

Site Selection.

A one acre plot at West Haven Farm in Ithaca, New York was selected to conduct a two comparison test side by side. Half acre for each plot to compare the economic & soil health Implications of transitioning to no-till on an organic mixed vegetable Farm in the Northeast U.S.

Total are:

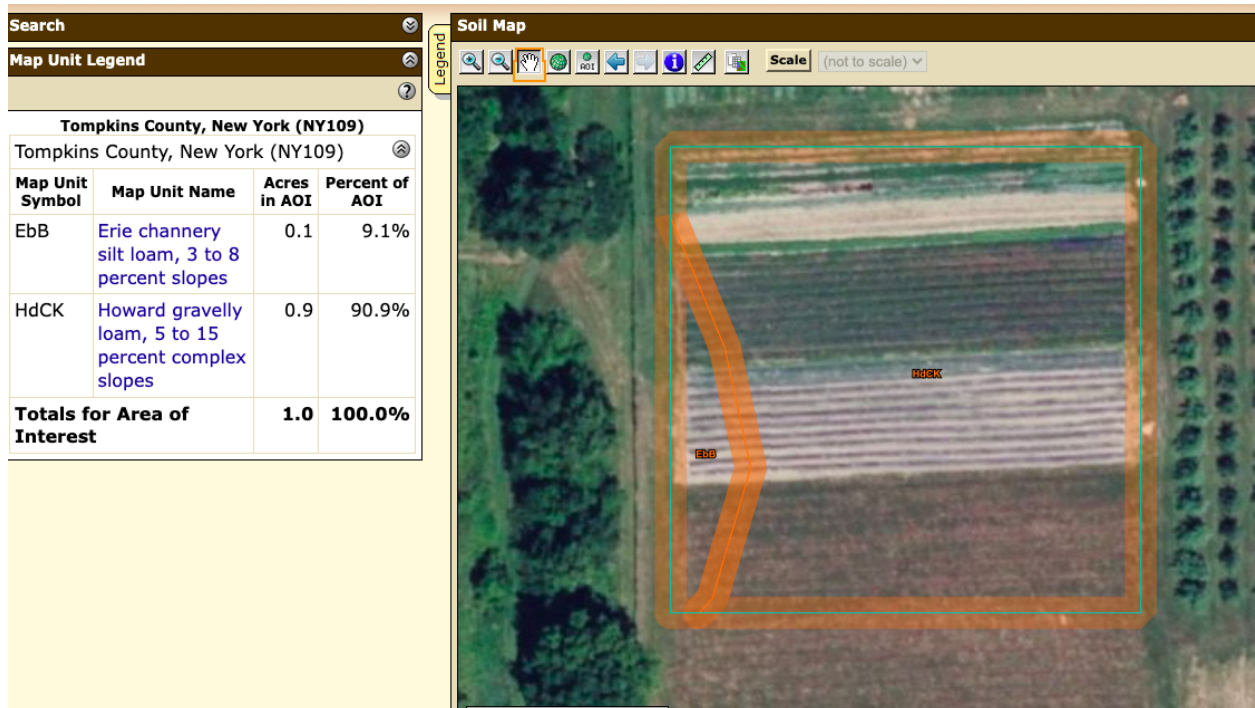
90.9%

9.1%

Soil Type:

Howard gravelly loam, 5 to 15 percent slopes.

Erie channery silt loam, 3 to 8 percent slopes.



Tools and Material Used

1. **Conventional plot ½ acre.** using standard common practices and tools in small-midsize farming operations in the northeast U.S for organic, mixed vegetable production such as;
Tools used:

- 70hp Kubota Tractors,
- Allis Chambers G with cultivator.
- Mill creek manure spreader, Model 125
- Nolt's subsoilers
- Woods 72" Rototiller
- Nolt's 5ft plastic mulch layer.
- Nolt's Transplanter, waterwheel.
- Jang JP-1, Push Seeder (single row).
- Ferguson mechanical cultivators
- Woods 72" harrow disc.
- SUN-MAR, Flail mower 72"
- King, 3 row filed sprayer Sprayer.
- Varius stirrup hoes.
- Silage tarps 50' by 100' (used only to compare soil temperature and moisture retention).
- ECH20 soil moisture and temperature sensors.
- Harvesting crates, various sizes.

Materials used:

- Mixed, organic vegetable seedlings; Onions, Scallions, Kale, Kohlrabi, collards, Cabbage, broccoli, napa cabbage, Swisschard, P.spinach, lettuce, dill, cilantro.
- Directly sowed; Carrots, beets, arugula, salad mix.
- Cornell, compost 18 yards on ½ acre.
- Kreher's, ' pelleted chicken manurer (5-4-3)
- Bio360 mulch film 4' by 4000'.
- Drip tape, Aqua-traxx. 8 mil 7500' 12" 0.45 GPM.
- Pre-arched wire hoops 76" .
- DeWitt floating rowcover, 0.55 oz/Sq Yd. 50' by 200'.
- Sandbags, 14"x 26", filled with sand 15-20lb. Placed every 12-15 feet apart.
- Pest management; Cueva, Regalia organic fungicide.
- Cover crop seed. Winter rye, Oats, Peas, daikon radish. 70lbs.

2. **No-till plot ½ acre.** Used a variety of old and new tools and practices to prepare soil for planting, management weeds, moisture retention, moisture monitoring, and cover crop establishment.

