



CUSHMAN TRUCKSTER AND SPRAYER

OPEN HOUSE AT CUSHMAN MOTORS

Chicagoland Cushman Sales, Inc. held an open house for all the Superintendents in the Chicago area on June 8th and 9th, to show their latest in golf course equipment **made** by the Cushman. After cocktails and a delicious buffet the Superintendents looked over the equipment with great interest. Some of the equipment included: a Sprayer for hand spraying and for boom work, a Fertilizer Spreader and many other pieces of power equipment operated with the power take off.

The scooter is only 8½ feet long and 55 inches wide and comes equipped with wide turf tires. It is powered with an 18-horsepower engine for heavy-duty operation and is capable of carrying a 1,000-pound payload up steep inclines. As standard equipment the Turf-Truckster has a rear mounted pick-up box that is 46 inches long 34-7/8 inches wide by 14 inches deep. This can be used for transporting lawn mowers, hauling sprinklers and for general maintenance work such as hauling trash, carrying tools, spare parts and fertilizer. A hinged tail gate permits easy access.

Available optional equipment is what makes the Turf-Truckster truly unique.

When the Turf-Truckster is equipped with the optional boom sprayer it can be driven on the finest turf without damage while spraying a 16-foot wide swath. The boom is installed or removed in minutes with simple hand tools.

The engine operates the sprayer through the power take-off providing up to 300 pounds pressure. The basic unit includes a 103 gallon tank, skids, pump and all necessary hose and a handgun.

Many Superintendents are using the optional fertilizer spreader which is also powered by the power take-off. This piece of equipment is capable of doing large areas of turf as well as greens and tees.

Smoke Scream

Smoking makes some women's voices harsh. If you don't believe it, just try flicking your ashes on the living room rug.

—Quote.

TOPDRESSING —

A MAINTENANCE MUST

by Dr. Eliot C. Roberts
Turfgrass Specialist, Iowa State University

Why Topdress?

Turfgrass managers who feel that topdressing is beneficial may cite numerous reasons for improved turfgrass responses. Research has indicated that superior turfgrass quality, resulting from the use of proper topdressing techniques may be readily explained on the basis of improved soil-plant relationships.

First — The addition of small amounts of soil or soil mixture to low spots or depressions in the turf helps to level off the surface grade and improve surface drainage. Since frequently more rain or irrigation water will be applied to the soil than can be immediately taken in some must run off the surface under the influence of gravity. A turf area may be constructed with the proper grade to allow optimum runoff but through the years develop humps and hollows that interfere with this water movement. A careful inspection of the turf each spring and fall indicate where changes in surface grade have taken place. Applications of small amounts of top-dressing worked into these areas will keep the turf true and in the case of greens, provide improved putting quality. Spring topdressings should not be made before the natural heaving of the soil from frost action has settled or been rolled to a natural grade.

It is important that these low spots be upgraded before turfgrasses are injured in these areas. Weak or even dead turf may result from the presence of excess water or ice standing in hollows that will not drain. Wet wilt, scald and winter injury are commonly the formation of depressions in the turf which favor observed in these locations. It is far easier to prevent these injuries than it is to revive the turf once it has been injured.

Second, a light topdressing of uniform thickness over putting green turf improves the surface by firming up the sod for speedier and truer putting. This is accomplished as the topdressing filters down through the thatch or above ground vegetative cover and provides increased support for the grass plants. A good topdressing will be well inoculated with microorganisms which help to decompose thatch. It will also

be rich in plant food and of a favorable acidity for the decomposition of thatch. It will be of good soil structure and favorable soil texture for providing thatch which are essential for its breakdown. An optimum soil and water-air relationship within the turf which has a "topdressing controlled" thatch will be a healthier better quality turf. It is recognized that besides proper topdressing procedures, vertical mowing and thinning of the turf plus aerification and recommended watering, liming and fertilization practices are important in controlling thatch. These latter practices are often less effective where greens are not topdressed regularly as part of the thatch control program.

Third, a new or thin turf should be topdressed regularly to cover the exposed stolons. These will root at the nodes if they are lightly covered with a good topdressing material. The more plants encouraged to root in a given area the denser the resulting turf and the quicker the spots will fill in and new greens will become established. Topdressing at frequent intervals (at times as often as every 7 to 10 days) is essential in the healing of injured turf areas and in the developing of new greens from stolons.

