



#### A little about me...



- I have been growing garlic in Calgary for almost 10 years
- Large Scale Grower for last 5 years (~1 acre)
- Learned everything I know by trial and error
- Started with growing 40 varieties, narrowed it down to 3
- I hate weeding, but still do it by hand
- I eat as much garlic as a vampire



## **Growing Great Garlic**



- Selecting the right Garlic
- Soil and Location
- Planting Time
- Depth and Spacing
- Mulch or No Mulch
- Weeding
- Fertilizing and Watering
- Disease
- Summer Care and Activities
- Harvesting and Drying
- Storage and Sales





## **Selecting The Right Garlic**



There are over 150 cultivars of garlic to choose from. Knowing what varieties and cultivars grows well in your area is your key to successful garlic growing.



French Rocambole - Rocambole



Russian Red - Purple Stripe



Great Northern - Porcelain



## **Selecting The Right Garlic**



- Buy Local Seed
- Determine what varieties others are growing in your area, and grow the same cultivars.
- Visit a number of farmers markets to see what they are selling and where they live in proximity to your growing area.
- Choose a few varieties and see what grows best in your area.



#### **Soil and Location**



- Choose a site that gets full sun
- Well drained organic loam soil is great for plant garlic
- Amend soil with organic matter like straw and work in, as it holds moisture thru the growing season.
- Garlic like moist roots but not wet, and hot greens
- Flat area vs sloped



## **Planting Time**



- Fall or Spring Planting
- Timing your planting is super important (mid Sept early Oct)
- Need cloves to develop a good root system before winter sets in, or else the garlic clove basal plate will rot.
- If planting in the spring, plant as soon as the ground is workable. Don't wait for the nice sunny weather when you can plant in your swim suit.
- Moisture is key for both planting times.
- Some garlic need to be planted in fall, while others require spring planting in our area.
- Fall: Russian Red, Rocamboles, Porcelain
- Spring: Creoles, and Elephant Garlic



#### **Planting Time**



Planting large cloves gives you large bulbs, almost all the time!

So guys!!! Size does matter in this case!!



**Germination Test** 



**Planting Garlic** 



**Select Quality Garlic** 



## **Depth and Spacing**



- Garlic needs room to grow and obtain nutrients from soil around the root system
- If planted too close, you will not get big garlic bulbs
- I plant 6-8 inches apart, my rows are 14 inches wide
  - This allows for proper airflow, sunlight, moisture and nutrients for the bulbs to grow.
  - If you have access to irrigation you can decrease your row spacing to 6 inches
- Planting Depth should be 2.5 inches from top of clove. If moisture is an issue in your field, plant a little deeper, ~3 inches. Too deep and your garlic does not emerge properly, and it is harder to dig in fall.



# **Spacing**





**Good Garlic Spacing** 



# **Spacing**







#### Mulch or No Mulch



- Mulch is a great way to protect garlic over a cold snow free winter.
- Mulch also retains moisture during the growing season, and can reduce weeds.
- Mulch should not be more than an inch thick once settled or garlic will be slow emerging in spring.
- Some mulches like straw from oats or wheat bring a lot of added weed seed into your garden.
- One year I thought I had a oat field, as the mulch I purchased was for feed, oat seed was not removed. Like I did not have enough work......



## Weeding



- Weeding is crucial to great garlic, make sure to get in the field early and get the small weeds before they grow too large.
- We use a wheel hoe, between rows and a garden hoe between garlic. Plus a lot of hands and knee work.
- Sometimes a tiller can be used between rows if they are wide enough.
- Remember small weeds always turn into BIG weeds. Once the weeds get too large hand tools do not work as well.
- Depending on your site, the garlic patch should be weeded 3-4 times per season.
- Mulching can help as a weed control.
- Spraying chemical is not recommended for us. We weed by hand



## Weeding







 We use a wheel hoe, between rows and a garden hoe between garlic. Plus a lot of hands and knee work.



# Weeding





"Where did you say you planted garlic?"

"Oh!, The weeds are protecting it from moisture loss!"



#### **Fertilizing and Watering**



- If your area does not have good organic matter or you have been growing crops in the same location for many years. Fertilizing is recommended!
- Fertilize in
  - early spring when garlic is starting to emerge with a water soluble fertilizer 14-14-14 is great!
  - Again after you have removed the garlic scapes, as garlic is now building bulb mass.
- If you have access to water, a watering schedule every two weeks is best. If you water too often your garlic gets watery, and does not have good storage length, and just does not have the same flavor as garlic which needs to draw water on it's own.
- Remember, garlic does not like wet feet for very long. If so, basal plate rot could be an issue. This is fusarium disease!



