

# WINTER FARMING SERIES: SEASON EXTENSION STRUCTURES

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# Climate at NWREC

**N WILLAMETTE EXP STN, OREGON (356151)**

**Period of Record Monthly Climate Summary**

**Period of Record : 1/2/1963 to 8/31/2007**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Average Max. Temperature (F)</b>	46.7	51.5	56.0	60.3	67.2	73.4	80.5	80.8	75.5	64.1	52.8	46.0	62.9
<b>Average Min. Temperature (F)</b>	33.7	34.8	37.2	39.9	45.0	50.1	53.3	52.9	48.9	42.2	37.8	33.8	42.5
<b>Average Total Precipitation (in.)</b>	6.31	4.45	4.18	2.95	2.33	1.65	0.63	0.81	1.67	3.41	6.24	7.04	41.67
<b>Average Total Snowfall (in.)</b>	0.9	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.0
<b>Average Snow Depth (in.)</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

<http://www.wrcc.dri.edu/summary/orF.html>

# Season Extension on the Cheap

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# Crop Selection

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## Cold-season (hardy)

- Asparagus
- Broccoli
- Brussels sprouts
- Cabbage
- Cauliflower
- Garlic
- Leeks
- Onions
- Pea
- Radish



# Crop Selection

## Cool-season (semi-hardy)

- Beet
- Carrot
- Cauliflower
- Celery
- Swiss chard
- Lettuce
- Parsnip
- Potato



# Crop Selection

## Warm-season (tender)

- Cowpea
- Snap bean
- Soy bean
- Sweet corn
- Tomato



# Crop Selection

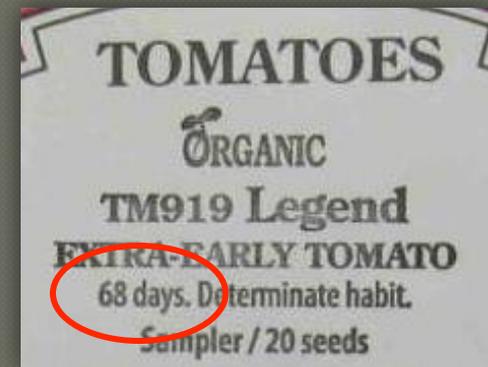
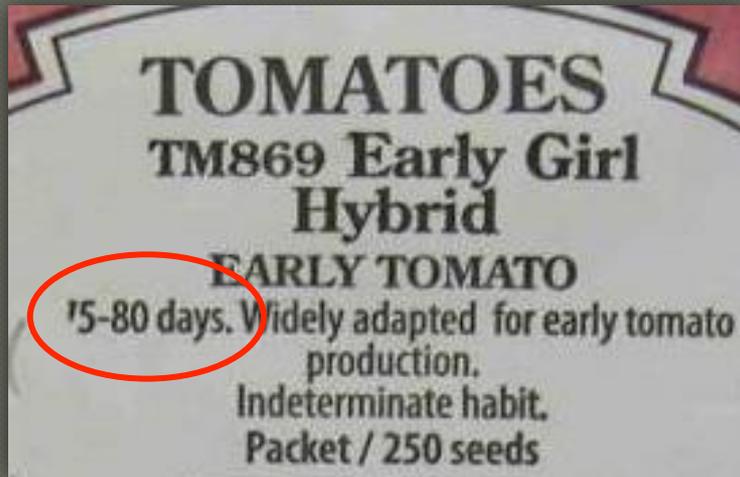
## Warm (hot?)-season (very tender)

- Cucumber
- Eggplant
- Lima bean
- Muskmelon
- Okra
- Pepper
- Pumpkin & squash
- Sweet potato
- Watermelon



# Variety Selection

- **Early maturing varieties**
- **Disease resistant varieties**



# Snap Peas

Snap peas are eaten like snap beans and are much sweeter if some seed development occurs before harvesting. They become even sweeter as the pods fatten up. A string forms in some varieties and it's easy to remove by peeling it back as the pods are detached from the vine. Snap peas yield much more food per planting than any other type of pea.

## PE626 CASCADIA

(OP) 89 days. Another great variety bred in the Northwest. This enation-resistant snap pea comes to us from Dr. Jim Baggett at Oregon State University. The short, 32 inch vines yield an abundance of dark green 3 1/2 inch pods that are thick, juicy, and very sweet. Also resistant to powdery mildew. Interchangeable with snow peas. Makes a fabulous snack!

