

# APPLICATION METHODS IMPROVE COMPOST USE

*Six basic types of spreading units provide the equipment selection to apply compost efficiently and economically.*

Ronald Alexander

**Brush units are effective in applying compost as a topdressing.**

**I**N THE PAST, inefficient application methods have been a major barrier to increasing use of compost in agriculture and horticulture — but that barrier is rapidly fading. Not only is special equipment becoming available, but many successful compost producers and marketers offer spreading services. This report reviews spreading equipment currently available to the compost industry and their special application techniques.

The specific method of applying compost depends upon several factors: physical characteristics of the product; type and size of application; and field conditions. The most important attributes affecting application through a specific unit are moisture content and particle size. Large contaminants such as stones and sticks can also limit application methods, since equipment is designed for a specific application with consistent characteristics. Further, most equipment used to apply compost today has not been designed with compost specifically in mind. The majority of units were engineered to apply agricultural by-products (manure), lime, fertilizer, mulch, topdressing or sand based mixes.

## TYPES OF SPREADING UNITS

There are six basic types of spreading units used to apply compost — flail, slinger, spinner, brush, beater drum/rotating cylinder, and pneumatic/blower

Flail units use paddles to kick out the

product from the rear of the spreader — typically categorized as farm type manure spreaders used primarily in agricultural applications. They were developed to apply products possessing higher solids contents in a narrow strip. In years past, manure spreaders were modified and used to apply compost on turf areas, but today they are primarily used on open agricultural fields.

Slinger type units use a spinning drum with teeth to sling the product up to distances of 200 feet. The most common slinger units are side discharge manure spreaders used primarily in farm or agricultural applications. Larger pull behind and truck mounted units also exist for use on highway and reclamation applications. These units can handle materials at higher bulk densities as well as those which possess a higher moisture content such as ash, wet lime and biosolids. Side discharge manure spreaders are used primarily to apply a thin layer of material over open fields but have also been modified to apply materials in planting rows. The larger slinger type units are used on steep slopes and sites where accessibility is limited.



Spinner type units use centrifugal force to project product from the rear of the unit. This category of spreaders were designed to spread seed, lime, fertilizer, and salt. They work best on drier, denser materials which are fine in texture. Spinner units are typically used to apply compost in agricultural applications and at application rates of five tons per acre or less.

Brush type units use a spinning bristled brush to project materials at the soil surface. These units were developed to apply sand based mixes for golf course and athletic field applications but have been used extensively to apply compost in topdress applications. Brush type units can handle product with a moisture content of over 50 percent as well as somewhat coarse materials. The units are typically used to apply a one eighth to one half inch layer of compost, wood chips, or sand/compost blends.

Beater drum/rotating cylinder type units were designed to apply thicker application rates of high bulk density (sand based) mix-



Photos courtesy of R. Alexander





Flail units were developed to apply products with a higher solids content in a narrow strip.

es over large open turf areas. The unit is extremely versatile, having the ability to apply one sixty-fourth to a three inch layer of various materials. The unit is primarily used for golf course and athletic field applications and may be fitted with a finishing brush to break up product clumps and project the material more uniformly onto the soil surface.

Pneumatic/blower type units are the newest type of spreader technology being marketed. The units were designed to apply mulch, wood chips, sawdust and other wood type products. The units favor products with a particle size of two inches or under in length and those possessing a 40 to 45 percent moisture content. Although operating most efficiently with products possessing specific characteristics, the unit's greatest advantage is its ability to apply materials precisely and in inaccessible areas using a hose of up to 300 feet in length. Larger capacity units can also reduce the need to reload during application, which significantly improves efficiency. Truck and trailer mounted units have a 20 to 60 cubic yard capacity. Blower type units can be used to apply compost for topdressing as well as thicker applications for soil incorporation and erosion control.

**PRICES AND TRENDS**

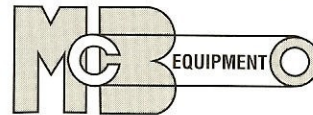
Composts are currently being applied in agriculture for between \$3.00 and \$8.00 per ton by custom applicators as well as firms marketing compost. Lower application costs are typically provided by firms

Pneumatic blowers were designed to apply mulch, wood chips, sawdust and other wood products.

marketing the product as well as the application service. It seems obvious that future opportunities will exist for new custom compost (and other products) application services in the horticultural and turf industries.

The key to efficient application of compost as well as other products is making sure the product being applied is compatible with the equipment being utilized. If it isn't, an alternate piece of equipment should be used or the product's qualities should be modified. This typically can be accomplished by screening the product or by drying it to reduce its moisture content. Compost manufacturers and marketers must consider getting more involved in the area of product application to expand markets for their compost products. The analogy of a manufacturer or marketer supplying the razors along with the razor blades is extremely pertinent in this industry. ■

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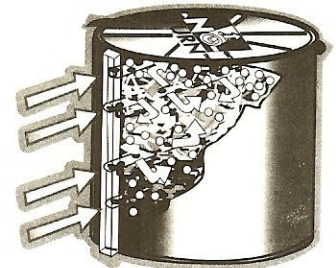
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