Compost: Current Practices and Market Demand Potential in Michigan

M. Charles Gould
Extension Educator
Nutrient Management

Manure is a fact of life on a dairy farm, and there is a need to find ways to recycle it. Land application is currently the primary method farmers employ to utilize manure nutrients on the farm. However, with guidelines limiting the amount of manure Michigan farmers can apply to cropland, the question of what to do with excess manure must be addressed.

Many farmers have expressed a strong interest in exploring alternative sustainable manure treatment methods, especially composting, to help manage manure that can no longer be applied to land. A recent study aimed in part at evaluating whether market conditions might be conducive to forming a regional agricultural by-products composting facility was conducted in response to that interest. It identified landscape firms and nurseries as possible players in the compost market, but found additional research and education regarding compost use on farms is needed.

The Michigan State University Extension study was conducted in the spring of 2004. Over 1,000 respondents, made up of 276 landscape firms, 311 nurseries and 437 farmers from across Michigan, returned completed surveys. The majority expressed interest in compost to replenish soil nutrients as well as eliminate waste generated as a result of “doing business”, but expressed a need for more information about compost.

Compost Demand Potential

The survey indicated the cost of green waste disposal by Michigan landscapers and nurseries is approximately $30 million annually. This is true even though landscapers generate nearly one million cubic yards of compost using their own green waste, while nurseries generate 151,000 cubic yards for a total of about 1.1 million cubic yards of compost production within these two industries.

Two-thirds of landscapers surveyed indicated interest in purchasing compost, while interest was reflected by about half of nurseries and a slightly lower proportion of farmers. Total demand potential among these three groups is estimated at $200 million annually or 17 million cubic yards. Of this, nearly 90% of the demand potential is in the agriculture sector.

Landscape Firms

About half of Michigan’s 9,000 landscape firms generate

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green waste in their operations at an average of approximately 700 cubic yards annually, the survey indicated. The cost of disposal averages approximately $6,100 per firm. Just over half of green waste generators currently make their own compost and they produce an average of approximately 380 cubic yards annually.

More than one-third of landscapers are compost users and their average annual usage is approximately 250 cubic yards. The majority prefer to purchase their compost in bulk, rather than bag. While spring is the single most popular time of year for compost use, compost also is used extensively in other seasons.

The most popular usage applications of compost among landscapers are as a soil amendment and as a mulch on new and existing installations of planter beds and around trees. Use of compost as a topsoil component to improve soil health is another popular application. More than one-third of landscapers intend to increase their use of compost.

Over 60% of landscapers indicated interest in using compost purchased from an external source. The average price they are willing to pay is $11.60 per cubic yard.

Landscapers that produce their own compost believe it to be of satisfactory quality. On average, landscapers have a higher potential demand than they produce each year. It is important to note, however, that landscapers fear quality variances if they purchase from external sources. Landscapers believe that producing compost for sale would not be economical for them.

Nursery Firms
Nearly 60% of Michigan’s nurseries generate green waste, at an average of about 364 cubic yards annually. Cost of disposal averages about $2,245 per firm. About half of the green waste is composted on site.

Three-quarters of nurseries are familiar with compost and about half currently purchase pre-mixed media. The most popular elements of the mix are hardwood, field soil, peat and pine bark. The majority of nurseries believe that producing compost for sale is not economical. They would consider using compost if the economic benefits could be demonstrated.

Nearly half of nursery firms indicate interest in using purchased compost product. The average price they are willing to pay is $12.17 per cubic yard. One in five say they expect to increase their use of compost.

Agriculture
Thirteen percent of Michigan’s 9,200 larger farms (those represented in this study) currently are compost users. Two-thirds purchase their compost in bulk.

The three most important product specifications are cost and quality relationship, pH and nutrient availability.

On average, farmers are willing to pay $12.10 per cubic yard for purchased compost. Price ranks third as an obstacle, behind availability and product knowledge factors.

Approximately four in ten farmers estimate they would use an average of 10.5 cubic yards of compost per acre. Nearly one in five said they intend to increase their use of compost.

Farmers believe that producing compost for sale is not economical for them but they would consider using more compost if the economic benefits could be demonstrated. They do not know much about composting, including the economic issues. They do not consider compost to be their primary nutrient source.

Discussion and Conclusions
This study was conducted to inform Michigan farmers about issues associated with marketing compost and to investigate whether market conditions might be conducive to forming a regional agriculture by-products composting facility. The results estimate potential market demand for compost to be at least $200 million in the State of Michigan.

Disposal of green waste is a $30 million burden annually for landscapers and nurseries. While some operators in these two groups make and use their own compost, it is evident that substantial opportunity for a business solution exists. Two-thirds of landscapers want to use compost but only one in four produce the material on their own and only about four in ten are current users. This is a substantial gap and reflects favorable demand conditions.

In terms of scale, agriculture owns by far the largest piece of the demand pie—nearly 90%. Nearly half of large-scale farmers want to use compost. Landscapers account for most of the rest of the demand potential, with the remainder of the demand expected from nurseries.

Indications are that significant numbers of operators would like to increase their use of compost. This desire was reported by 36% of landscapers, 20% of nurseries and 17% of farmers. Noteworthy obstacles to increased use appear to be linked to a lack of knowledge about the science and the economics of compost production and some concerns about product quality and consistency.

Can compost be produced for a selling price of $12 per cubic yard? The three respondent groups in this study indicated a willingness to pay approximately this amount (their responses varied by less than 5% from each other). However, the current selling price for compost begins at $15 per cubic yard in western Michigan.

As important as price is, the most productive response is to find ways to add value to justify the desired pricing rather than reducing the price. Many marketers apparently fail to do this, perhaps lacking the courage to go with their rational price decision, lacking the energy to search for value-added options and opportunities, or taking the path of least resistance by lowering the price.