

# NutrientSmart 2.0



Optimizing the Value of Organic Amendments

# Arlington Farms, Jarvis Ontario

3rd generation farm in Haldimand County

Cash crop farm and custom application business

Soil type heavy clay/non-tiled

Using soil amendments for 12+ years

- SSO compost, biosolid pellets and n-viro

Soil health and soil improvement have been a strong focus



# Amendments we use

SSO compost (35-25-20 lbs/t)

- Source separated organics
- Balanced nutrients

Biosolid Pellets (25-75-3 lbs/t)

- Dried biosolid pelletized
- Great source of phosphorus

N-Viro (15-16-75 lbs/t)

- Dried biosolid mixed with kiln dust
- Great source of calcium



# Equipment

## Dry box spreader/ litter spreader

- Apron chain/closed back/spinners
- Spread pattern
- High capacity
- Good flotation
- Directional pan



# Our System

Corn, soybean, wheat rotation

- Apply compost after soybeans or wheat prior to corn.
- Compost rate at 10 tonne per acre
- No-till corn with 15 gallons per acre 28%
- 5 gallon acre liquid starter
- No micros added in starter (calcium/ Sulphur)
- Nitrate test corn from 3 leaf corn to tassel
  - Trying to utilize organic N release
  - Test with a soil scan 360 box





# Experimenting

Spreading compost or biosolid pellets early season on winter wheat

- Compost 3 tonne per acre
- Pellets 1.5 tonne per acre
- Same timing as red clover window

Strip-tilling in fall for corn putting pellets  
in the strip in place of MAP fertilizer



# Field Observations Using Amendments

## Increased soil health

- Increased worm populations
  - Residue Management
- Increased water infiltration
  - Less ponding (no tile)
- Increased water holding capacity
  - Deeper penetration into the soil
- Less soil crusting
- Increased soil PH
- Increased organic matter



# Field Observations Using Amendments

Decrease in pesticides

- Declined response to in crop fungicide application on corn and soybeans

Decrease in commercial fertilizer

- Macros and micros



All overall healthier soil



A Healthier Plant

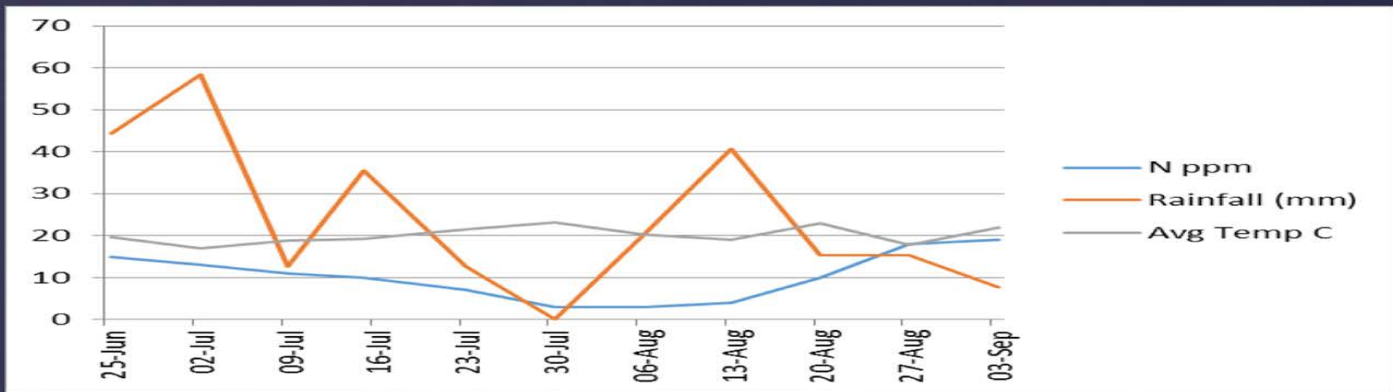


Greater Yield

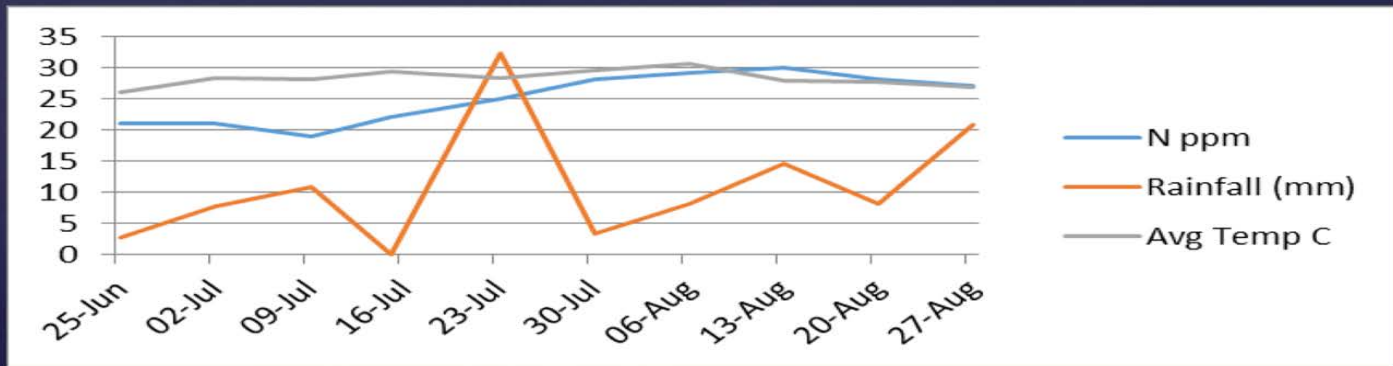


# Organic Nitrogen Release

2015



2016



# Making Amendments Work

## Plan ahead

- When do I want to apply?
  - Time of the year
- What product do I want?
  - OM/N,P,K/ calcium/soil type
- Can I handle or store the product?
  - Location/product type/compaction
- Can trucks access the site?
  - Logistics(plant location,multiple loads)
- Neighbours?
  - Odour/ dust
- Product availability? (Cost)



# Future

Incorporate and fully understand cover crops in my rotation

Learn more about what is happening within soil surface

- Feeding my underground livestock

Hybrid/variety selection

Non fungicide treated seed

Compost tea

**Patience**



Thank You  
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