

Scott Kinkead, is General Vice-President of Turfco Manufacturing Inc. the Minneapolis-based manufacturer of Top Dressers who created the first powered machine in 1961. Here he presents a timely view of recent developments in top dressing.



Oooh, suits you, sir



Above: Top dressing can be a one person job. Hoppers can be loaded easily with a tractor mounted front-end loader to shorten turnaround times

Above right: Equipment should be versatile enough to handle all types of material, wet or dry, and capable of applying heavy, medium or light dressings including some as fine as mist for exceptionally light applications

New practices require more versatile equipment

The benefits of top dressing have been recognized since the days of old Tom Morris. According to legend, it was old Tom who purportedly said: "More sand, honeyman, more sand."

While top dressing principles are as valid now as they were then, the use of top dressing as a management tool has increased. Smoothing the playing surface, producing a better growing medium and controlling thatch have become that much more important as golfing traffic has risen. As a result, golfers today have higher expectations for the quality of their facilities.

These factors are changing the way greenkeepers manage their top dressing programmes. New, more efficient equipment designs are coming on to the market in response to the changing trends in top dressing.

As you look at your top dressing needs now and in the future, it will be important to consider these changing trends. They may well influence how you select and employ your top dressing equipment in the years ahead.

Size of areas being top-dressed

Once top dressing was typically limited to greens, now many courses top-dress tees, approaches and even problem areas in fairways. This has led to more specialised equipment with increased capacities.

Greater variety of materials

Top dressing has generally involved some combination of soil, sand or peat. Nowadays, however, top dressers are used to overseed, spread compost, spread grass clippings, apply lime and even spread soil amendments such as

crumb rubber - as well as applying a wider range of top dressing mixtures. Equipment needs to be versatile enough to handle more materials efficiently.

Influences of material storage

Many top dressing materials are stored outside and thus are often wet when loaded, even if they are covered. Top dressers today must be able to spread wet or damp materials, and spread them evenly to minimize extra time for dragging the surface. Some greenkeepers have been forced to use costly, bagged sand to avoid wet materials. Newer top dresser designs can effectively handle moist materials.

Frequency of application

Ten years ago, top-dressing golf greens was usually a twice a year activity - once in the spring and once again

Oooh, suits you, sir



in the autumn, following aeration. Now, with a greater focus on greens quality and consistency, greenkeepers may top dress greens every two to three weeks and some as frequently as every 10 days.

Variable application rates

When top dressing was applied once or twice a year, it was usually heavy - a 6mm layer or more. Now, frequent light applications may involve as little as 1mm of sand each application. Today's equipment must be capable of both extremes.

Time and labour considerations

More frequent top dressing, of course, means the process must be more efficient. Equipment, therefore, must be more efficient, more reliable and more accurate to get the job done in as short a time as possible, and with the least amount of manpower possible.

Size of area to be top-dressed

The size of greens influences the type of top dressing equipment that can be used. Small greens with numerous bunkers and obstacles may dictate a pedestrian top dresser. These, of course, are quite manoeuvrable but lack capacity. For maximum capacity, as well as good manoeuvrability, a truck-mounted top dresser may be the answer.

Between these options are trailed top

dressers, most of which have good manoeuvrability and a relatively high capacity to reduce the most timely aspect of top dressing operations - loading. One rule of thumb says that if you can get on a green with a riding greens mower, it will probably accommodate a trailed top dresser. Hopper size becomes more important if you plan to top dress tees and approaches or even fairways.

Variety of materials

Ten years ago, the typical top dressing application could be anything from straight soil or compost, to a mix of 70% organic material and 30% sand. Today, the trend is to higher sand levels - perhaps 80% sand with 20% organic material - all the way up to 100% USGA specification sand.

Equipment must be able to handle a wide range of top dress mixtures, with the capability for both heavy and light application. If the equipment is also used for other jobs, such as overseeding or applying lime, it must be adaptable for those materials. Does it have the precision adjustments to apply everything from sand to compost to crumb rubber uniformly and consistently? Will it handle wet materials, whether sand or other applications such as spreading grass clippings? These are important and fundamental questions that need to be addressed and then the equipment selected accordingly.

How is top dressing material stored?

Whether sand and other materials are stored outside or under cover effects how they spread. Even materials covered and stored outside will usually have considerable moisture content, wicked up from surrounding surfaces. In the past, the inability of top dressing equipment to handle wet materials restricted their use. Some greenkeepers were forced to use bagged sand to get around the problem. An expensive solution to the problem!

However, properly designed equipment can handle a variety of moist or wet top dressing mixes. Brush to conveyor belt designs typically do the best job when conditions require spreading wet mixtures. Continuous pattern belts deliver more uniform application with varying moisture levels.

Frequency of application

Greenkeepers have found that frequent light application of top dressing sand or mix helps maintain level and consistent greens, as well as helping dilute and control thatch. Some newer grass varieties tend to be more "thatchy" and, with heavier use, there has been a tendency to increase fertiliser and chemical use to maintain turf growth and vigour. This also tends to increase thatch.

