

Testing Seeds for Germination

A number of clubs have sent samples of seed to the Green Committee with a request that the samples be tested for germination. The Green Committee has not facilities to conduct these tests. The testing of seeds for germination can well be done by any greenkeeper on his own grounds. He will save valuable time by making his own tests, as seed-testing laboratories during the seed-buying season are generally crowded with work, and samples sent in for testing often must wait their turn. The following simple method of testing seeds for germination is reprinted from page 134 of the April, 1922, number of THE BULLETIN. The Green Committee is always glad, however, to examine samples of seed submitted by member clubs for identification and purity determination:

Germination tests are usually made on the basis of pure seed; that is to say, 100 seeds are taken from a sample and the percentage of germination is based on the number that prove to be viable; therefore, a sample might have a germination percentage of 90, even though it contained only 10 per cent of pure seed, the remainder being inert matter. In selecting the seed for the test, however, an effort is made to get a sample that is representative of the bulk; in other words, caution is used not to pick out the plumpest and best-appearing seeds. Usually 100 seeds are selected for a test, so that the number of plants resulting represents the percentage of germination. The unit of measurement selected, however, is purely arbitrary, and if one knows what is desirable in the way of a stand from the seeding of any particular grass, it is quite easy to make a test by less exact methods. For instance, with creeping bent for putting greens it has often been said that an ideal stand of seedlings is about seven seedlings to the square inch. If seed of the bents sown at the rate of one-quarter ounce to a test plot of 5 square feet accomplishes this result, we would regard the germination as satisfactory. This same rate of sowing would also apply in the testing of redbow seed. For fescue or bluegrass the rate for a test plot of 5 square feet would be one-half ounce of seed.

Spraying to Kill Chickweed

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In the course of experiments on killing chickweed conducted by the Department of Agriculture at Arlington Farm, Va., some thirty different chemicals were used, including such well-known weed-killers as salt, iron sulfate, sodium nitrate, and various oils and arsenicals. Best results were secured with a 2 per cent solution of sodium arsenite applied as a spray. When properly used this solution can be depended upon to eliminate all species of chickweed from bluegrass turf. It is not satisfactory on the finer bent grasses and fescues. Where these grasses are used on greens the best way so far discovered to get rid of the chickweed is to dig it out with a hole cutter. On bluegrass fairways the spray kills 90 per cent of the chickweed in one operation and also kills or badly cripples other turf weeds, like dead nettle, bugle, knotweed, and sorrel. It is also injurious to white clover. The tips of the grass are burned slightly, but the injury is not serious, and in a few days has disappeared. It must be borne in mind that killing the chickweed usually leaves large bare spots, and these, if not seeded at once, grow up in crab grass and other weeds. Since there was no bluegrass there any way, this expense is a normal one and can not be charged to the spraying.

The best time to spray is about the first to fifteenth of April, or from the middle to the end of September. The chickweed is most abundant in

the spring and more can be killed at that time, but the fall spraying gives a better opportunity for reseeding. The main point is to spray the chickweed at the time when the greatest possible quantity has germinated but before any of it goes to seed. Spraying must not be delayed until the weed is ankle deep, or the spray can not be driven down into it.

The solution is made by dissolving 8 pounds of sodium arsenite in 50 gallons of water. Sodium arsenite can be obtained from any wholesale dealer in drugs and chemicals, and also from firms handling prepared weed-killers. The present cost is about 30 cents a pound in small lots. Care should be taken to get sodium arsenite, and not sodium arsenate.

The solution is applied with some kind of pressure sprayer. For small jobs one of the small knapsack sprayers is very satisfactory, but where several acres have to be covered it pays to use a wheelbarrow sprayer operated by two men, one to pump and one to spray. Care must be taken to apply the solution as a fine mist, and no more than just enough to wet the foliage. If the liquid is poured on indiscriminately it is almost certain to kill the grass and may make the spot more or less permanently sterile. From 100 to 400 gallons of solution are required per acre, depending on the quantity of chickweed present.

Caution. Sodium arsenite is a violent poison, and should be handled accordingly.

Troubles of the Greenkeeper

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The greenkeeper has some task on a golf course. There is the weather. No matter if it rains, or the sun shines, the members expect the greens to be always the same—no long grass in the fairways or rough. It is the greenkeeper's duty to see that it is cut. Players on most golf courses are out from the first thing in the morning until dark in the evening, which gives the greenkeeper little chance to get the work done without interfering with the players. The men working on the course must never get in their way or make any noise with their machines, or talk. As the saying is, they must not move their toes in their shoes for fear it would take the attention of the players off the ball. The greens on most courses in this part of the country have to be watered either morning or evening. Work around here is plentiful, and the laborers are independent. I always find it very difficult to get men to water the greens at night, and therefore it has to be done during the day, which makes more trouble for the players.

According to some members, the greens should never be top-dressed, weeds taken out, or anything else done while play is in progress. Those very players who are the most fussy about being disturbed always expect the greens to be in first-class condition. I suggest that each green be roped off and a temporary hole made while weeding and top-dressing is done, as the work can be performed much faster and thus save expense, as otherwise the men have to stand around a good part of the time waiting for the players.

The greenkeeper has all sorts of grass diseases and insect pests to watch. And another trouble is to get men that know anything about work on a golf course, as most courses are built in some out-of-the-way place where few working people live. The work lasts only six or eight months for