



Michigan Compost Markets

A project
to create
composting
opportunities

New Uses for Compost

Finding New Uses for Compost

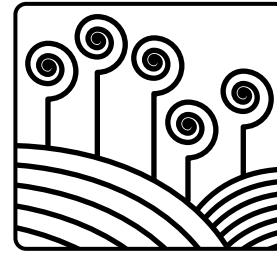
This market sector encompasses compost applications that do not fit neatly into other categories, as well as valuable uses not yet dreamed up by innovators, documented by researchers, or tested in the economic marketplace by consumers. The New Use category will continue to expand as possibilities for compost utilization develop.

Quality requirements

Specialty applications often require that composters meet strict processing and product specifications. As the uses of compost in this market sector are highly variable, the characteristics necessary for each application also vary widely. New uses often allow little leeway for product failure. Due to the proprietary nature of some uses, a compost producer would need to be under contract with a distributor in order to obtain a description of the process and product specifications. For other applications which do not involve a patented system or product, the compost producer may work directly with contractors to customize compost product to meet the consumer's objectives. Otherwise, a user may need to make compost themselves, to meet their specifications.

Challenges to overcome

There is often a lack of formal research or field trials to demonstrate the methods and effectiveness of new compost applications. A compost producer who wishes to create innovative markets must be prepared to investigate and experiment with industry representatives and possibly to finance research to develop new applications. Reproducibility of results is extremely important when developing a new use for a material such as compost. Information about the benefits of substituting compost for an existing material must then be communicated to potential consumers.



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:

Compost is already known to many in the green industries and agriculture as an excellent soil amendment that improves plant growth. Research and innovative thinking are revealing new uses and benefits through compost. A few of these are described below.

Regulations and industry practices may also impede development of markets. For example, erosion control practices established by county ordinances may not mention the use of compost.

Compost uses in this market sector:

- Storm water runoff filtration.
- Control of plant disease pathogens.
- Erosion control on steep banks.
- Muck layer for wetlands restoration.
- Rehabilitation of infertile brownfields.
- Biofilter material for odor control.

Breaking into this market sector

Compost producers develop "new uses" through trial and error, working with end-user groups such as greenhouse growers and others trying to solve a problem. Composters themselves may find new and inventive ways of utilizing compost, based on their understanding of the unique properties of compost.

Application information

Stormwater runoff

Use of compost to control storm water runoff utilizes a mature, low nutrient compost as a filtering media which is placed in a catch basin for storm water runoff to pass through it. After passing through the compost filter, runoff water has been demonstrated to be lower in sediments, total suspended solids, oil and grease, heavy metals, herbicides, pesticides and fuel from accidental spills. When the adsorptive capacity of the compost becomes spent, it is replaced with new compost. Generally, disposal of the spent compost would at most require placement in a solid waste landfill.

Disease Suppression

Use of composted organic materials to suppress plant disease has been demonstrated by Dr. Harry Hoitink and researchers at Ohio State University who have studied this trait for a number of years. The Clean Washington Center has been studying the effects of adding inoculants to composts to suppress specific disease organisms. Nursery growers have found that use of fungicides can decrease when compost is a component of the growing medium.

Success with disease suppression is observed to be greatest when all of the factors involved in compost production are defined and controlled. The greatest disease suppressive capacity is obtained from specific feedstock materials, matured to a specific point where the biological mix most conducive to disease suppression is present.

Suppression of root rot has been documented to be greater in mature compost than in dark peat or other stabilized organic material. This is due to the fact that peat is composed of material that is resistant to decomposition. Easily decomposed materials in peat were utilized by microbes in the distant past. However, when compost is properly prepared there is still a large store of material that can be decomposed by a large variety of microbes, thereby supporting a diverse microbial population capable of suppressing disease organisms.

Wetlands Restoration

Compost has been used successfully as a medium for rebuilding the muck layer in wetland soils strata. This is effective for both rehabilitation and artificial construction of wetlands. Mature compost appears to mimic the organic makeup of the muck and promote healthy growth of native wetland species.

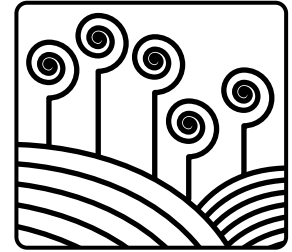
"Brownfield" Rehabilitation

Finished compost provides many of the soil nutrients that can provide new opportunity for healthy plant growth on contaminated urban property. Increased plant growth and biodiversity helps create a healthier eco-system for humans and other animals.

Erosion Control

Use of compost to inhibit erosion has been shown in several trials carried out by CSF Treatment Systems of Oregon. The simple application of compost on roadside cuts without vegetation markedly reduced soil losses by erosion, both by "holding" the soil and stimulating rapid plant growth.

Traverse City municipal landscape crews previously applied topsoil on slopes to establish turf for erosion control. However, this system was not satisfactory because the topsoil was often of poor quality. After several years of experimentation, the City found compost serves as a better seedbed than topsoil. It is less likely to erode from a slope when it rains, and also holds water better, thus promoting faster seedling germination. After applying 3 to 4 inches of compost on bare soil to seed perennial rye, germination generally occurs within 7-14 days. They attribute success to the increased water holding ability of compost.



Markets

Project Partners

Resource Recycling Systems, Inc. (RRS)

Center for Microbial Ecology, Michigan State University

Southeast Oakland County Resource Recovery Authority (SOCRRRA)

For information call:
RRS at 734-996-1361

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