

**Paul C. And Edna H. Warner Endowment Fund for Sustainable Agriculture
Report Form**

Using Leaf Humus as an Alternative Planting Material at the East Coit Urban Farm Project

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Summary:

The objective of this project was to determine the feasibility of using leaf humus obtained from the City of East Cleveland as an alternative planting media for the East Coit Urban Farm Project. Results indicate that leaf humus can be used successfully used as an alternative to top soil for production of swiss chard under certain conditions.

What was done:

The goal of this experiment was test the effect of varying levels of partially decomposed leaf humus in a growing media with respect to the production of swiss chard. On June 29, 2012, swiss chard 'Ruby' was direct seeded into raised beds with the following treatments:

1. 100% bed soil
2. 75% bed soil and 25% leaf humus
3. 50% bed soil and 50 % leaf humus
4. 100% leaf humus

Three rows were planted in each bed. The middle row was considered the experimental row and data was collected from the middle seven plants. The plants in the experimental row were thinned to 12" apart. 5-3-3 Plantone fertilizer was side dressed three weeks after planting. In between rows newspaper, topped with straw was put down to control weeds. Once the chard had reached a marketable size, marketable leaves were harvested, weighed and recorded. Unmarketable leaves were discarded.

Results:

The 100% leaf humus treatment produced significantly more chard by weight than any of the other treatments. In the 100% bed soil treatment germination was faster and much more uniform than any other of the treatments. The chard leaf from the 100% leaf humus took much longer to reach marketable size than the other treatments. Insect and disease activity were negligible.

There are a number of factors which may have affected the outcome. At the time of planting, temperatures were also unseasonably high and conditions very dry, leading to difficulties in plant establishment. There was dramatic variability in fragment size of the leaf humus which could have also contributed to water holding capacity issues and nutrient availability.

Recommendations would be to transplant rather than to direct seed, to prepare the planting beds the fall prior to planting and, although this may be labor intensive, shred the leaf humus to a uniform size. Also the possibility of mixing the leaf humus with manure and topsoil is a topic worthy of future study.

What was learned:

Urban farmers face constrains that traditional farmers do not particularly with respect to cost of inputs on the farm. The use of municipal leaf collections as a source of leaf humus can be economic and environmentally conscience alternative for urban farmers to produce growing media and can assist municipalities to dispose of a waste product.

Farmer must consider space constraints for storage and preparation of the leaf humus and factor the opportunity cost for preparing the leaf humus in order to determine the best fit for this practice for their farm operation.