Introduction

Monica Ozores-Hampton

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Most soils in Florida are sandy and low in organic matter concentration. They have low cation-exchange and water-holding capacity and low native fertility (Ozores-Hampton et al., 1998). Native plants survive on a thin but dynamic layer of organic matter on the soil surface. The addition of organic matter to crop production soils tends to enhance their overall ability to retain nutrients and water (Ozores-Hampton et al., 1998). However, conventional commercial vegetable, fruit, and ornamental growers rarely add organic matter, since the use of concentrated, inexpensive, and readily available synthesized fertilizers results in high yields with maximum short-term profits.

In areas of high population, there is a wide range of waste materials becoming available on a large scale in Florida, such as municipal solid waste (MSW); yard trimmings (YT); food wastes from restaurants, grocery stores, and institutions; wood wastes from construction and/or demolition; wastewater from water treatment plants; and biosolids (BS) or sewage sludge. Agriculture produces other organic wastes: poultry, dairy, horse, feedlot, and swine manures; wastes from food processing plants; spoiled feeds; and harvest wastes that could be reused for land application, processed as mulch products, or composted instead of being disposed in landfills or incinerated (Ozores-Hampton and Obreza, 1999).

In 1999, 26.2 million tons (23.8×10^6 t) of solid waste were produced in Florida [about 9.5 lb (4.3 kg) daily per person]. If composted, this solid waste would yield 15.7 million tons (14.2×10^6 t) of compost per year [12 million tons (10.9×10^6 t) of MSW, 3 million tons (2.7×10^6 t) of YT, 230,318 tons (208,944 t) of dry BS, and 0.49 million tons (0.44×10^6 t) of animal manure] (Glenn, 1999; Ozores-Hampton et al., 1999). The annual production of compost made from Florida's solid waste easily could be assimilated by the Florida horticultural industry (Ozores-Hampton et al., 1998). In Florida, there are 45 operating composting facilities, of which there are 9 BS, 1 MSW, and 35 YT composting facilities (Glenn, 1998, 1999). Since 1992, YT has not been accepted in landfills, so composting these materials has become an attractive alternative.

The largest potential compost user is the agricultural industry (Parr and Hornick, 1992), and the particularly high per acre value of horticultural crops encourages the addition of soil amendments such as compost. Florida is a major production center for horticultural products, with over 400,000 acres (161,880

University of Florida, Southwest Florida Research and Education Center, 2686 State Road 29 North, Immokalee, FL 34142-9515; to whom reprint requests should be addressed.

ha) of vegetables and 700,000 acres (283,290 ha) of citrus (*Citrus* sp.) under cultivation each year (Florida Agricultural Statistics Services, 1998), as well as many thousands of large and small nurseries and potted-plant operations. This high concentration of horticultural crops close to the centers of population and animal production creates an ideal situation for encouraging development of a sustainable system using organic waste or secondary resource materials in crop production. New regulations and inexpensive technology for processing of waste materials have made compost materials available to the horticulture community (Ozores-Hampton et al., 1999).

From the urban viewpoint, land application, composting, or mulch production represents safe disposal methods for large amounts of waste materials produced every year, but there are few official recommendations for application of organic material in Florida horticulture. Organic materials use for horticultural crops is a dynamic system, which makes recommendations more complicated than standard fertilizer use. This lack of knowledge by agricultural professionals results in failure to use organic materials or mistakes and problems with compost production and use, such as the use of immature compost, overapplication of biosolids, or food safety issues (Ozores-Hampton et al., 1998, 1999).

Potential applications of these materials to horticultural cropping systems are soil amendments for vegetables, fruit and nursery trees, and sod; a mulch for landscapes or commercial production; or potting media. Benefits can include decreased evapotranspiration, soilborne disease suppression, physical and biological weed control, and decreased need to dispose of polyethylene mulch (Ozores-Hampton, 1998; Ozores-Hampton and Obreza, 1998, 1999; Ozores-Hampton et al., 1998, 1999; Roe et al., 1992).

The need to develop sustainable alternative production systems in horticultural crop production is an important goal. Organic materials made from local wastes can play a significant role, closing the loop in recycling these organic materials.

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