



## Rotations, Fertility, and Crops Grown

Under Organic Management



- Acres in 2009 35 of which 4+ in high tunnels
- 4 large and 2 small farmers markets in NYC
- 1300 CSA members
- Restaurants
- 2010 maybe 50 acres depends on marketing and staffing



### Rotations

- High Tunnels:
  - We try to do a 2-3 year rotation out of the family when possible.
  - We try to do Fava beans or other beans in the high tunnels
  - High value RE so hard to cover crop or not use for a season



### Crops Rotated in High Tunnels

- Beans, Cauliflower/Greens-Cucumbers-Tomatoes or Family
- Chickens, Cucurbits-Cauliflower/Greens-Tomatoes or Family
- Basically we look at the previous three years and try not to plant same or similar demand type crops.
- Does not always work because we are heavy on solanaceous crops.
- We have some minor crops such as Artichokes in rotations



### Rotations Outside

- Crops
  - Tomatoes (Heirloom, Cherry, F1), Potatoes, Brassicas, Lettuce, Greens (Kales, Collards, Mizuna, Swiss Chards, Arugula, Mustard, and more), Jerusalem Artichoke, Peppers, Eggplants, Corn, Onions, Garlic, Leeks, Beans (many colors and varieties), Okra, Sweet Potatoes, Husk Cherries, Herbs, Edible Flowers, & more
  - Use the same 3 year rule of thumb.



### Tools in High Tunnels & Fields


- Perfecta Cultivator
- Home made 6 shank Chisel Plow
- Kuhn Power Harrow
- 3 Bottom Plow (After Chickens)
- A lot of guys with Egyptian hoes
- Bed maker/ plastic layer
- Manure Spreader



- Fertility
  - Cow Compost
  - Chicken Compost 5-4-3
  - Chilean Nitrate 16-0-0
  - Phosphorus 1-24-3
  - Potassium 0-0-50 and 0-0-25
  - Micro Nutrients Solubor, Fe, Mg, Ca, Mn, Kelp/Fish, Compost Tea



- Fertility continued
  - Base: Cow Compost, N (Chicken Compost 5-4-3), P (1-24-3), K (0-0-50)
  - High Tunnels 1.5 X Cornell Recommends with modifications (N in particular)
  - Outside Cornell Recommends
  - It is difficult to put P down in soluble form so most of it is in base.
  - Fertigation will depend on time of year, growth stage, weather factors, disease
  - Cover Crops Fava or Broad Bean, Clover and chickens



- Beds & Transplants
  - We like to transplant everything where possible
  - We use 6' and 4' bed system mainly
  - Last year we rented new ground and looking to rent more in 2010. (Anyone know a good psychiatrist?)



- Bugs and Disease (aaaaaah)
- Major Pests: Cucumber Beetles, Late Blight, Botrytis, DEER
- Minor Pests: Squash Bugs, Flea Beetles, CPB, Cabbage Loopers, Aphids, slugs
- no major problems in 2008
- 2009 LETS SEE WHERE DO I BEGIN....
  - PM, Fusarium, Late Blight, Brown Rot..... no DM however.



- Disease & Pest Control
- 1<sup>st</sup> line of defense
  - Rotations, Rotations, Rotations,.....
  - Prevention via disease and pest tolerance/resistance if possible
  - Fertility, water, stress management
  - Planting schedule
  - Row covers, Root or Plant Shield, EM, Surround, Exclusion, and similar strategies



- Disease & Pest Controls Continued
  - Big guns
    - Entrust, Copper, Pyganic, Neem & Karanga, Dipel, soaps and oils, squish, squeeze, and pop
    - Know your pests, have a direct line to the Ted, Sanjun, and Jim of the world
    - Many times you have a day or less to react so be vigilant and proactive