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THE PROBLEMS OF SHADED LAWNS

PART II.

IN THE March-April issue of LAWN CARE, we discussed some of the difficulties of growing grass in the shade. As was brought out then, absence of sunlight is not alone the only problem of shade. Of equal or even greater importance is the lack of moisture and plant nutrients resulting in part, at least, from unfavorable soil conditions.

Soil Conditions

The enormous water requirements of trees was discussed in the previous issue, as one reason for the lack of a sufficient moisture supply for the grass. Another reason, strangely enough, is the direct result of an excess of moisture during certain seasons of the year.

In late winter and early spring practically all lawns receive and hold too much water unless they are well drained. If this saturated condition lasts very long it does considerable damage to grass, directly, by keeping much needed air from the grass roots, and, indirectly by causing a "puddled" soil. The unfavorable effects of keeping oxygen from grass roots is apparent but the puddling damage requires some explanation.

Texture and Structure

All soils are composed of particles of varying sizes. In one gram of very fine sand there will be approximately two million particles while in the same amount of clay there would be about forty-five million particles—more than twenty times as many. The size of particles in a soil determines what is called its texture. These particles have a certain arrangement. In some soils each particle acts as a separate unit whereas in other cases various minute particles become grouped together so that groups act as single units. The arrangement of soil particles is called its structure.

These mechanical characteristics are of great importance in determining the moisture movement in soils. The best turf soils are those having a "crumb" structure. Where many small particles are grouped together to act as a single large unit such a crumb structure permits easy and rapid movement of air and water, at the same time presents a condition where the optimum moisture supply is retained.

Soil "puddling" occurs in the heavier soil when small soil particles are forced or floated in between larger particles. Thus the soil becomes more compact and at the same time plastic. The potter works clay to break down the crumb structure to make it plastic so he can mold it into any desired shape.

Heavy soils become compact and tight because of excessive moisture or of having been worked when wet. In the case of soils under trees, these remain wet until late spring because evaporation is slow. This means that the soil gradually becomes more and more compact until

in late spring there is a heavy, gummy mess.

Excessive Drying

Sooner of later, this soil under trees will dry out. It will dry very fast with the advent of warm weather coupled with the scant rainfall that reaches such soils in summer. As the soil loses so much water its volume shrinks greatly, making large cracks in the lawn. These in turn cause a great loss of moisture from the subsoil by evaporation. So the condition is continually aggravated until by midsummer both tree and grass are suffering acutely from moisture shortage, unless drastic measures are taken to prevent this situation.

Mere artificial irrigation during dry weather will not provide much of a remedy. Temporary improvement may follow the use of enormous quantities of water but in the end it will only aggravate the unfavorable soil condition.

It is not possible to describe in this article all of the steps necessary to overcome a puddled or unfavorable soil. For full details the reader is referred to our book *Lawn Making and Maintenance.*

One of the principal factors involved in improvement of compact soils is provision for adequate surface and underground drainage. The former can be taken care of by surface grading while the installation of tile drainage is about the only means of improving underground drainage.

Friable Soil Needed

At the same time a friable, loamy top soil should be installed, if possible. Extremely sandy or clay soils will never support good turf. Heavy soils should be broken up with coarse sand and a liberal supply of organic matter. This furnishes a home for the needed friendly bacteria, and retains moisture and plant food. A sandy soil may be made more compact by adding soil of heavier texture and also incorporating enormous quantities of organic materials.

Given a fairly suitable soil, the moisture problem of tree-shaded lawns can be solved. Water should be applied infrequently during drouth in the form of a medium fine but long continued spray. The soil should be thoroughly soaked to a depth of five or six inches. No definite period of watering can be prescribed because of the many variable factors. However, a lawn cannot be considered as having been properly irrigated unless an actual examination shows the water to have penetrated six or more inches into the ground. It does not take any more water to give a lawn a good soaking once a week than to give it daily light sprinklings.

Absence of Sunlight

As indicated, shade in itself is not a considerable problem in lawn making. There are certain grass species which tolerate shade, in fact do best where they are protected from direct sunlight. Some such grasses come from the forests of Bavaria, certain sections of Denmark, and from New Zealand.

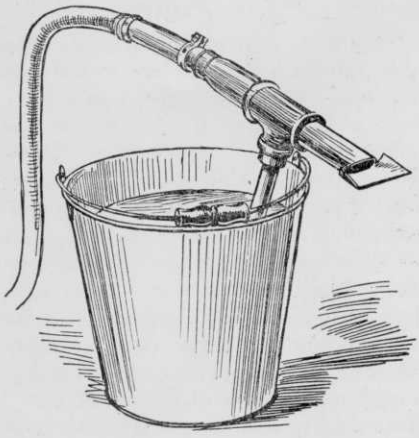
Unfortunately many so-called shady lawn mixtures are that in name only. They are prepared to sell at a price rather than to solve the shade problem. An acceptable shade mixture must sell for more than open place seed because the suitable varieties cost more to produce. There is less seed of such varieties harvested, greater difficulty in threshing and re-cleaning them, and added expense in importing.

