

**2017 Acorn Conference & Trade Show  
Best Western Glengarry - Truro, NS**

**Topic:** Garlic Production

**Presenter:** Zach Loeks

**Summary:** This workshop explores garlic from seed to seed by following its production cycle over twelve months, including seed selection, bed preparation, pest and disease management, curing, and more.

Zach will focus on diversity in garlic production. He farms in the Ottawa Valley.

There is a great diversity of garlic varieties and variations grown around the world. There are approximately 600 varieties named. All are thought to originate from a few basic types initially found in the area east of the Black Sea. As garlic spread through trade among growers, garlic varieties took on the names of villages or regions where it was grown. Despite the differences that do exist, one study identified ten basic distinct garlic varieties.

Garlic isn't just garlic. Varieties vary in size, colour, shape and of course taste. Garlic will change as it is grown over the years, adapting to soil types, nutrients, and growing conditions. Garlic varieties vary in their storing characteristics, and length of time needed to mature.

Garlic varieties are commonly divided into hardneck and softneck varieties. Hardneck varieties include:

- Porcelain.
- Rocambole.
- Purple stripe.
- Glazed purple stripe.
- Marbled purple stripe.

Growing garlic commercially has many benefits:

- Labour demands are spread out with concentration of time needed in the fall for planting and bulk harvest in mid summer.
- Easy to grow in a wide range of soil conditions.
- Bed preparation in late summer balances with the demands of early crops or cover crop applications.
- With proper curing and storage, garlic can be sold all year long.
- Zach recommends not growing too much to start, but rather keep plantings in line with known demand. It is relatively easy to expand production as required.
- An efficient production system makes management of a garlic crop run smoothly. Zach uses raised beds similar to other vegetable beds in his garden. A hand

dibbler or mechanical one based on any number of designs helps with planting, especially for larger amounts. A mulching strategy is also necessary for weed control.

- Zach seeds his garlic by October 15 of each year. This ensures good root growth before winter dormancy.

A year in garlic production - the fall:

- Assess demand and determine how much to plant.
- Prepare beds with amendments and compost; having a cover crop to turn in is good planning.
- Order seed.
- Crack it.
- Dibble seed holes with hand dibbler or mechanical one. A mechanical dibbler can be made with a drum roller with dibles placed with appropriate spacing on the drum.
- Plant seed.
- Mark rows; plant early maturing varieties on the outside of the rows if planting a mix of types.
- Make a map of the planting plan; you won't remember what's what in the Spring.
- Mulch beds, 4 to 6 inches deep with straw or other suitable material. Avoid clumps in the mulch to facilitate emergence of the stems. The pathways can be mulched as well or planted in a cover crop of oats or clover.
- Monitor throughout the fall for rooting.

A year in garlic - the spring:

- Monitor garlic development throughout the spring. Watch for leaf disease or predation and check bulb development periodically.
- Remove mulch if needed, larger bulbs will come up first.
- Watch for flooding, Garlic does not like too much water.
- Set pheromone traps to monitor for leek moths (discussed below).
- Remove scapes when curling takes place.
- Release parasitic wasps or row covers if these are used.
- Reduce Irrigation if used to aid in bulb drying and maturation.
- Prepare the curing facility for the garlic.
- Begin harvest when 50% of overall leaves begin turning yellow.
- Continue to harvest, just shake off the soil on the end, do not clean at this time. Leave the stems on as these still contain nutrients.
- Begin curing, ensuring good air circulation and a dry environment. Remove stems when garlic is dry and ready for storage.
- Sort and box.
- Bag and sell, by type, weight and size usually.
- Assess year end, production process and sales.
- Make plan for next year.

Considerations for marketing:

- Use a diversity of packaging. Some garlic can be braided, other bulbs placed in mesh bags, crates, or paper bags.
- If selling different varieties, include a description for each.
- Don't be afraid to recommend your favourites.

Integrated pest management for garlic:

- Have a plan beforehand.
- Know thy enemy by monitoring the crop regularly and using traps if pest presence is suspected.

The Leek Moth is a pest that can attack garlic plantings:

- It is an alien invasive species which selects allium varieties.
- It can have up to three life cycles in Eastern Canada.
- This is a major pest and is spreading.
- The damage is caused by larva which mines into the leaves.
- Later generations of the larva will enter the bulbs themselves.

Management of leek moth:

- Timely scape removal is important as is early harvest if possible. This limits damage from successive generations of the moth.
- Ensure that debris is removed from the garlic beds and the soil turned over.
- A cover crop applied after harvest will discourage larva development.
- If Leek Moths are detected, a row cover will prevent egg laying.
- Parasitic wasps will feed on the larva and help to control the moth population.
- Use pheromone traps to monitor for moth presence.
- It is important to understand the life cycle and flight patterns of the moth. Do some research on this.

Any of the following will serve as good cover crops for a garlic bed: dwarf white clover, red clover, crimson clover.

Simple garlic processing:

- Be ready for a rush of activity. Leave the leaves on until garlic is cured. The ergonomics of a work station for garlic preparation is very important. Consider size sorting, weighing, and packaging.
- It is a good idea to have a few varieties for different tastes among customers. A grower may have varying success with varieties depending on soil, climate, and market preferences.

Varieties:

- Rocambole is easy to peel and keeps long.
- Purple stripe has great flavour and longer storage.
- Porcelain: good keeper, fewer but large cloves.
- Silver skin: very long storage, great for braiding, hotter.

Garlic stock can be renewed by letting the garlic scraps mature with seeds developing in the top of the scrap. These can be gathered and planted to provide a fresh base for a new crop.