

### Theory and Practice

"Medicine," said Home (1752), "has attained its present perfection only from the history of diseases and cases delivered down." Even up to a quarter of a century ago, whatever of science there was in medicine was largely of the kind that results from the slow accumulation of a great body of data. The same may truly be said of plant culture. Doctor and plant culturist are practitioners with much in common in so far as the development of their particular art or science or profession is concerned. Cut-and-try methods have been the stepping stones that have brought medicine and agriculture to their present development. To empirical methods must be attributed much of progress which has been attained in each. The advent of the modern thirst for knowledge—the desire to know why, to learn the answer—has produced the professional investigator, who has sought not only to propound theories to fit established practices but also to establish new practices on purely theoretical bases. He has found the going hard, partly because his inexperience and enthusiasm have caused him to overlook important details, such as are prone to turn up unexpectedly to upset the best of calculations, and partly because of a reluctance on the part of the practitioner to accept him as a fellow worker. Consequently a sort of barrier, artificial though it may be, has been erected between those who are primarily concerned with practicing and those whose compelling interest is in investigation. This fence or barrier has in a measure restricted the viewpoints of both groups of workers and has given the layman a totally erroneous conception of the differences that lie between them. To the layman the investigator is a theorist, nothing more and nothing less, and somehow or other in the layman's mind theory and practice are quite antagonistic, rarely working in harmony. No more erroneous notion could exist than that theory and practice are in any serious sense opposed. There is nothing incompatible in their relations; in fact, they are for the most part inseparable. However, what are often regarded as theories are nothing but fallacious hypotheses, and to this much of the existing confusion is due. An hypothesis is based on little more than an unorganized tangle of hasty observations, frequently only on pure figments of the imagination. A theory before it can truly be called such must have back of it the support of unquestioned facts. When sufficient facts or proofs are at hand, a law is adduced; but in the mind of the layman, hypothesis, theory, and law are synonymous, all definitely the product of the scientist and all more or less hopelessly out of accord with the practical working out of things. Let it not be understood that theories are never wrong. Theories may be unsound and impracticable; but practices may also be unsound, even though generally adopted and of long standing. Furthermore, unsound theories usually give way more quickly than unsound practices when critical tests are applied, and they do less harm while they last.

There is no need to defend either scientist or practitioner, for if the scientist with his theories becomes helpless in the realm of practice, certainly he is no more so than the practitioner in the realm of theory. But there is need of vigorously attacking the false doctrine, unfortunately too widespread, that scientist and practitioner can not in the very nature of things work in sympathetic cooperation. This doctrine is destructively false and is tending to keep the two groups

of useful workers from uniting as they should in the interest of greater accomplishments. Both are valuable servants and neither is necessarily the master. Investigations produce the new knowledge that is needed to improve practice, and practice is the proving ground that makes theory worth while.

## How to Prevent or Overcome Grainy and Fluffy Conditions of Turf in Vegetative Greens

By O. B. Fitts

The Green Section has received from some clubs descriptions of a "grainy" condition of their creeping bent putting greens which makes them unsatisfactory for putting. Other clubs have complained of a loose or "fluffy" mat of turf, which is undesirable for both putting greens and tees. The grainy condition usually occurs with some of the poorer strains of creeping bent, namely, strains which have a tendency to produce surface runners in turf, and those broad-leaved strains the leaves of which lie down flat, producing a cow-lick or radiating effect which, when the putting is against the grain, renders the putting slow and bumpy, and when the putting is with the leaves renders the putting fast. In either case the putting is more or less puzzling. The fluffy condition occurs with almost any strain of creeping bent which has not been kept closely clipped and properly topdressed or filled. These two conditions, while they are entirely unlike and present distinctly different problems to the greenkeeper, may be prevented or overcome by the same treatment; the preventive method is preferable to the curative treatment.

**PREVENTIVE METHOD.**—Begin cutting the grass down to a putting green length as soon after planting as it has become established and attained a growth of  $1\frac{1}{2}$  to 2 inches. Thereafter the grass should be kept cut to a putting green length at all times. The greens should be topdressed with about 1 cubic yard of well-pulverized compost to which has been added 15 to 25 pounds of ammonium sulfate or ammonium phosphate, to each 5,000 square feet of green. The first application should be made as soon as the grass becomes well established, which is usually from four to five weeks after planting. This treatment should be repeated as frequently as is necessary to keep the turf filled to such an extent that it presents a smooth, firm surface. Each application of compost should be brushed well down into the turf and then thoroughly watered to prevent the ammonium sulfate or ammonium phosphate from burning the grass.

**CURATIVE TREATMENT.**—In case either of the above-mentioned conditions is in evidence on the greens, it is advisable to rake the surface lightly with a light iron-tooth rake and thereby comb up the surface runners and flat-lying leaves so that they may be cut off with a putting green mower. The mower should be set down so as to clip the grass as low as possible without crowning or scarring the turf. In this way the surface runners and leaves which have been combed up in the process of raking may be clipped off. It is then necessary to follow immediately with a topdressing, as suggested in the preventive treatment. This treatment will probably leave the green in a rather browned, sickly-looking condition, but the surface should be firm and smooth. Then if the topdressing is thoroughly watered in, it will be only a short time until the grass should be in a