"Planting for Beginners"

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Before you start:

For a garden to be successful you need the right soil conditions, if the ph level is not in an optimal range, the plant can't access nutrients from the soil. You also need fertilizer, adequate sunlight, and the right amount of water.

- **pH:** most veg will grow in either slightly acidic or slightly alkaline soils . Most of NB soils are naturally slightly acidic (5.5- 6.8pH, pH of 7 is neutral). It helps to test your soil, most NB gardens will benefit from lime application.

- **Nutrients or Fertilizers:** NPK (the main 3): nitrogen (N) helps plant foliage to grow strong, phosphorus (P) helps roots and flowers, and potassium **(Potash)** is important for overall plant health. There are several other minerals that plants require as well, we won't list them here.

- **Animal manure**: contains most of the nutrients that crops require, including nitrogen, phosphorus, potassium, and " roughage " – straw and other materials that will bulk out soil and make it easier for good creatures such as worms , and bacteria to grow. ***Raw manure – will burn plants, manure also contains weed seeds you may not want.***

- **Compost:** from kitchen or garden waste, including tree leaves make excellent 'food' for your garden. In organic gardens we do not use chemical fertilizers, but there are organic fertilizers you can purchase

- **Light:** vegetables need at least 6hours of **direct sunlight,** a few will tolerate less, they also will stop growing well once the days shorten in Fall, for late harvests make sure your plants have finished crowing before the days are less than 10 hours long**.**

- **Watering:** most NB summers have adequate rain fall. When seeds and plants are planted in the spring, water is important to get them going. Water early in the day or in the evening. Once established, water as needed, it is best to give a thorough watering less often than frequent small watering's. Small watering encourages plants to have shallow root.

- **Mulching:** Keeps down weed growth, helps keep soil warm/ cool/ or moist depending on use
    - Fresh grass clippings – about 4 inches- they will pack down quickly
    - Hay/straw – baled 5-6 inches. Loose about 8- 10 inches deep
    - Leaves – 8 to 10 inches
    - Newspaper – 5-8 sheets held down by stones or other mulch

- Sawdust – 2-3 inches (remember this will use up the nitrogen in the soil)
- Wood chips – 6 inches if directly on soil, 2-3 inches if over newspaper.

Safe natural protection from crop damage:

- Keep gardens clean and free of places where snails/ slugs can hide.
- Guard maturing cucumbers and squash by using a handy kitchen discard: **onion skins**! Simply throw a big handful of these leftovers loosely across the top of each hill, also cover plants lightly while small to keep beetles from reaching the small plants.
- Protect tomato crops by sowing **dill and borage**.
- Protect maturing corn with **vegetable or olive oil or** a pinch of **cayenne pepper** on the silks.
- Place discarded **cabbage leaves and grapefruit rinds**—or even old boards—throughout the garden in the evening. When day breaks, remove the occupants in the "slug domes".
  - pour **soured milk** over the young cabbages, etc. to keep the moths and the worms away.
- **Ants** don't like: Lavender, Calendula, African marigold, Tansy, Pennyroyal, Chives. Yeast and sugar mixed with a little water is lethal to ants. Cayenne pepper – spread around plants you want to save from ants, also old coffee grounds. BUT Ants are aphid predators – so do not get rid of all of them.

All Natural Insecticide Recipes:

Natural Insecticidal Soap Spray
aphids, mites, white flies, thrips, and mealy bugs:

1 1/2 tablespoons of liquid soap (biodegradeable)
1 quart of water
A couple drops of orange or lemon essential oil, mix and use to spray plant thoroughly

Japanese Beetles, borers, leafhoppers and slugs.
Garlic also deters larger pest like deer and rabbit.

Natural Insecticidal Soap Spray (from recipe above)
1 tablespoon of chili powder (or fresh or dried hot peppers)
5 cloves of garlic, crushed
Allow garlic and chili powder to steep overnight. Strain and pour into a spray bottle. Add Natural Insecticidal Soap Spray. Should keep for a couple weeks.

Baking Soda Spray
1 tablespoon of baking soda
1/2 tablespoon of oil
2 quarts of warm water
for treating plants with fungal diseases on leaves, mix and use immediately

Garlic, Peppers & Onion Insecticide
2 hot peppers
1 large onion
1 whole bulb of garlic
1/4 cup water
Toss in the food processor and add water, blend until a mash is made. Cover mash with 1 gallon hot (not boiling) water and let stand 24 hours. Strain. Spray on roses, azaleas, vegetables to kill bug infestations. Bury mash in ground where bugs are heaviest. Good for thrips, aphids, grasshoppers, chewing and sucking insects.

War on weeds:

A "clean" weed-free plot before you start is the key to success with vegetables. Weed 1-2 weeks before planting, weed at planting time, then 1-2 weeks following (this catches weeds while they are just germinating, then as needed. Weeds compete for available nutrients and water. Once plants get big, the weeds often get shaded out. The organic approach is to pull out weeds and their roots

as you dig. For hard to remove perennial weeds with spreading wiry or deep roots, cover the soil with card or doubled-up sheets of newspaper topped with a 2in (5cm) mulch of compost. This is sufficient to stop even persistent weeds that keep re-growing. Do not use chemical herbicides unless it states they are safe for organic use.

