Growing Seasonally

Produced through The Northern Rhode Island Conservation District 's ***Providence County Urban Growers Leadership Program***, in partnership with The Good Earth Organic Farm and Garden Center.

Northern Rhode Island Conservation District
Serving Providence County

The Good Earth organic gardening center
AT KNIGHT FARM
Where The Good Things Grow

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Seedlings:

You can get a jump start on your growing season when you start your seedlings in a warmer climate like a low tunnel, high tunnel, or greenhouse earlier in the season.

Starting your seedlings earlier can make your plants stronger and more resistant to disease and insects.

<u>Starting Seeds:</u>

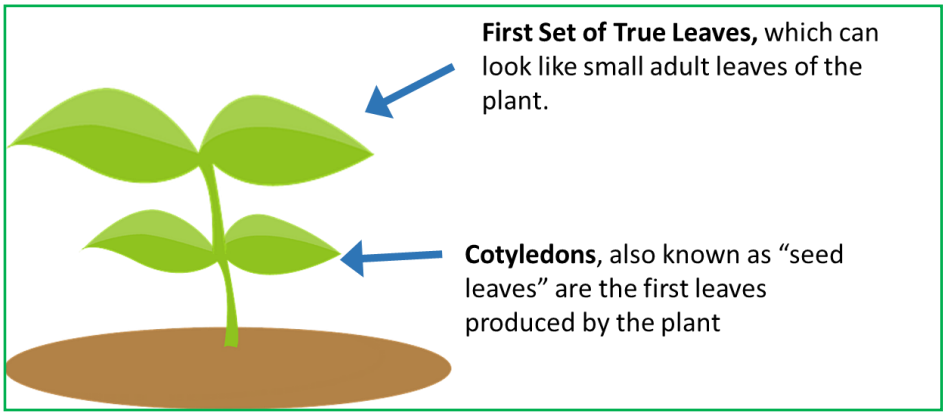
1. Collect, organize, clean, and order materials for seedlings.
    - Materials include: seedlings, seedling containers, and soil

2. Planting Seedlings:
    - You can plant seedlings in clean seedling containers such as trays or small cups. These seedling containers should be big enough for the plants to grow in for a while before needing to transplant them into a larger pot or into the ground.
    - If you are re-using seedling containers it is important to wash them before and after use with water and a small amount of bleach. This will kill any bacteria that may be harmful to the seedlings.
    - Add labels into the seedling trays to keep track of what is growing.
    - Space seedlings out. If you add too many seedlings into a container it will slow the growth of the seedlings because more nutrients in the soil is being taken up by too many seedlings.

Seedlings (continued)

3. Transplanting Seedlings:

- Seedlings should remain in seedling containers until they develop their first set of “true leaves”. The first set of true leaves is an indication that the seedlings are ready for transplant.



- Be sure to acclimate the seedlings to outdoor, natural environmental conditions slowly, if they are being transplanted outside.
- Once the seedlings are grown enough and acclimated to the environmental conditions the seedlings are ready for transplanting. Transplanting can take place in the field or in a larger pot inside a high tunnel or greenhouse.
- Before transplanting seedlings, understand the type of plant being grown and its needed temperature and environmental conditions to grow. Timing seedling planting and transplanting is important and can make a big difference in how your plants survive. Some transplanted seedlings in the field will need a low tunnel over them depending on the timing of transplanting.
- When transplanting seedlings, weed the garden, add fertilizer to the soil such as fish emulsion, and continue to cultivate (weed and maintain the soil health) the garden.

Structures to Expend the Growing Season:

You can extend the growing season with some kind of cover over your plants.

Cold Frames:

A Cold Frame is a structure built close to the ground with a transparent roof. The structure of the cold frame can be made of a variety of materials including wood, concrete blocks, straw bales, etc. The roof can be made of old windows, glass doors, or plastic. Plants are planted in the center of the structure either planted in ground or with a plastic liner in them.

Straw bales act as a good structural foundation for a cold frame. The walls of straw act as more insulation for the plants.

Uses of Cold Frames:

- Extend growing season in the shoulder months (spring and fall)
- Assist seedlings acclimating to the outdoor environment
- Provide some protection from the weather for plants

Low Tunnels:

Low Tunnels are smaller and less expensive than high tunnels. They are easy to set-up, break down, and move. A good use of low tunnels is in the early Spring and middle to late Fall (sometimes into November and December) for field crops. Low tunnels can not withstand extreme weather, such as snow. Crop production can be timed to take down low tunnel structures prior to a snow fall. Low Tunnels consist of a structural hoop and then covered over with Floating Row Cover or plastic.

