

**Workshop Title:**

Fertility and Rotations

**Speaker:**

Robert St-Arnaud

**Executive Summary:**

This workshop had Robert St-Arnaud discuss some of the basics and details of soil fertility and crop rotations that he has learned over his career. Soil fertility is intertwined with crop rotations and evolves with time.

**Main Notes:**

*Norseco*

- Started in Montreal
- One of biggest seed companies in Canada
- First seed producer in Quebec to obtain certification
- Non treated organic seeds
- Adapted seedlings to our climate
- When you buy their seeds, they are fast a trustworthy
- Understand needs of small producers w diversified needs
- Over 50 species over veg, herbs and fruit
- Certified org since 1985
- ◆ The ground is a living environment that needs to be fed- needs to be balanced to function it needs org matter w fertilization- insects need air- want to avoid compaction- dry ground difficult to work w the machinery
- ◆ Easier if there is an equilibrium in the nature of the soil

- ◆ Mechanized- work the soil w machinery many times during the season
- ◆ Try to work up the soil to make sure it performs as well as possible
- ◆ The soil on the farms they have sandy loam and clay soil- no real sandy loams adapted for veg growing- it is sand that will form crust when there is too much water or surface is drying- have to keep eye on that- if crust is not there the air exchange will not be good- same thing for being too compacted
- ◆ Fertilization and rotation all linked on their farm- evolved with time
- ◆ Great variety of species- different surfaces between different cultures
- ◆ Can't do carrots in lighter soils so spread the cultures of different veg in different soils
- ◆ No source of water on the farm
- ◆ Have to pump it out of the river nearby
- ◆ Quebeclanders then forbade them to do that
- ◆ Over time had many changes in types of manure and fertilizer they used
- ◆ Chicken manure is base for their fertilizer
- ◆ Rotation had changed over the years due to the resources they had available
- ◆ Need over 5 hectares for any vegetable
- ◆ Have to import manure
- ◆ Planning for all of the plots
- ◆ Fertilizer used to be done through rotation
- ◆ Had to regroup all of their crops to avoid having higher costs

- ◆ Based on chicken manure- spread out fresh at end of season in fall or stored and spread during the season
- ◆ Want to avoid compaction
- ◆ After 3 months it isn't fresh manure anymore
- ◆ Cost for straw is fairly high and hard to find in their area
- ◆ So they get leaves from a nearby farm to use as compost
- ◆ Since onions were planted so far apart, they realized that the compost was helping the weeds more than it was the onions so they planted onions and strawberries together
- ◆ Actisol applied 2-3 times along the side
- ◆ Once they do so many crops they begin to spread green manure to cover their crops so they aren't left naked while they don't use them
- ◆ 1 hector of green manure each year systematically from april-september
- ◆ They use plowing- disc aero- brings out frost
- ◆ Three rotations: arrogated crops, rotation of heavy soil, rotation of lighter soils
- ◆ They don't do nitrate tests systematically