Sowing seeds directly in your garden:

Sow most types of vegetables directly in a garden. First make sure that the soil has dried out before you work it, and be sure that the soil is warm enough for the seeds that you want to plant. Peas & greens germinate in soil as cool as 4°C, and plant them as soon as you can work the soil in spring. squash and beans need warm. If your soil temperature is much below 65°F (18°C), the seeds are likely to rot in the ground before they sprout. Sow pole beans in a trench lined with newspaper especially if the area is likely to dry out –pole beans love moisture and the newspaper will hold moisture, until it decomposes. Fill the trench with well-rotted manure and compost – pole beans need good food to thrive. You can plant seeds in a variety of patterns.

- **Row planting:** Mark the placement of a row within your garden, and then make a furrow at the correct depth along the row. Some seeds may not sprout, so sow seeds more thickly than you want the final spacing of the crops to be. Thinning rows is less of a chore if you space seeds as evenly as possible. Cover the seeds with fine soil and then firm them in with the back of a hoe to make sure that all the seeds are in contact with the soil. Water gently.

- **Wide row planting:** This method allows you to plant more seeds in less space by concentrating watering & weeding, Rows are generally 10 to 16 inches wide. Sprinkle seeds over the entire row with most crops, try to land the seeds about 1/2 to 1 inch apart. For peas and beans, space them 1-1/2 to 2 inches. Cover small seeds with a thin layer of soil. Lightly pat the potting soil down again to bring the added soil into firm contact with the seeds.

- **Square foot planting:** divide your bed into 1 foot sections, plant each section like the wide row planting, plant seeds as directed on packed for seed spacing, ignore how far apart to plant the rows.

- **Hill planting:** Plant seeds for vining crops that spread out, such as squash, melons, or cucumbers, in hills or circular groups. Loosen the soil in a 1-foot-diameter (30 cm) area, plant five to six seeds close together. Thin out all but the two strongest seedlings.

Transplanting:

Transplant in the evening or on a cloudy day, water well adding 1 Tablespoon sugar to every gallon of water- the sugar is carbon which will help the roots, and stop wilting.
When transplanting all veg except cucumbers – add 1 Tablespoon of rolled oats to the bottom of the transplant hole – oats is a good fertilizer containing many trace elements.

Planting Chart

Type	Days to germinate	# seeds for 4 ft row	# plants per sq ft	spacing	depth	Early sow X Bedding plant #	Other
Beans (Bush)	6-10	24	6-9	2-4 in	1-2 in.		
Beans (Broad)	8-15	8-16	4-6	4-6 in	1-2 in	X	
Beans (Lima)	10-14	8-16	4-6	4-6 in	1-2 in.		
Beans (dry)	10	8-16	4-6	4-6 in	1-2 in.		
Beets	12-14	16-48	9	1-3 in	1/2 - 1 in	X	
Broccoli	7-10	3-4 plants	1 or less	14-20 in.	1/4 in	#	
Brussels Sprouts	7-10	3-4 plants	1 or less	20-24 in.	1/4 in	#	
Cabbage	7-10	3-4 plants	1 or less	12-24 in	1/4 in.	#	
Carrots	14-21	16-48	16	1-3 in.	.1/4 -1/2 "	#	
Cauliflower	7-10	3-4 plants	1 or less	18-24 in.	1/4 in.	#	
Baby Corn	10-14	12-16	4-6	3-4 in.	1-2 in.		Plant in a block
Cucumber	7-10	4-8	2-3	6-12 in.	1/2 in	Use cage	Can start early
Eggplant	7-12	3-4 plants	1 or less	18-24 in	1/4-1/2 in	#	
Leek	10-12	9		6-8 in.	1/4 in	X	
Lettuce (Leaf)	7-10	12	4-9	1-5 in.	¼- 1/2 in	X	
Lettuce (Head)	7-10	4	1	12-18 in.	1/4-1/2 in	X	
Melon	5-10		1 or less	24-36 in.	1/2 in.	Use cage	
Onion (seed)	10-20	9	8	5-6 in.	1/4-1/2 in	X	
Onion (sets)	N/A	9	8	5-6 in.	1/2 in.	#	
Parsnip	14-21	12-16	9-12	3-4 in.	1/4-/2 in.	X	
Peas	7-10	16-48	8	1-3 in.	1-2 in.	X	Use trellis
Peppers	14-20	4-8	1 or less	12-24 in	1/4 in.	#	
Pumpkin	7-12		Less than 1	24-48 in	1 in		Can start early
Radish	5-7	48	16	1 in.	1/4 in.	X	
Rutabaga	5-7	8-12	4-6	4-6 in.	1/4-/2 in	X	
Spinach	8-10	8-16	9	3-6 in.	1/2 in.		
*Squash (Winter)	7-12	2-3	Less than 1	18-36 in.	1 in		Can start early
Squash (Summer)	7-12	4	Less than 1	12-18 in	1 in	Use cage	Can start early
Swiss chard	7-15	6-8	4	1-2 in.	1/2 in.	X	
Tomato	8-10	3-4	1 or less	24-36 in	1/4 in	#	
*Watermelon	10-15	4	1	9-12 in.	1/2 in.		Can start early

***Not good for SMG as they take up too much room**

NOTE: Pole beans, tall peas, and full sized corn are best not grown in SMG unless positioned where they cannot shade someone else's plot (ie the end of some plots will only shade a walkway)

NOTE: potatoes are not to be grown in SMG, sweet potatoes are ok.