Wire Hoops	Electrical Conduit Hoops	PVC Hoops (aka Caterpillar Tunnels)
• Used for shorter and smaller crops 	• Used for medium size crops 	• Used for larger crops • You can walk through these but they are not as large as a high tunnel or greenhouse or structurally stable 

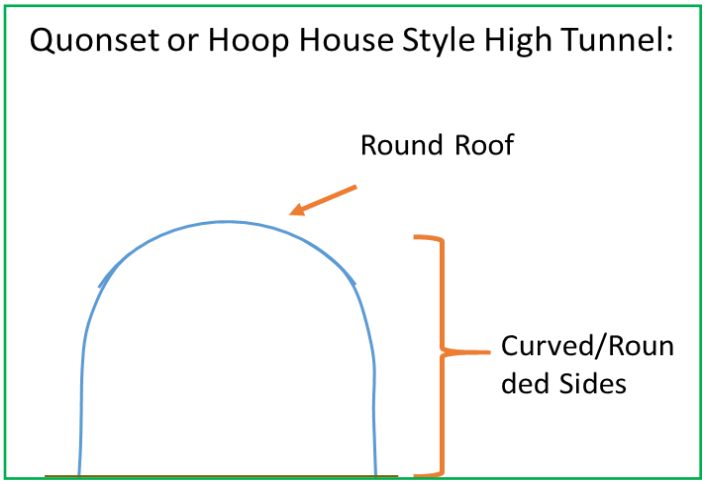
<u>Uses of Low Tunnels:</u>

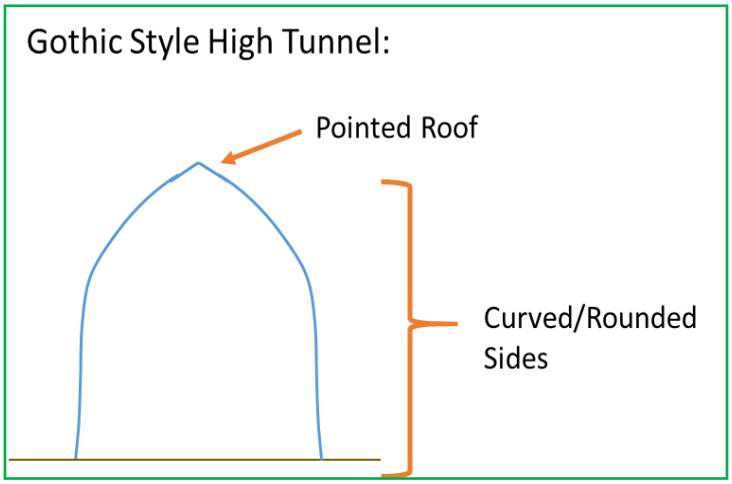
- Extend the growing season into the shoulder months
- Provide plant protection from weather and pests
- Reduce plant stress on cool season crops during hotter weather by filtering intense sunlight

High Tunnels ("Hoop Houses"):

High Tunnels, also know as "Hoop Houses" are enclosed polyethylene, plastic or fabric covered hoop structures that cover in-ground crops. High Tunnels provide natural air flow and plants are accessible to pollinators by having roll-up sides.

The two major types of high tunnels are:





High tunnels can withstand harsher weather such as snow, and can be used most of the year—sometimes year round. In New England, the United States Department of Agriculture, Natural Resources and Conservation Service (USDA-NRCS) recommends Gothic Style high tunnels over Quonset to withstand heavier snow loads. Quonset styles can still be used in the winter months, but more maintenance to reduce snow build-up on the roof maybe required.

High Tunnel or “Hoop House” (continued):

In the winter, high tunnels can still get colder than the plants growing in the high tunnel will prefer. Covering the plants inside the high tunnel with low tunnels adds another layer of insulation to the crops.

Uses of High Tunnels:

- Extend the growing season into the shoulder months
- Improve plant and soil quality
- Reduce nutrient and pesticide transportation

Greenhouse:

A Greenhouse is a glass or metal structure with a hard transparent covering like glass with plants growing in pots above the ground. Greenhouses can be comprised of different shapes and sizes. Many greenhouses contain additional systems like fans, heating, temperature controls, lighting, and windows.

Greenhouses are the most expensive season extension structure but can typically withstand growing year-round.

Uses of a Greenhouse:

- Extend the growing season into the shoulder months or year-round
- Control climate in which the plants grow in
- Provide plant protection to the weather

Season Expansion Structure Comparison:

	Cold Frames	Low Tunnels	High Tunnels	Greenhouse
Structure	Small frame with transparent cover	Small to Medium size hoop frame with transparent	Large hoop frame with transparent cover	Large frame with hard transparent cover
Costs	Small to Moderate	Small to Moderate	Moderate to Large	Large
Season Expansion	Shoulder months; crops grown in ground or grown in frame with plastic lining	Shoulder months; crops grown in ground	Shoulder months or year-round; crops grown in ground	Shoulder months or year-round; crops grown in pots above ground

Cool Season Crops:




- Arugula
- Basil
- Beets
- Broccoli
- Broccoli Rabe
- Brussels Sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Chives
- Collard Greens
- Dill

- Greens
- Kale
- Kohlrabi
- Leeks
- Lettuce
- Majoram
- Mustard Greens
- Onions
- Oregano
- Pac Choi
- Parsley
- Parsnip
- Peas


- Peppers
- Pumpkin
- Potatoes
- Radishes
- Rosemary
- Rutabaga
- Sage
- Scallions
- Spinach
- Squash
- Swiss Chard
- Tokoy Bekana
- Turnip
- Yukina Savoy





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