Fourth — Topdressing following heavy aeration of the soil is the only means short of complete reconstruction of changing the soil texture. It is a slow process, but by aerifying many times in different directions so that the turf and soil is riddled with holes to a 3 to 4 inch depth it is possible to fill these holes with a soil which will provide improved growth conditions. In this case the objective of the topdressing is not to cover the surface of the area as much as it is to fill the holes. One such treatment may show little effect; only by repeated treatments over a period of years can a significant change in soil texture take place. Where soils are heavy and compact easily, channels of lighter sandier soil aid in increasing water penetration and in stimulating the vigor of the turf.

Exercise Caution in Topdressing

Topdressing is not a simple practice which should be done with little planning or forethought. The benefits gained from proper topdressing procedures may be easily nullified by harmful effects of improper topdressing practices.

First — The amount of material to be applied at any one time should be exceedingly small so that it may be worked completely into the turf without covering or smothering the grass. The denser the turf or the thicker the thatch the more difficult it is to accomplish this and the more important it is to make small applications. On the average 1/3 of a cubic yard per 1000 square feet may be considered a standard rate of application.

Second — The topdressing mixture should not contain too much organic matter. Since one of the beneficial functions of topdressing is in aiding the decomposition of thatch, it follows that the addition of more organic matter to this thatch is not likely to be very effective. It takes microorganisms plus available nitrogen to decompose organic matter; there is little value in formulating topdressing with more organic matter than is necessary to give the material good structure and a healthy microbiological population. Peat Moss and other types of organic materials which are difficult to decompose are not best suited for use in topdressing. Residues from compost piles are usually more effective sources of organic matter for topdressing mixtures.

The addition of more organic matter to the top

soil of a putting green so that it will have a better cushion and provide a softer slower putting surface. This is one of the reasons sometimes cited for topdressing. It is true that the amount of organic matter at the soil surface and the density of the turf are responsible for the desirable degree of resiliency of the turf. This quality comes naturally with the development of vigorous grass plants with extensive root systems and with the growth of stolons. If it is assumed that an acre of putting green turf (43,560 sq. ft.) weighs 1,000,000 pounds when calculated on the basis of a 3 1/2 inch (root zone) depth then in order to increase the percentage of organic matter in the soil by 1% it would be necessary to add about 230 pounds of organic matter per 1000 sq. feet. It is obvious that this is a lot of organic material. It also emphasizes the importance of the 6-8% natural organic matter present in much of the good rich black topsoil available throughout the area. In view of these facts it is questionable whether supplementary organic matter need be added to a good grade topsoil.

Where organic matter has been used in topdressing at rates of application that have been greater than the speed of decomposition it is possible to accumulate layers of organic matter at the soil surface. As long as this is on the soil surface its greatest detriment to the turf is in soaking up water and plant food so that penetration into the soil is reduced. A wet surface is also conducive to fungus activity and increased disease incidence. If the topdressing practice is changed suddenly to omit the organic matter so that

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a layer of undecomposed material is buried beneath a soil-sand topdressing mixture, this will basically interfere with the penetration of moisture into the soil. Water will simply not move easily from the small pore spaces of a soil into the large pore spaces of a dry organic layer. Topdressing mixtures should not be changed suddenly from year to year but gradually in accordance with soil conditions and the response of the turf. Where an organic layer is present at the soil surface or just beneath it the use of non-ionic wetting agents have been observed to improve moisture penetration.

Third — The topdressing should contain enough sand to provide a material with a compaction resistance texture and with good structural properties. The importance of these physical characteristics of the material are shown in a good topdressing mixing well among the shoots and stolons that make up the turf. The material should not pack solid within the turf but should present a loosely bound soil structure within the turf which will encourage proper soil-air-moisture relationships for improved root development and thatch decomposition. Excessive sand makes the topdressing too loose and light. Too little sand will make it cake and present conditions favorable for compaction. Where a very sandy topdressing has been used it is undesirable to change quickly to one with very little sand. Where a layer of soil is deposited above a layer of sand, water will fail to move from the soil to the sand except under extremely saturated conditions. The same principle is involved as with the organic matter layer. Water moves with difficulty from the small pore spaces of soil into large pore spaces of sand. Roots also respond in this way and may at times be restricted to a very shallow soil layer above a zone where sand has accumulated and migrated from previous sandy topdressings.

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