#### Disease



- I am not an expert on garlic disease. The only thing we experienced in our field is Basal Plate Rot (fusarium disease), and Blue Mold caused by damaged cloves
  - Pocket Gophers are a problem for us, as they burrow under the root system of the garlic, preventing the garlic proper moisture. A few traps quickly fix this issue. They are worst in early spring, before they have babies and again in the fall when young pocket gophers are looking for new homes.
- There are other diseases and pests that garlic could have, but we have not seen these to date.
   Some of these could be Leaf Blight, Neck Rot, Pink Root, Rust.
- Pests include Bulb Mites, Gophers, Onion Maggots, Wireworms and Thrips.



#### **Summer Care and Activities**



- Weeding
- Water Schedule or pray to mother nature
- Weeding
- Cutting Garlic Scapes to ensure larger bulb development, otherwise energy goes into producing seed, and not into the actual garlic bulb.
- Removing any sick garlic from the field, most likely basal rot.
- More Weeding



Garlic Scapes – Just as good as Garlic itself





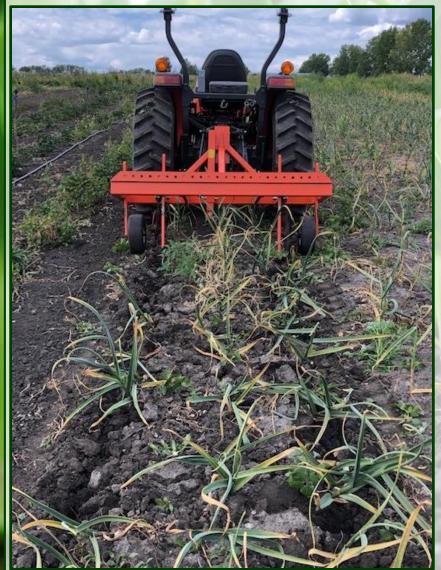
- Different varieties require to be harvested at different times. If not the bulb wrapper will split, reducing storage of garlic.
- I start harvesting my garlic after the 3<sup>rd</sup> leaf from the bottom dries off. The remainder of the garlic is green, This is an ideal time, as I hang my garlic to cure and dry slowly.
- As mentioned previous, if you wait until your garlic is completely brown and dry, bulb wrapper will split, reducing storage. Good culinary garlic, but not good seed garlic.

#### Harvesting Schedule for us!

- 1. Creole Garlic
- 2. Rocambole
- 3. Great Northern
- 4. Russian Red









**Digging & Transport** 









Harvest Green - after 3 bottom leaves turn brown







**Making Garlic Harvest Fun** 



## **Drying**



- We hang all our garlic, in a well ventilated area, out of direct sunlight. We use multiple fans to blow air through garlic. This allows the garlic to dry quicker, and prevents mold from developing.
- Mold could be an issue if temperature outside is wet and cold, as stems are hung green, to dry naturally. More Fans!

#### **Drying Schedule for us!**

- 1. Hang full green stems 6 inches apart in groups of 10 bulbs
- 2. Let cure and dry naturally for 2 weeks
- 3. Cut all dried stems back to 3-4 inches for additional air circulation and increase drying
- 4. After 3 week, depending on temperature outside, garlic is dry and ready for sale. You can tell by pressing on garlic stem, to feel moisture content. Good cured garlic will have longer storage.



# **Drying**







**Hanging Garlic – String Method** 



#### **Storage and Sales**



- We store our garlic in a dry location at room temperature.
   This gives us or our customers months of storage from the garlic we produce.
- Spring Garlic should be stored in a freezer with temperatures set to -3 degree C
- Sales: The proof is in the product! We have a growing customer base who love the garlic we produce year after year.
- We grow without chemicals, great seed garlic, and culinary garlic.
- What is great seed Garlic: tight wrapper on bulb, no bruising or bulb damage, firm dense cloves, good basal plate, and knowing the farmer who sold you the garlic.



#### Sales







# GARL/C

RUSSIAN RED

FLAVOUR: hot and spicy STORAGE: 6-8 mths



#### **Varieties for Sale**



- Korean Purple rocambole
- French Rocambole rocambole
- Great Northern porcelain
- Cuban Purple creole (culinary) or spring planting
- Russian Red red stripe

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