- |                           |                             |
|---------------------------|-----------------------------|
| <b>S</b> SAMPLER: \$2.00  | <b>P</b> PACKET: \$2.85     |
| <b>B</b> 1/2 lb: \$5.05   | <b>F</b> 2 1/2 lbs: \$17.60 |
| <b>G</b> 5 lbs: \$29.75   | <b>I</b> 25 lbs: \$107.50   |
| <b>J</b> 50 lbs: \$192.50 |                             |

## PE627 SUGAR SNAP

(OP) 115 days. This AAS winner brought the snap pea to the home garden and made it popular. Sugar Snap's 6 foot tall vines need to be trellised. The plump, 3 inch long, dark green pods are exceptionally sweet and crunchy; excellent cooked or raw. Resistant to powdery mildew and pea leaf roll virus. Sow early.

- |                           |                             |
|---------------------------|-----------------------------|
| <b>S</b> SAMPLER: \$2.00  | <b>P</b> PACKET: \$2.95     |
| <b>B</b> 1/2 lb: \$5.15   | <b>F</b> 2 1/2 lbs: \$18.50 |
| <b>G</b> 5 lbs: \$31.50   | <b>I</b> 25 lbs: \$113.25   |
| <b>J</b> 50 lbs: \$205.00 |                             |



# Placement

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- **Cold-sensitive crops near south-facing walls**
  - Dark walls absorb heat well
  - Dark walls transmit heat equally well
- **Keep them out of the shade**
  - Know the sun path throughout the year
- **Natural heat sinks/sources**



# Protection

- Mulch
- Did
- Do r



# Protection

- **You thought I would say mulch again!**
  - Didn't you?
- **Windbreaks**
  - Watch out for shading



# Season Extension on the Less Cheap

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# Mulch



# Row Covers



# Floating Row Covers



# Cold Frames



# Low Tunnels



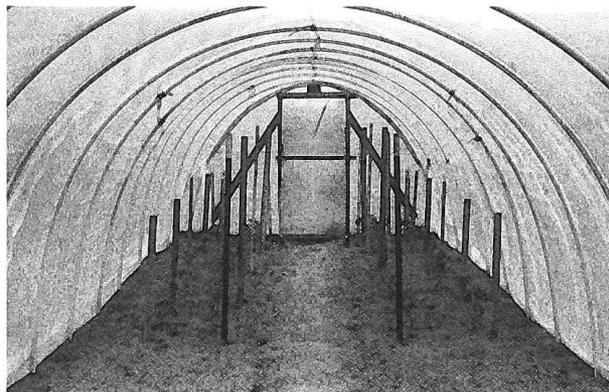
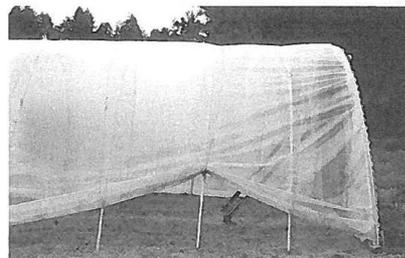
# Mid-sized Tunnels



<http://cru.cahe.wsu.edu/CEPublications/em015/em015.pdf>

## Portable Field Hoophouse

WSU EXTENSION MANUAL EM015



# Season Extension on the NOT Cheap



# What is a High Tunnel?

## High tunnels provide:

- Increased heat
- Protection from wind and precipitation
- Reduced leaf wetness
- Increased crop yield
- Shortened time to harvest for many crops



Mount Vernon, WA



Lubbock, TX



Knoxville, TN

# What is a Greenhouse?

## Greenhouses provide:

- Thermal protection
- Protection from wind and precipitation
- Reduced leaf wetness
- Increased crop yield
- Shortened time to harvest for many crops



[thegardenoracle.com](http://thegardenoracle.com)



[shedsforlessdirect.com](http://shedsforlessdirect.com)



[sturdi-built.com](http://sturdi-built.com)

# Regardless of the Structure

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**What is important?**

- **Crop Selection**
- **Variety Selection**
- **Placement**
- **Protection**



# Questions?



<http://plasticulture.wsu.edu>