Tools used:

- Silage tarps 50' by 100' (used for killing cover crops, smothering weeds and moisture retention)
- Johnny's 727 Hardpan Broadfork
- Tilter XT
- BCS Tractor Rototiller.
- Jang JP-1, Push Seeder (single row).
- EGO POWER, Battery powered mower
- Solo backpack, Mist blower (gas powered)
- ECH20 soil moisture and temperature sensors.
- Harvesting crates, various sizes.

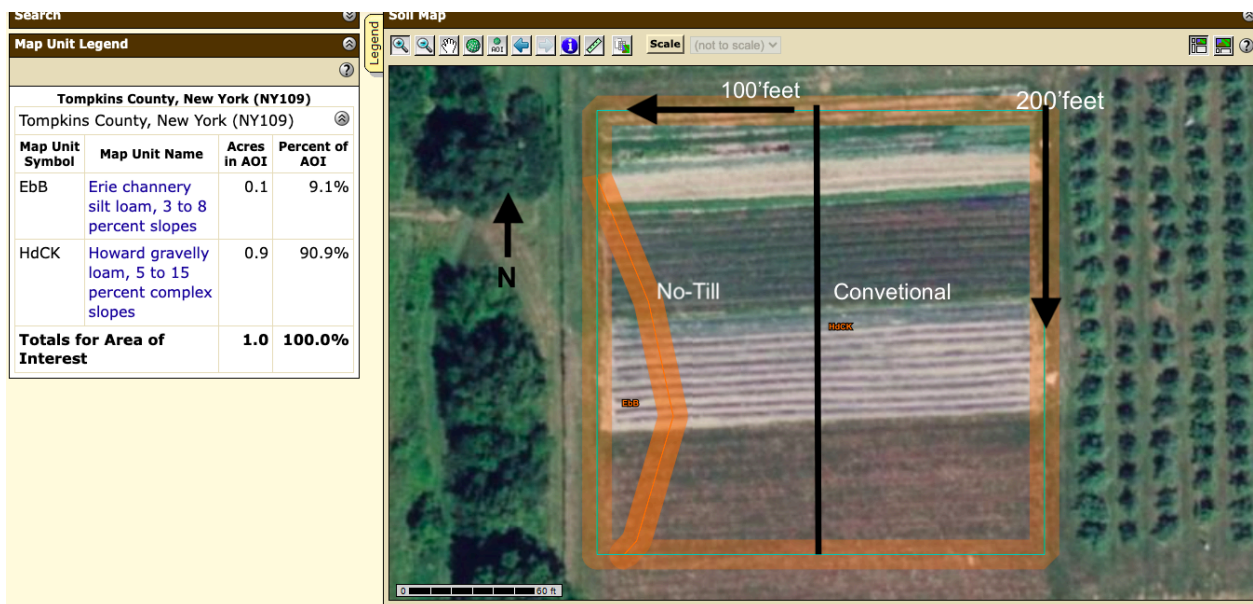
Materials used:

- Mixed, organic vegetable seedlings; Onions, Scallions, Kale, Kohlrabi, collards, Cabbage, broccoli, napa cabbage, Swisschard, P.spinach, lettuce, dill, cilantro.
- Directly sowed; Carrots, beets, arugula, salad mix and radishes.
- Cornell, compost 18 yards on ½ acre.
- Kreher's, ' pelleted chicken manurer (5-4-3)
- Black woven ground cover, 3ft by 300ft.
- Drip tape, Aqua-traxx. 8 mil 7500' 12" 0.45 GPM.
- Pre-arched wire hoops 76" .
- DeWitt floating rowcover, 0.55 oz/Sq Yd. 50' by 200'.
- Sandbags, 14"x 26", filled with sand 15-20lb. Placed every 12-15 feet apart.
- Pest management; Cueva, Regalia organic fungicide.

Soil type properties and layout.

Total are:
90.9%
9.1%

Soil Type:
Howard gravelly loam, 5 to 15 percent slopes.
Erie channery silt loam, 3 to 8 percent slopes.



Field layout 2024:

No-till plot ½ acre

North →

Radishes French brakfast
Arugula
Dill
Mixed greens
Arugula
Spinach (space)
Spinach (space)
Mixed greens
Radishes French brakfast
Arugula
Radishes French brakfast
Carrots (Mokum)
Beets (boro)
Onions: frontier
Onions: frontier
Onions: monastrell
Onions: monastrell
Onions: candy.
Onions: candy.
Onions: candy.
Scallions
Kohlrabi (kossak)
Collards
Kale (Toscano)
Kale (winterbor) Kale (Scarlet)
Broccoli (Green Magic)
Broccoli (Green Magic)
Broccoli (Green Magic)
Cabbage (Flat /endersweet)
Cabbage (Flat /endersweet)
Napa (Minuet)
Napa (Minuet)
Cilantro
Dill
Lettuce (heads)
Swiss chard
Perpetual spinach

Conventional plot ½ acre.

Swiss chard	Perpetual spinach
Lettuce (salanova)	Lettuce (heads)
Collards	Kale (winterbor) Kale (Scarlet)
Kale (Toscano)	Kohlrabi (kossak)
Broccoli (Green Magic)	
Broccoli (Green Magic)	
Cabbage (wakamine)	
Cabbage (wakamine)	
Napa (Minuet)	
Onions: candy	
Onions: monastrell	
Onions: frontier	
Scallions	Cilantro Dill
Carrots (Mokum)	
Beets (boro)	
Cilantro	Fennel