have commented upon this subject but further reference to a few matters is in order. During very hot, dry weather, when nature slips up on her watering program, lawns should be sprinkled, not daily, but once or twice weekly. Except in the case of very dry soils, a weekly sprinkling is sufficient. Light, too frequent sprinkling brings grass roots to the surface, a condition which is undesirable for the hot sun and wind soon burn and parch them. Soaking with a fine spray every five or six days during a period of drouth is best.

Mowing

Mowing is a matter of importance, too. Professor Dickinson, whose new book "The Lawn" is mentioned elsewhere in this number, has the following to say about mowing:

"The more frequently a lawn is clipped the more fertilizer, especially nitrogen, is required. Therefore, if one does not intend to fertilize a lawn well he must not expect it to thrive if he clips it frequently. No turf except putting greens, or bowling greens, should be clipped daily or by a regular calendar schedule. Measure the height of the grass when the lawn looks healthy and well-kept, yet not freshly mowed. Set the lawn mower to cut one-half inch below that height and clip the lawn only when the grass has grown one-half inch above the optimum height. By following this rule, the lawn is never too long nor too short for its health, and there will be no clippings to show mats or to be raked. During very hot periods the lawn mower should be put down cellar (it will be too hot to mow, anyway) and the lawn permitted to grow taller than in the growing season. Upon returning the lawn mower to use, the blade should be lifted a little for the first mowing after a dry spell. All clippings should be allowed to remain on the lawn unless they appear matted after thirty-six hours, and then only the mats should be removed."

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An early summer ration of Turf Builder mixed with loam, peat, or sand will give your grass a new lease on life.

→--Seed and Steel

THE recent skirmish in the steel I industry which centered around Youngstown, Ohio, involved quite a number of our staunch customers. Charles M. Schwab, genial chairman of the Bethlehem Board, has a beautiful private golf course on his estate at Loretto, Pennsylvania. His finest greens were produced with Scott's Creeping Bent and those acres of shaded lawn where it is so difficult to grow grass are now and then rejuvenated with a sowing of our Shade Mixture. The Youngstown Sheet & Tube Company, center of the controversy, sends in its annual order for Scott's Seed as regularly as clock work and its requirements are considerable. Cyrus Eaton, of Cleveland, vigor-

Canon Care

ous opponent of the merger, has been a customer of ours for many years. On his large estate near Northfield, Ohio, tons of Scott's lawn and field seeds have been sowed. Then, Hugh Bryson Wick, who acting as attorney for the Eaton interests, secured a temporary injunction against the merger, has long been a consistent user of Scott's Seed and Turf Builder. The good judgment of all leading participants in the Ohio Steel Drama is thus confirmed!

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Give the mower a rest during extremely hot weather—and if you must cut the lawn, clip it high.

Summer Feeding

RASS that tends to thin out in the J summer may need food more than water. An early summer application of Scott's Turf Builder will be found helpful, especially in shaded areas where the trees with their abundance of foliage are taking great quantities of plant food from the soil. As special precaution against burning with fertilizer during a period of hot weather, Turf Builder may be mixed with a quantity of soil, finely ground peat, or sand. Ten pounds of Turf Builder per 1000 square feet if mixed with several times its bulk of the top-dressing material just suggested will not burn the grass and is sure to do it an immense amount of good. -!-

Scott Publications

The following may be had for the asking:

Scott's Seed Guide, a 72-page book of valuable information for the man who farms.

Bent Lawns, an illustrated booklet which tells how to make and maintain a Creeping Bent Lawn.

Converting to Creeping Bent, a folder

which explains four methods of remaking and improving an old lawn by using Bent.

Lawns, a small booklet of condensed facts about the making of a new lawn and the improving of an old one.

In addition to the above we will send to anyone a full set of the issues of LAWN CARE which have preceded this one. There have been ten and the following lawn pests have been discussed: Plantain, Crab-grass, Dandelions, Moss, Grubs and Beetles, Chickweed, Buckhorn, Ground Ivy, and Yarrow.

One weekly soaking of your lawn is better than seven light sprinklings.

A Scoop

"I very rarely write a testimonial. As a matter of fact I cannot remember having written one in the last ten years. Nevertheless, I want to tell you that I have never purchased from anyone grass seed which came any ways near responding the way the \$15.00 worth of seed I have bought of you has performed.

I am so enthusiastic about the results I have obtained with your grass, that I feel you may like to know about it."

JOHN CALLAHAN,

General Manager

The Southern Coal & Coke Co., Inc., Cincinnati, Ohio.

Crab Grass

Now is the time to watch for this worst of all fall pests. Where turf is thin you are most likely to find it. Crab Grass plants are often skipped by the mower, hence this suggestion: Rake up the grass before you mow it, being sure to lift the blades or runners that have the habit of lying flat on the ground. If these are cut off you will prevent Crab Grass from going to seed. This is quite important for there is no effective chemical control.