



# Michigan Compost Markets

A project  
to create  
composting  
opportunities

## Nurseries and Greenhouses

**General description:** An increasing number of nurseries and greenhouse growers use compost as a component in their potting soil blends. These companies have discovered that compost, like peat, provides the organic matter necessary to raise water holding capacity, improve structure and reduce bulk density in potting and field soils. In addition, properly made compost has natural disease suppressive qualities.

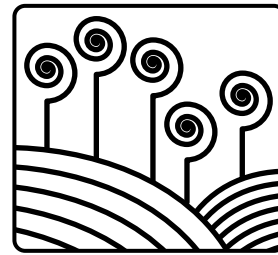
Nurseries and greenhouses use large quantities of organic material for growing media or field soil. Because they produce and maintain high-value crops, plant losses from using compost that does not satisfy minimum standards cannot be tolerated. Soil blends are carefully formulated to match the sensitivities of each type of plant. For these reasons, compost producers interested in reaching this market sector need to produce consistently high quality compost that achieves reliable and predictable results.

Another factor affecting this market sector includes the decreased availability of reed-sedge peat in Michigan. As availability decreases, the price for reed-sedge peat is expected to rise, making compost a more desirable alternative.

**Market sector capacity:** Estimated annual sales for this sector throughout Michigan average \$711 million for the sale of nursery stock (Michigan Nursery Landscape Association). The annual amount of money spent on soil products by nurseries is unknown, however, national sales estimates indicate that 24% of all peat product sales are used as a potting soil ingredient and 7% is sold directly to nurseries.

### **Advantages of compost use in this market sector:**

Most compost contains all essential nutrients, reducing the need to add trace elements to a potting mix. Because its mineralization rate at 72°F is near 10 percent, compost releases all of its nutrients slowly. A single application of compost can provide all essential trace elements needs of a plant for many years.



## Markets Fact Sheet Series

### Compost Markets Assessment

**Major markets for composted yard clippings include landscapers, nurseries, sports turf, topsoil blenders, home gardeners, agriculture, and emerging specialty uses. Users of traditional soil products are discovering the benefits of compost now that Michigan's ban on yard clippings landfilling is making quality compost more readily available. This fact sheet series explores the unique concerns, practices and potential of each market.**

**Market segment description:** Nurseries and greenhouses engage in a range of activities suitable for compost use, including growing plants (wholesale or retail), landscaping services, and retail sales of plants and soil products. Compost can be used as a component of potting soils or blended topsoil, and to "heal in" tree seedlings.

**Compost, like peat, provides the organic matter necessary to raise water holding capacity, improve structure and reduce bulk density in potting and field soils.**

Compost increases organic matter content in the growing media, accelerates plant growth, inhibits plant disease pathogens in the potting mix, and maintains fertility in the soil longer than other materials such as sphagnum peat moss. Nursery growers who use compost state that use of fungicides, fertilizer and water decrease when compost is a component of the growing medium.

**Quality requirements:** Potting soil characteristics vary depending on the type of vegetation being planted and its growth requirements. Soluble salts, pH, water holding capacity, bulk density and porosity are of particular importance when determining the effects of compost in a mix. Compost, in general, has higher soluble salts and pH than sphagnum or reed-sedge peat. These characteristics are especially important when vegetation sensitive to these parameters are being grown. Container growers value maturity and consistency in compost, disease suppressive capabilities. Compost for potting mixes should not be overly screened to a fine particle size, because the compost fines can migrate to the bottom of the pot and cause drainage problems. The potting mix for container grown plants must be stable but porous enough for water to flow through.

**Challenges to overcome:** Barriers to increased compost use in the nursery market include consistency of the finished growing medium and the attitudes of users about compost. Additional concerns noted by nurseries include herbicide residues, disease organisms, insects or foreign matter (plastic). Education of potential users will improve the knowledge base of consumers and help to limit

## Application information

### Healing in additive:

One Michigan nursery has reported success by mixing yard clippings compost with pine and hardwood bark to form a "healing in" mixture that is used with seedlings. This nursery also spreads compost with a manure spreader to a depth of 6 inches.

### Potting mixture:

A large nursery in California creates its own compost with trimmings from their 500 acres of container plants. They utilize a mix that contains 15% compost and they are experimenting with compost's ability to suppress plant diseases. This nursery is especially interested in disease suppression due to the desire to limit use of methyl bromine, an ozone depleting chemical.

## Quality requirements for the Nursery Market

<b>For potting soil mixes:</b>	Compost producers must be able to ensure that their product will promote growth of grass and other plants. Successful field trials that document plant response will be important to adoption of compost by landscapers.
<b>Do not overly screen</b>	
<b>Provide consistent texture and uniform appearance</b>	
<b>Make sure compost is mature and stable</b>	
<b>Few or zero contaminants (plastics, glass, etc)</b>	

the perception of compost as merely a waste product.

Research has shown that most common herbicides are broken down by the composting process into safer compounds. In addition, disease suppression has been demonstrated with the use of properly made compost. This occurs because disease organisms must compete with organisms in the balanced microbial community that exists in compost. Compost site operators are encouraged to test their finished product and make adjustments to their composting process as needed to address end-user needs.

**Typical dollar value for blended soil products in this sector:** A survey completed as part of the Michigan Compost Markets Project found the average price for custom-blended growing media is \$33.45 per cubic yard, although prices range from \$10 to \$81 per cubic yard. Differences in price are based on the feedstock materials used and whether the material is custom blended for a single nursery. Topsoil purchased by nurseries averages \$7.75 per cubic yard, sphagnum peat moss averages \$38.25 per cubic yard and reed-sedge peat averages \$13.75 per cubic yard.

**Breaking into this market sector:** Composters have been successful in developing clients in the nursery/greenhouse market through education, demonstration plots, and providing research results, analytical data and small amounts finished compost as samples to prospective buyers so that they can observe the effects of compost application on plant growth firsthand.

## Project Partners

**Resource Recycling Systems, Inc. (RRS)**

**Center for Microbial Ecology, Michigan State University**

**Southeast Oakland County Resource Recovery Authority (SOCRRA)**

For information call:  
RRS at 734-996-1361

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