

# Agricultural Engineering

Agricultural Engineering Department

Michigan State University

Newsletter

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## **Attention on Composting Grows So Does the Confusion on Rules and Regulations**

The Department of Agricultural Engineering is currently leading an effort to develop a comprehensive composting program plan for the MSU campus that addresses organic material management as well as growing research and educational outreach needs. Because composting is inherently multi disciplinary, the first step was to bring together faculty and staff from several MSU departments and divisions. Since December, 2000, two meetings have been held and input has been provided from twenty different campus departments and divisions.

Meeting campus manure management needs is an immediate priority in consideration of a composting program. Establishing a centralized composting facility that would serve all the MSU campus livestock facilities has strong interest. Several options and methods are currently being investigated in order to develop a facility(s) that could best meet the needs of manure management while also providing opportunities for research and educational outreach.

Compost made on campus for use in the maintenance of the many campus landscape and flowerbeds, trees, and lawns have interest. Compost has been demonstrated to provide erosion control along riverbanks and on steep slopes like those found along the Red Cedar River. In short, a comprehensive, campus-wide composting program could provide an excellent working model of sustainable management not only for MSU's campus livestock facilities, but also for the campus as a whole.

Statewide, there are many issues relating to the agricultural production and use of compost. People are unaware of the opportunities and limitations and are often confused by what they hear. The Right to Farm Act, which protects Michigan farmers from many nuisance complaints, illustrates one dilemma. Composting is protected if all the materials composted are generated on the farm. If any materials are received from off the farm, such as leaves from neighbors for instance, the compost operation is no longer protected under the Right to Farm Act. This is significant when considering most medium to large-scale livestock operations do not generate enough "carbon" sources on the farm that are needed to mix with nitrogen-rich manure. Carbon sources include straw, leaves, wood shavings, saw dust, etc.

Proper compost mix ratios are based on achieving an initial carbon to nitrogen ratio of 25:1 to 30:1 and initial moisture content of 50-65% (wet weight basis). Composting straight manure can lead to many quality-related problems and increased demands on overall management. More importantly, composting straight manure can produce offensive odors that have been documented to travel for several miles and are certainly to cause complaints from neighboring residents and communities. Should this stop a farmer from thinking of composting? No, but it requires a farmer to do a little bit more homework.

There are some examples of where farmers have worked out arrangements with a local government that allows the farm to receive materials from off the farm for composting. In these cases, the farms are actually providing a service by giving residents a place to take leaves without having to pay for removal, although some farms do charge a tipping fee. There are examples where such cooperation has proven to be a very positive way to link the farm with the surrounding community. There is at least one case where the farm composting operation has gone beyond the scope of just meeting manure management needs, and has done so with the cooperation of local government and residents every step of the way. However, as more and more residential neighborhoods and commercial businesses are built closer to the farm, maintaining that cooperation becomes almost a daily and daunting task.

Where conflicts have arisen, a farmer's typical response has been to increase their operation just beyond meeting the needs of the original intent of managing manure and has done so without having worked closely with the local government and neighboring community. As the material received increases, so does the amount of traffic, especially of larger trucks. The complaints are not about odors, but traffic. These types of composting operations are where lack of protection under the Right to Farm Act becomes magnified and there are cases where the conflict has grown into prolonged court battles.

As livestock operators are under growing pressure to develop manure and nutrient management plans, those considering composting need to be aware of such issues. Again, there are cases where protection under the Right to Farm Act is not an issue because the farmers were very proactive and worked and communicated closely with the local government and nearby communities before accepting one ounce of leaves or other carbon materials from off the farm.

So what has this to do with a campus-wide composting program? The ongoing campus effort is tied to many activities that Michigan State University has been involved in with both the Michigan Department of Agriculture and Michigan Department of Environmental Quality. There are additional issues relating to the MDEQ's role, primarily with any industrial wastes that could potentially be used as a compost feedstock. This is just one case that exemplifies how MSU needs to look at composting not just from a manure management perspective, but also from a very multidisciplinary and multi-use perspective. If you have any questions relating to either the campus composting program or issues relating to on-farm composting, please call Andrew Fogiel at 517-353-1908, or e-mail at [fogielan@msu.edu](mailto:fogielan@msu.edu).