A good, consistent top dressing programme creates a smoother playing surface and modifies the topsoil layer to provide a better medium for grass growth. Along with aeration, top dressing can improve flow of water and air to the root zone and soil drainage. Greens that are top-dressed frequently tend to be faster, too.

Harold Neal, greenkeeper at Tulsa Country Club, says his frequent light top dressing programme allows him to mow greens higher. This promotes better grass health without sacrificing any speed at all. His greens recently were rated as the finest putting greens in that region.

Following a frequent light top dressing programme will necessitate more efficient equipment. Uniform application, the ability to handle material with varying moisture content and hopper capacity all become major considerations.

Desired application rates affect equipment selection

The trend to frequent, light top dressing means that top dressing equipment must be versatile enough to apply material at extremely light rates, from as little as 1mm thick, up to heavy rates (6mm after aeration, for example).

Uniform distribution is critical with light applications, to avoid extra time for working in the material. Some greenkeepers put on a very light application without dragging. Bill Larson, CGCS at Town & Country Club, says

Below: Machines using spinners to distribute sand uniformly can achieve up to 9.14 metre per swath



Application Chart

Area in square metres	Thickness of application			
	1mm	1.5mm	3mm	6mm
	Cubic metres of top dressing required			
100	0.1	0.15	0.3	0.6
Golf Green				
465	0.465	0.697	1.395	2.79
1000	1.0	1.5	3.0	6.0
Bowing Green				
1475	1.475	2.213	4.425	8.85
2000	2	3	6	12
3000	3	4.5	9	18
4000	4	6	12	24
5000	5	7.5	15	30
6438	6.438	9.657	19.314	38.628
7500	7.7	11.25	23	46
Hectare				
10000	10	15	30	60

they just turn on their sprinkler heads for "two or three minutes and it's all done."

Frequent light applications may steer you to equipment capable of broadcasting material. Top dressing equipment today is more versatile than ever before as well as more user friendly. Start/stop controls from the operator seat save time and provide better control. Some machines are equipped with an electric clutch actuator that times application starts so the operator can begin top dressing within 25mm of the desired spot.

Man power and time considerations

Where, in the "old days," a greenkeeper might shut down the course for a day or longer and put five or six of his team to work aerating and top dressing the greens, most greenkeepers today don't have that luxury.

More likely, the team is out before sunrise to get maintenance work done as quickly as possible to accommodate the early golfer. If the course is open seven days a week, all the maintenance work must be scheduled to minimise interference with play.

In these circumstances the equipment must be ready to go with as little preparation time as possible. And, it must enable the team to get their jobs done as efficiently as possible. Features like ground drive can help assure even distribution at varying speeds, making top dressers more efficient, plus cutting down on follow-up time for working material into the turf.

Hoppers that can be loaded easily with a tractor-mounted front-end loader shorten turnaround time at the storage shed. One worker can load the hopper, then drive the top dresser to the course and spread the material. Top dressing can be a one-person job, compared to five or six people a few years ago.

Frequent light top dressing means time to accomplish the task becomes that much more important and the right equipment can make it extremely efficient. Some machines employ spinners to spread sand uniformly and can do so at up to 9.14 metres per swath. This allows the operator to cover 18 greens in less than half the time it would normally have taken.

An example of the timesaving that can be achieved is that of Harold Neal

at Tulsa Country Club. He uses his spinner-equipped machine to top dress 22 greens, including nursery and practice greens, in less than 2 hours. Most greenkeepers also report that frequent light top-dressing seldom disrupts play. "The golfers usually don't even know we've been out there," is the typical comment.

Changing your top dressing programme?

With the evidence that more frequent top dressing benefits golf greens, as well as improving tees, approaches and even fairways, you may well be considering changes in your own top dressing programme.

A good first step is to consult your local agronomist for recommendations. Then, it becomes a matter of determining the area you intend to cover, including size of greens, and what equipment will best suit your situation. Will you use the equipment for other materials? Will it double as a material handler, i.e. to replenish bunkers?

How are you storing your top dress materials or how do you plan to store them in the future? What amount of your greenkeeping time will you allot to topdressing? Do you have sufficient manpower to carry out a more intense top dressing programme?

Finally, if you decide that a more frequent top dressing programme is a beneficial step, you will need to take a good look at your equipment selection. Will it handle a wider variety of materials? Will it spread uniformly, accurately, even with moist material? Will a broadcast type machine make the job more efficient, more precise?

Asking these questions about where your present top dressing programme is and where you would like it to be is critical to making it successful. Decide what you want to accomplish and then find the equipment that will achieve your goals. Don't be reticent when it comes to getting equipment demonstrated. If manufacturers say they can spread material light and handle wet material make them show you what that means and compare different machines. With all the advances in top dressing equipment there is sure to be a machine that meets your specific needs. In the words of one greenkeeper, "Top dressing used to be a chore, now it's fun."

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