INCREASING DOLLAR VALUE FOR COMPOST PRODUCTS

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Pricing compost in line with the product or service it is replacing can boost revenues from compost marketers.

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KEY TO understanding how to increase the dollar value of compost products is to recognize two distinct markets: 1) Traditional, "same product category" markets such as soil amendments, fertilizers; and 2) Nontraditional markets such as erosion control, bioremediation, storm water management. With traditional markets, compost is a direct substitute for an existing product such as topsoil or peat moss, e.g. as a component in a golf green mix or as a straight topdressing on an athletic field. Typically, there is a little price elasticity between products in this category, even when the benefits that compost adds are factored in. A typical price point is in the $15/cubic yard range. Therefore compost competes directly on cost, and its added value may help bring sales in the door.

Nontraditional markets, on the other hand, are outside of the soil amendment and fertilizer category. Therefore the price point is fixed by the most competitive products in that category (i.e., traditional products for that industry or service sector). A quick example, expanded upon later in this article, is the erosion control products market. Take perimeter controls for construction sites as a case in point. In that category, silt fence is the number one product used. Compost filter berms and socks have been proven in the field to be effective competitors, in large part because they compete on price and perform as intended (unlike many silt fence installations, which are notorious for not performing in the field). Silt fence sets the price for that category, thus compost-based products need to meet that price as a replacement product. Even at the lower end of that price point, a cubic yard of compost sells for $50 to $60/cubic yard installed.

When assessing exactly how to price a high quality compost for traditional and nontraditional markets, one question that has to be considered is how to value the benefits such as reduced fertilizer and water needs, or accelerated vegetative coverage of an eroded slope. In some cases, these benefits are the "icing on the cake," the sale-closer that gets compost in the door and keeps it going in for years to come. In other cases, specific dollar values can be assigned, and thus factored into the sale price of the compost. The examples that follow start a dialogue on how to value benefits, as well as increase the baseline price of compost products.

Fertilizer Markets

Composters have avoided comparing their compost products to fertilizer — which is understandable in most situations because registering compost as a "fertilizer" can be a little tricky. (And the current Uniform State Fertilizer Laws don't really apply well to compost — see "To Register Compost Or Not — That Is The Question," May 2004.) However, guaranteeing nutrient content may help composters raise the value of their compost products, especially if they are trying to service the turf market, which seeks slow release nitrogen sources — a feature that many composts have. Modern agricultural production, on the other hand, favors quick release nitrogen sources (e.g., urea, ammonium nitrate, ammonium sulfate) that typically are much less expensive than their slow/controlled release counterparts (e.g., Nitroform, Milorganite) used in turf management. The turf industry spends hundreds of dollars more per ton than farmers to buy slow release forms of nitrogen. A document used by the Florida Department of Agriculture demonstrates this difference. Wholesale nitrogen fertilizer prices in agriculture are $.24 to $.28/lb; in the turf/ornamental market, slow release or water insoluble nitrogen is valued at $.65 to $.79/lb. The value of slow release nitrogen in compost therefore is valued higher in a turf market versus an agricultural market.

The U.S. market for fertilizer is 52 million to 55 million tons/year; almost half are nitrogen products. More importantly, it is estimated that 95 percent of all fertilizer is sold into agriculture, and five percent is sold for horticultural and turf (ornamental) applications. That's 2.6 million tons of nitrogen a year. Now, is the composting industry going to sell compost into the turf market as a direct replacement for nitrogen fertilizer? Probably not, but we could be gaining additional value from our compost if we sold it for its innate content of slow release nitrogen. So there's additional intrinsic value that could be attained.

Topdressing

Many composters market their end products as turf topdressings for golf course fairways, athletic fields and home lawns. This application has developed into an excellent niche market for compost — especially since there is little competition for compost in these markets, except for very expensive sand based topdressings developed for golf tees and greens. Although we're already successfully developing this market, we're underselling the value of compost.

