The Pisticci Farm Project

The Pisticci Farm Project is a project of the Upper Manhattan restaurant Pisticci. The project has three elements:

- *engaging* the **restaurant** staff and patrons
- creating *zero waste* through **composting** within the city
- *producing* high-quality vegetables for Pisticci on the **multi-site farm**

This document outlines the technologies and processes involved in the composting and farming elements of the project.

Compost

The discarded organic material from Pisticci restaurant are separated at source (ie. the kitchen, bar, etc.) from other 'waste'. These materials are composted using an oxygenated hot composting method to ensure rapid decomposition, no unpleasant odours and the creation of a high quality fertiliser and biological innoculum for the soil at the farm.

Aerated Static Pile (ASP) Composting

Pisticci is using the aerated static pile (ASP) method of composting as developed by Peter Moon of O2 Compost.

The Pisticci ASP system using includes three enclosed boxes which are bottem-fed pressurised air through *100 mm* (*4 in*) from a blower mounted above the bins.

Organic Material Collection Process

- Organic materials are collected in white plastic bags by the restaurant staff and deposited in wheelie-bins next to the compost bins.

Composting Processes Establishing a new Pile

1. Ensure that all pipes in the manifold in the bottom of the bin are present and properly fitted together.
2. Add woodchips to just cover the pipes and thoroughly moisten the wood-chips.
3. Open the valve above the bin to ensure that air will flow into the pile while composting proceeds.

Organic materials may now be added.

Ongoing Addition of Organic Materials

1. Use the composting fork to mix through any previously added materials and add water from the hose to bring the moisture levels up to approximately 50% moisture.
2. Empty two or three white bags of organic materials into the bin currently in use. Attempt to mix bags which are mostly vegetable waste (high nitrogen materials) and bags which are mostly napkins / dry 'high carbon' materials.
3. Mix these materials together in the bin using the composting fork.
4. Use the bucket to carry several buckets of woodchips from the woodchip storge bin to the compost bin to cover the material from the bags.
5. Mix the woodchips into the other materials using the composting fork.
6. Allow the materials to sit in the bin until the next addition to absorb moisture before adding any additional water (see point 1 above).

When a Bin is Full

1. When a bin is full, make sure the moisture levels are appropriate (ie. 50% moisture), add a layer of woodchip over the top layer and cover with geotextile fabric / weed matting.
2. ensure the valve for the air is in the fully open position.
3. Leave to mature for as long as possible before the compost is taken up to the farm
4. Compost will be taken to the farm when two bins are full and one bin is one quarter to half-way full.

Transporting Compost to the Farm

When two bins are full and one bin is one quarter to half-way full, the most mature pile should be transported to the farm.

1. Position the truck somewhere near to the front of the restaurant which will allow for wheelbarrow access via the gate at the side of the building.
2. Lift the front panel of the bin to be removed so the the bolts which secure it are lifted from their holes and set the front panel aside.
3. Using a wheelbarrow, transport the compost to the truck until the bin is empty.
4. Clean all areas and close the bin by returning the front panel to its place.

System Specifications

- **The Bins** are 5' long, 4' high and 3' wide to fit within the small alleyway behind the restaurant.
- **The Blower**
- **The Timer** is set to be on for 2 minutes every 30 minutes to ensure the piles remain oxygenated.

Farm

The Pisticci Farm Project is a multi-site micro farm. At the time of writing the farm consists of two sites:

- 43 Old Post Rd South, Croton-on-Hudson, NY (OPRS); and
- 716 Kitchawan Rd, Ossining, NY (KITCH).

The **Old Post Rd South** site was developed and farmed in 2015. The **Kitchawan** site was secured at the end of 2015 and will be developed and farmed in addition to the OPRS site in 2016.

Old Post Rd South

The Old Post Rd South site is the flagship site of the Pisticci Farm Project. It consists of indoor and outdoor growing space. There are two large old glass greenhouses which have been restored and developed for all sesason production of vegetables. The 2015 growing season was used for diverse crop production with a focus on fast growing, high value crops, variety trials and winter greens production. In 2016, this site will be used primarily for all season greens production and greenhouse production of tomatoes, peppers, eggplant and cucumbers.

The Outdoor Growing Area The outdoor growing area consists of 27 beds of varying sizes in three blocks (Lower, Middle, Top). The beds are all 30 inches wide with 18 inch paths between them and vary in size from 10 to 40 feet with a total of 620 linear feet of bed space (1550 ft2).

The Greenhouses In 2015, the indoor space consisted of 12 beds across two greenhouses. The beds ranged in size from 18 to 60 feet with a total of 356 linear feet of bed space (890 ft2). In early 2016, these indoor beds were delineated with 6" x 2" boards to create a total of 14 beds 29 inches wide with 11 inch intermediate paths. This new configuration has a total of XXX bed feet (XXX 1550 ft2).

Hydronic Heating is used in the greenhouses to allow for all season production. The original soil is separated from the imported soil and compost by 2 inches of foam insulation. PEX tubing runs over the top of the insulation at 12 inch

spacing. The PEX tubing is covered with between 12 and 18 inches of topsoil mixed with compost. This soil is kept at a minimum of 50°F (10°C) to allow for ongoing plant growth during the cooler month.

Kitchawan

Kitchawan Farm is a diversified working farm with a focus on rough housing of horses. The Pisticci Farm project leases a small area for vegetable production. In Spring of 2016, this area will be developed into sets of 30 inch wide beds. This site will be used for crops n

Fertility

Soil is at the heart of any vegetable growing system with integrity. The Pisticci Farm project utilises a number of strategies for developing and maintaining a healthy soil for the production of healthy nutritios plants. These include:

- composting
- soil testing and ammending for mineral balance
- biological innocula / biofertiliser
- minimal tillage
- fertigation

Soil Testing and Ammending for Mineral Balance

Biological Innocula

Fertigation

Suppliers

Supplier	Description
Aloha Medicinals http://www.alohamedicinals.com/	innoculated grain, mushroom gro
Arbico Organics http://www.arbico-organics.com/	EM-1
Central Irrigation (Elmsford) http://www.centralirrigationsupply.com/	general irrigation supplies
Compostwerks http://www.compostwerks.com/	soil ammendments, biofertiliser ir
Farmtek http://www.farmtek.com/	general equipment

Supplier	Description
Growers Supply http://www.growerssupply.com/	general equipment
Johnny's Selected Seeds http://www.johnnyseeds.com/	seed, tools
Logan Labs	soil testing
Nolts Produce http://www.noltsproducesupplies.net/	row cover, irrigation supplies, too
O2 Compost http://www.o2compost.com/	composting support

Glossary

50% moisture - Compost or composting materials with approximately 50% moisture will make your hand moist when squeezed of produce a drop or two of water.

high carbon materials - organic materials such as paper, napkins, cardboard, woodships, straw etc. which have relatively much more elemental carbon (C) than elemental nitrogen (N).

high nitrogen materials - organic materials such as manure, vegetable scraps, grass clippings etc. which have high levels of elemental nitrogen (N) relative to elemental carbon (C).