There is still much to be considered on the shade problem. Other factors will be discussed in the August issue of LAWN CARE.

Applying Turf Builder During Hot Weather

FOR applying Turf Builder evenly many friends have written us that they mix the material with sand or soil so as to cut down the concentration. Hundreds of others have purchased the mechanical spreaders now listed in our order blank and they are giving unusual satisfaction.

One of the more novel contrivances is suggested by Mr. P. G. Sturtevant, vice-president of the Erie County Electric Company of Erie, Pennsylvania. We quote from two letters written on the subject by Mr. Sturtevant, reproduce a



HYDRAULIC APPLICATOR,
As Devised by Mr. Sturtevant.

photograph which he was kind enough to send, and also gratefully acknowledge receipt of one of the "applicators" which he presented to us.

"This applicator is made up of very inexpensive material and consists essentially of one ¾ inch T, one piece of ½ inch pipe eighteen inches long, a nozzle made out of a piece of ¾ inch pipe having a dipper shaped lip so that the spray will assume a fan shape. The connection for the hose can be made by a simple clamp on a nipple. This equipment is then attached to the regular water line hose and the fertilizer is made into a thin mash in a pail. The water is turned on and the siphon effect is started by placing the thumb momentarily over the nozzle opening. The result is the uniform application of your fertilizer with plenty of water applied at the same time to soak it into the ground.

"I divide my lawn into several plots the area of which I can roughly estimate. I then mix up a batch of Turf Builder using about five pounds of fertilizer to eight or ten quarts of water, mixing it into a thin mash in an ordinary twelve quart pail. I then start at one corner of the grass plot carrying the pail with my left hand and the distributor with the hose attached in my right. With the water turned on I put my thumb over the nozzle which expels the air from the suction line. Upon removal of thumb the solution of fertilizer and water comes out in a fan shaped spray about 4 to 6 feet wide. I walk slowly forward dragging the hose and waving the nozzle from right to left so that I cover a space about fifteen feet wide and possibly thirty feet long. I will then go back over the same area. This process is repeated until the necessary amount for the area involved has been applied.

"After getting on the required amount of Turf Builder I simply use the nozzle to spray water on the lawn, thoroughly washing the fertilizer into the sod.

"With some types of fertilizer there is considerable difficulty in making a mash with water. This is especially so of bonemeal which does not mix readily, making a lumpy solution that blocks the nozzle frequently. With Turf Builder I had but little trouble in this respect. It is essential that one has plenty of hose to reach within ten feet of the farthest

corner and that a good water pressure is available. The water pressure at my house varies between 50 and 70 pounds.

"I have loaned this equipment to several of my friends who are quite enthusiastic about its results."

French-Canadian Takes the Laugh Out of "Dandelions For Sale"

IN FEBRUARY LAWN CARE, page 2 appeared a brief story entitled "Dandelions for Sale!" Perhaps you will want to read it again to get the full significance of the following rebuttal by J. Ign Bilodeau, 82 Rue Richelieu, Quebec, Canada. He not only knows there is a market for dandelions but furnishes a few recipes!

"Your article on dandelions made me laugh. Most people seem to ignore that there is much money to be made with dandelions, for nothing is lost in this plant.

"First: What you, I believe, call the rootstalks (that white part that is in the ground), when dug from the ground immediate the day after snow is disappeared make the most delicious salad, it could even be eaten like that it is so tender, even old it is good also but it could then be fried. It tastes like egg-plant. The leaves could also be boiled and fried.

"Second: The flower makes the most delicious wine still more delicious than the one made with cherry or grapes. One acre of dandelions in flower could easily make 600 gallons of wine which would cost about $70.00 and could be sold for not less than $1.50 per gallon.

"In the spring the farmers bring dandelions on the market which they sell for 25c per pound. How many pounds of this is there in an acre? Certainly at least two tons which means $1,000.00. Do you believe that the fellow in sweating and swearing after dandelions is drawing as much as that from his field?"

Whole Lawn of Dandelions Gassed

Ed Wynn-like is Mr. R. P. Hocker of Dayton, Ohio, who says, "I'll stick to my oil can when it comes to killing dandelions. Have tried several preparations as recommended in LAWN CARE but nothing works as easily or as positively as gasoline. I use an old can, put a few drops in the center of the plant, and in four or five days the dandelion is gone never to return again. We had a whole yard simply covered with dandelions so there was plenty of opportunity to prove the effectiveness of the gasoline remedy."

Ants Active

Numerous requests have been received this spring for data on how to kill ants which are ruining the grass. LAWN CARE has carried a number of items on this subject but F. G. Bee, 866 South Champion Avenue, Columbus, Ohio, reports instant results with the following procedure: "Take 1 pound of sugar, 1 quart of water, and 125 grains of sodium arsenate. Make a solution and bring to a boil. Saturate a piece of sponge with the solution and place it at the hole where the ants go in and out of the hill. Pin the sponge down with a piece of wire." According to Mr. Bee the ants that have visited the sponge will go into the hill but not come out again.

You may have the twenty-nine previous issues of LAWN CARE for the asking. Send 10 cents to cover postage.