In the golf industry, for example, sand-based topdressings cost approximately $25 to $35/ton, delivered. A ton of sand-based topdressing has an equivalent volume to one cubic yard of compost (compost is approximately half the bulk density of a sand topdress). Typically, for a golf course, sand-based topdressing is applied at one-quarter inch, which is equivalent to 33 cubic yards/acre. Thus the per acre cost is about $1,000, or about $23/sq.ft. — before fertilizer and fungicide costs are added in. Compost is sold for topdressing at an estimated price of $15/cy, delivered. Applied at one-quarter inch per acre (or 33 cy/acre), the cost to the golf course is about $500 — or $11.50/1,000 sq. ft. This is half the cost of the typical sand-based product. Now, for arguments sake — to make the compost comparable to the sand-based topdressing — let's subtract the fertilizer value for compost of $5/1,000 sq.ft (based on one percent slow release nitrogen content) and its fungicide value of $6/1,000 sq.ft (based on a fungicide that costs $260/acre for 28 days of protection). (See next section for a discussion on assigning a dollar value to disease suppression.) That means the golf course's cost for the physical improvement that a compost topdressing provides is only $0.50/ 1,000 sq. ft.! Compare that to the $23/sq.ft. that a golf course pays for the sand-based material. Another way to look at it is that compost, based on the typical value of a topdressing ($23/sq.ft.), slow release nitrogen and fungicide ($11/sq.ft. combined), has a value of just under $1,500/acre. Thus compost marketers who are getting $500/acre (at the $15/cy price), are completely underselling the product. While compost may not be usable in all applications as a topdressing substitute, the point is that when it can, it should be priced according to its true value.

As far as potential volumes go, based on the Golf Course Superintendents Association of America (GCSAA), there are approximately 15,000 golf courses in the U.S. (probably yielding about a half-million acres in fairways alone). It also has been estimated that there are between one-half and one million acres of turf in athletic fields. If you consider a standard compost application rate of half-inch, then the potential topdressing market for compost use on athletic fields is at least 67million to 100 million cubic yards/year.

HOW TO VALUE DISEASE SUPPRESSION

Research has proven that many composts possess disease (fungal) suppressive characteristics. The Ohio State University research, primarily spearheaded by Dr. Harry Hoitink, has even identified the specific modes in which suppression occurs, and commercial labs are now testing compost for microbial populations in order to predict disease suppression. It is also important to understand that composts provide "preventative" disease control, and not "curative" control. Biological controls are also often less predictable than chemical products, however, chemical fungicides don't always work either.

All pesticides sold in the U.S. must be registered through the Environmental Protection Agency, which is a very expensive and time-consuming process. Both toxicology and efficacy studies must be completed, which may cost $500,000 or more each. Without an EPA registration, a compost cannot "legally" make disease suppression claims. For this reason, composters may not be able to gain full replacement value for their composts acting as fungal control agents. Pesticide marketing and sales are a multibillion dollar industry. Based on data provided by the GCSAA, golf courses spend between $12,000 and $57,000 per year in turf maintenance products. Many of these products could be replaced, or reduced, through the use of compost, as was factored into the topdressing example above. So maybe the composting industry could get a piece of that budget.

With so many fungicides available on the market today, controlling any number of diseases, many turf managers now evaluate the cost of turf disease control (fungicide applications) on a 1,000 ft2 per day basis. However, a huge variation in the cost of different fungicides exists, ranging anywhere from $12 to $33/acre for 14 days of control.

In order to consider the potential fungicide replacement value of compost, consider using compost to replace a moderately priced turf fungicide (such as Manicure T/O). This product costs between $2.43 and $3.64 per 1,000 ft2 per day to use, which equates to $105.85 to $158.56 per acre, for a 7 to14 day treatment period. Of course, these costs do not include the application, or reapplication, costs. Using a cost of $150 per 14 days of treatment, consider what happens if your compost product can suppress problematic fungal diseases for 14, 28, or even 56 days. Now, the replacement value of your compost is $150, $300 or $600 per acre of application.

EROSION, SEDIMENT CONTROL AND STORM WATER MANAGEMENT

Use of compost-based systems for erosion and sediment control and storm water management is gaining in acceptance, in large part because of the performance of the products installed. In the case of erosion control, for example, state Departments of Transportation and their contractors are finding that seeded compost blankets are very effective in vegetating eroded slopes — after the first installation. This is measured by the vegetative coverage. In Texas, for example, contractors do not get paid until a project has 75 percent coverage. Compost-based systems typically deliver that coverage after the first installation, while traditional products often have to be reapplied several times.

