TAGAWA gardens

Cold Crop Vegetables

At a Glance:

These are veggies that prefer a cooler growing season; determine your particular veggie's preferred growing soil temperature

Warm the Soil: You may achieve this by either starting seeds indoors, in a cold frame, or by using plastic row covers

Mulching: Apply a thin layer to lower the soil temperature *if needed*, particularly for potatoes

"Harden off" Your Plants: It's necessary to acclimatize plants grown in greenhouses to the outside elements. Place plants outside during the day for 1-2 hours at first, increasing daily for about 5 days

Cool Season Vegetables:

These are plants that prefer a cooler growing season. However, direct sowing into the ground will not always work, because many plants prefer a warmer soil temperature in order to germinate.

Only certain plants can be sowed directly: kale, garlic (best planted in fall), arugula, garden cress, lettuce, peas, potatoes (only seed potatoes), spinach, and Swiss chard. All of these particular plants prefer cooler soils to germinate.

Most plants will survive and even produce a crop despite a less than perfect growing situation, but the better growing environment created, the healthier the plants, and the more crop yield that will be received from vegetables.

Warm the Soil:

Many varieties of vegetables will prefer a warmer germination soil than the growing soil temperature. This can be achieved by starting seeds indoors, in a cold frame, or warming the soil using plastic row covers.

- **Clear Plastic**-warms the soil very well, but encourages weed germination
- **Black Plastic**-inexpensive, warms the soil very well and discourages weeds
- **IRT Plastic**-(stands for Infrared Transmitting) Brownish-green plastic sheeting that allows the infrared light to pass through and warm the soil, but blocks the wavelengths of visible light that weeds require to grow. This plastic warms the soil very well, but costs a little more. It's great for growing melons, eggplant, corn, peppers, squash, and pumpkins.
- **Row Covers**-Reemay (woven row cover manufacturer) will help to warm the garden, and will also act as protection for frost, snow, some hail, and also some insects (thrip, whiteflies, flea beetles, leafminer, cabbage worms).
  - Lightweight: 0.3 ounces per square yard, 90% light transmission, poor frost protection
  - Midweight: 0.5-0.6 ounces per square yard, 85% light transmission, frost protection 4 degrees
  - Heavyweight: 0.9 ounces per square yard, 70% light transmission, frost protection 4 to 6 degrees
  - Extra Heavyweight: 1.5 ounces per square yard, 50% light transmission, frost protection 6 degrees
  - Guidelines for use:

- Use hoops made of ½ inch pvc pipe.
- Space these about 3 to 4 feet apart.
- Form Reemay cloth to cover hoops.
- Attach lathe boards to both side edges of the cloth, and staple together with heavy duty staple gun.
- Learn to unroll the cloth during the sunny and warm days, and re-cover every evening to protect young plants from cold nights.

Mulching:

Apply a thin layer of mulch to lower soil temperatures if necessary, and gradually increase the depth of mulch as the plants grow. This is especially important with potatoes.

Hot Caps and Wall 'O' Water:

Cut the bottom off of a 1 gallon milk jug and cover plants. Remove on warm days. Place hot cap or Wall 'O' Water out in the garden 4-5 days prior to planting seedlings.

"Harden off' Plants:

Hardening off plants helps them to build a callus to better deal with wind, sun, and temperature fluctuations. Start with 1-2 hours the first day, increasing incrementally every day for about 5 days.

Early crop plant list along with germinating and growing temperatures:

- Asparagus:
  - Germination temperature: 77
  - Growing soil temperature: 60-70

- Beans (Bush):
  - Germination soil temperature: 75-85
  - Growing soil temperature: 60-70

- Beans (Pole):
  - Germination soil temperature: 75-85
  - Growing soil temperature: 65-75
  - Sow directly into soil, does not transplant well
- Broccoli:
  - Germination soil temperature: 80
  - Growing soil temperature: 60-65

- Brussels Sprouts:
  - Germination soil temperature 75-80
  - Growing soil temperature: 60-65

- Cabbage:
  - Germination soil temperature: 75-85
  - Growing soil temperature: 60-65

- Carrots:
  - Germination soil temperature: 75
  - Growing soil temperature: 60-70
  - Sow directly into soil, does not transplant well

- Cauliflower:
  - Germination soil temperature: 80
  - Growing soil temperature: 60-70
  - Be careful not to purchase seedlings that are root-bound, and do not allow seedlings to become root-bound before planting.

- Celery:
  - Germination soil temperature: 70
  - Growing soil temperature: 60-70
  - Celery does best when started indoors. Requires more water than most vegetables

- Cabbage:
  - Germination soil temperature: 75-80
  - Growing soil temperature: 60-70

- Arugula:
  - Germination soil temperature: 40-55
  - Growing soil temperature: 50-65

- Endive and Escarole:
  - Germination soil temperature: 60-65
  - Growing soil temperature: 45-65

- Garden Cress:
  - Germination soil temperature: 55-65
  - Growing soil temperature: 50-70

- Radicchio:
  - Germination soil temperature: 60-65
  - Growing soil temperature: 45-65

- Leeks:
  - Germination and growing soil temperature: 75
  - Start indoors 8-10 weeks prior to last frost

- Lettuce:

  - Germination and growing soil temperature: 40-60
  - Roots decline above 68

- Onions:
  - Germination and growing soil temperature: 65-85

- Parsnips:
  - Germination and growing soil temperature: 65-75

- Peas:
  - Germination and growing soil temperature: 40-75
  - Sow directly

- Potatoes:
  - Germination soil temperature: 45
  - Plant when daffodils and dandelions bloom

- Rutabaga:
  - Germination and growing soil temperature: 60-85

- Spinach:
  - Germination soil temperature: 50-75
  - Growing soil temperature: 60-65
  - New Zealand spinach handles the heat best

- Alpine Strawberries:
  - (Do not have runners)
  - Germination soil temperature: 65-75
  - Growing soil temperature: 60-80

- Swiss Chard:
  - Germination soil temperature: 50-85
  - Growing soil temperature: 60-65

- Turnip:
  - Germination and growing soil temperature: 50-95
  - Sow directly