HOW TO CALIBRATE A SPREADER

J. R. Love
Dept. Soil Science, Univ. of Wis.

To use any applicator (whether it is a sprinkler, a sprayer or a spreader) that has not been calibrated is to invite trouble, either in the form of too much or too little material being applied. Not only do shortages and excesses waste time, material and money, they can also result in turf injury. Furthermore, since the job of calibrating an applicator is relatively simple and one that may be done in the off season, this kind of trouble can and should be avoided. It is hoped that the following article on the calibration of a spreader will be helpful in this connection.

Regardless of whether the spreader is a hand pushed or power drawn model of either the band or spinner type, the basic principles involved in the calibration procedure are the same. However, it should be pointed out in this regard that the spinner type spreader is far less likely to result in streaking (from either overlapping or skipping) and is, therefore preferred for most jobs. Furthermore, of the two types, the spinner gets the job done faster. The steps involved in calibrating a spreader are as follows:

1. Select a site for the actual calibration that is off the area to be treated, for example, a driveway or the grounds around the shop.
2. Set the opening of the spreader for the desired rate according to the operator's manual or, in the case of the small hand pushed model, this information is also given on the bag of many materials which are sold for turfgrass use. Note:

To insure a more uniform application, it is a good practice to set the spreader at half the desired rate and go over the area twice (either from different directions or by overlapping each pass by 50%).

3. Add a weighed amount of material to the hopper—at least 20 pounds to the small spreader and 80 pounds to the larger ones.
4. Mark off a distance of 25 feet for the hand pushed type and 100 feet for the power drawn models. Remember: if at step 2 the setting was made at half the rate these distances must be doubled.
5. Now make a run with the spreader and observe the lateral distance the material is thrown (in the case of the band type spreader this measurement can be taken directly from the spreader). Be sure when calibrating the spreader to travel at the same speed that will be used under normal operating conditions and to turn the spreader off after each pass or include the turning distance in step 4.
6. Next weigh back the material left in the hopper and subtract this from the total amount added. The difference represents the amount of material applied. From the following formula calculate the rate of application **in pounds per 100 square feet.**

Lbs./1000 sq. ft. (equals) pounds material applied (step 6)x1,000 (divided by) distance traveled x lateral spread in feet (step 4) in feet (step 5).

Example

Suppose 4.4 pounds of material were applied (step 6) to an area of 25 feet (step 4) by 7 feet (step 5). The rate of application is calculated as follows:

4.4 pounds x 100 (divided by) 25 feet x 7 feet (equals) 25.1 lbs/1,00 sq ft.

7. Now then, if the calculated rate is not within 10 per cent of the desired one, adjust the setting accordingly and make another run. Usually no more than two or three reruns are needed in order to calibrate the spreader to the desired rate of any material. However, in this connection it should be emphasized that owing to differences in density and particle size, different materials may require different settings and hence a separate calibration.
8. Lastly, it might be well to note that once a spreader has been calibrated it will perform as such only if properly cared for, that is, cleaned and oiled regularly and inspected for worn or loose parts periodically. Attention to these details always pay, they never cost.

GOLF COURSE DESIGN

"Golf Course construction and design will change in the future. As our population rapidly increases, choice golf course terrain will become a housing development or will be developed commercially. Rough, hilly wooded terrain will eventually be the only ground available for a golf course. A course under construction in the state of Vermont; typical 'Vermont sandy loam' contained a boulder the size of a house, situated among other 'stones' the size of automobiles.

Over the years, course designs have undergone several alterations, most evident being the change from a penal design to a strategic design. A penal design was evident when all hazards of the game were positioned to frequently penalize the average golfer. The updated strategic design offers a long, safe route to the green and often a short hazardous route, thereby requiring strategy of the golfer as to whether or not to attempt a difficult shot or play safe.

A good golf hole is one that makes any golfer think before he hits his tee shot. The option of placing a drive over an obstacle or down the middle, keeps the course enjoyable for the average golfer. The good player should be challenged with each stroke of the game. The average golfer will stick to the middle of the fairway and will have an open second shot to the green.

The Contemporary fairway trap design will penalize the good golfer who tries a short cut. An occasional 180 yard fairway trap is still installed to offer the average golfer an obstacle to shoot over.

Old traps were commonly holes in the ground brim full of sand. Today's design offers raised traps with some grass lip or sides to provide asthetic appeal to the hole as well as a hazard. Raised traps are better drained and easier to maintain. New traps are also considerably larger in size and vary in design. Frequently 500 to 1,000 cubic yards of sand are required to fill a sand trap today.

Extensive well-planned landscaping beautifies the grounds and offers much potential variation for hazards on the course. Trees are used for barriers between greens and tees, dog-leg hazards, errosion controls, green backdrops, screens and general beautification.".

—Reprint - Mid-Atlantic News.