Initially, when the concept of compost blankets was introduced, it was thought that the average application should be in the range of 3-inches. Field experience has shown that the depth of blanket depends on a number of

factors, including the degree of the slope and the average amount of rainfall in a specific locale. If a project succeeds with a one-inch application, that obviously improves compost's competitiveness over hydroseeding or geotextile blankets, for example. Let's use the example of a high-end geotextile blanket that sells for $10/square yard installed, and a seeded compost blanket, which sells for $2-$3/square yard installed ($40/cy installed). Let's assume that each will perform well, stabilizing a slope. With that sort of price difference, a compost marketer has enough of a margin to subcontract out the installation, and still make a healthy profit. The point here is that when compost is sold as a replacement product, it can be sold at roughly the same price as the product being replaced. In this example, that is equal to $40/cy — significantly greater than the average price of $10-$15/cy that compost frequently is sold for. Compost marketers who stick with that average price when supplying a replacement product are actually bringing the value of the compost down, which ultimately makes it more difficult for other compost marketers to get the replacement product price. This is a critical message that needs to be spread throughout the compost industry.

Another product making significant inroads are compost filter socks, introduced by Filtrexx International. This product competes directly with silt fence (as well as with hay or straw bales, excelsior/straw rolls and filter bags). Let's say the average cost of silt fence is $2.00 to $2.50 per linear foot installed (plus removal/disposal fees). One cubic yard of compost blown into a 12-inch sock yields 27 linear feet, equating to a price of $55 to $68/cubic yard for the compost. It is commonly known, however, that silt fences often need to be repaired several times over the course of a project. Contained compost filter berms, on the other hand, when filled with the right blend of particle sizes, typically do not need replacement. (Sometimes, depending on the length of a job, built-up sediment needs to be removed in order to maintain the berm's performance.) Repairing silt fence several times raises its cost, which in turn, raises the value of a compost filter sock.

An example we have been playing with recently is related to storm water management. Typically, a real estate development needs to install a detention basin to collect storm water. Smaller detention basins are possible with use of compost, which yields more buildable lots. For example, a developer has a 200-acre parcel that requires a 10-acre pond for sediment and runoff control. Because compost helps infiltration, the developer can use compost for seeding and erosion control and increase the amount of water percolating into the footprint of the 200 acre site. As such, the resulting reduction of water reaching the sediment pond allows him to build a significantly smaller pond (e.g., 4 acres), freeing up six one-acre building lots. Here is the catch. The savings in pond construction will not pay for the added compost applications. In fact, it will not even come close. However, the six extra building lots priced at $50,000 each will clearly allow the site to utilize compost. The other costs outlined in the turf establishment and turf topdressing value chains discussed earlier might also contribute to a builder's decision of to use compost over the entire site.

WHERE TO GO FROM HERE

Aside from the examples listed within, many others exist. Consider using compost in contaminated soil remediation. For example, in Baltimore, biosolids compost was used to remediate a soil high in lead content in order to protect children from ingestion (see "Biosolids Compost Reduces Lead Bioavailability In Urban Soils," June 2003). The compost not only reduced the lead bioavailablity by 25 to 30 percent, it also allowed for a dense turf cover to be established, creating a physical barrier between the soil and the children. What would the technical and economic alternative have been to this very practical option? What would its cost have been? Many other opportunities exist for creative applications that can increase compost value — based on its replacement value.

The composting industry must ask itself — where do we go from here? Do we want compost to simply be sold as another commodity, or do we want to work to improve its value? To move forward, we have to do a better job evaluating the economics of our marketing options and potential product replacement values. We also need to consider how the industry can fund these creative types of initiatives, and how we get the larger composting industry involved in supporting these concepts. What we're considering here is a movement — how we move compost marketing to a new level. By focusing on what we replace as a purchasing option, and the value it holds in the eyes of our customers, we can effectively enter into new markets we never before considered.

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