



Early Season Vegetable Gardening

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Growing More Vegetables

Getting vegetables out of season



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- The sunny weather can't help but get gardeners excited



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- Sunshine and warm weather are all it takes to inspire you to get out and get planting



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- There's no crystal ball to predict upcoming weather, so consider using season-extending gardening techniques to get a jump on things



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- One often-overlooked aspect of accelerating the gardening season is to select the best varieties for our area



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- Whatever other methods you use, be sure to choose recommended varieties
- This makes more difference than almost any other decision when growing vegetables

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- Days to harvest are an important consideration
- The number of heat units required for maturity and preferred growing temperature are also important

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- Certain crops don't mature in our area even though our growing season is long enough because they do not get warm enough temperatures for a long enough time

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- When planting the garden, the weather isn't the only limiting factor



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- Soil temperatures are often more restrictive than air temperatures
- Plants may tolerate cool air temperatures, but all seeds require certain soil temperatures before they can germinate

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- Warming the soil is one way to accelerate the gardening season



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- The only practical method to warm soil is to utilize the natural warmth of the sun



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- Soil that is well drained and doesn't retain large amounts of water warms faster than wet soil
- Improving drainage allows the soil to be worked earlier and allows it to warm faster

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- Raised beds are an excellent way to counteract cool, wet soil in the early spring



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- Test your garden to see if it is dry enough to be worked by turning over a shovel full of soil



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- Pick up a handful and squeeze it tightly into a ball



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- Toss the ball lightly in the air and if it crumbles, you can start tilling



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- If it remains wet or stuck together, don't work the garden until it dries out



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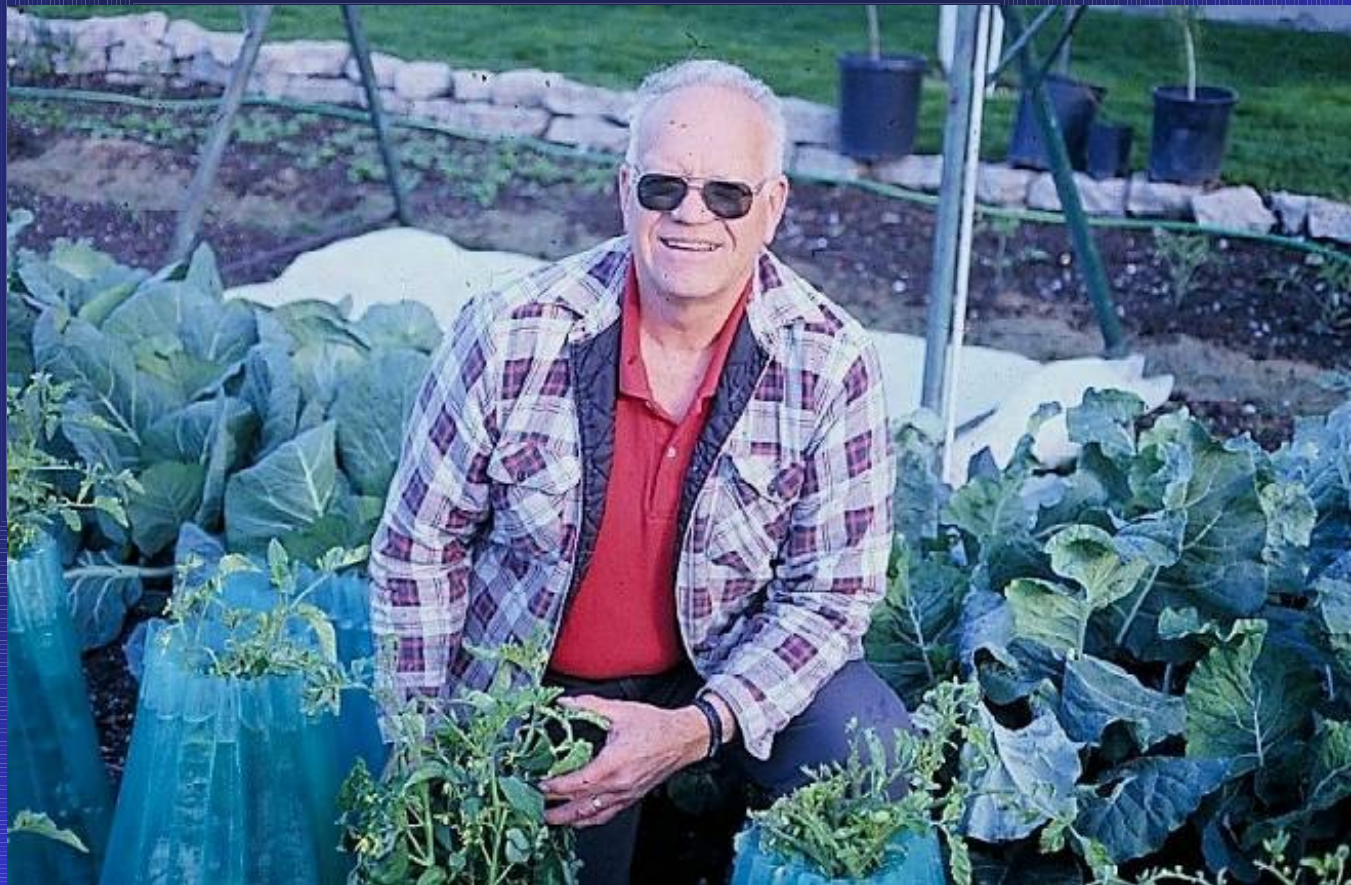
- Wall O' Waters allow the earliest planting



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– Advocates of Wall O' Waters have had plants growing in them for several weeks



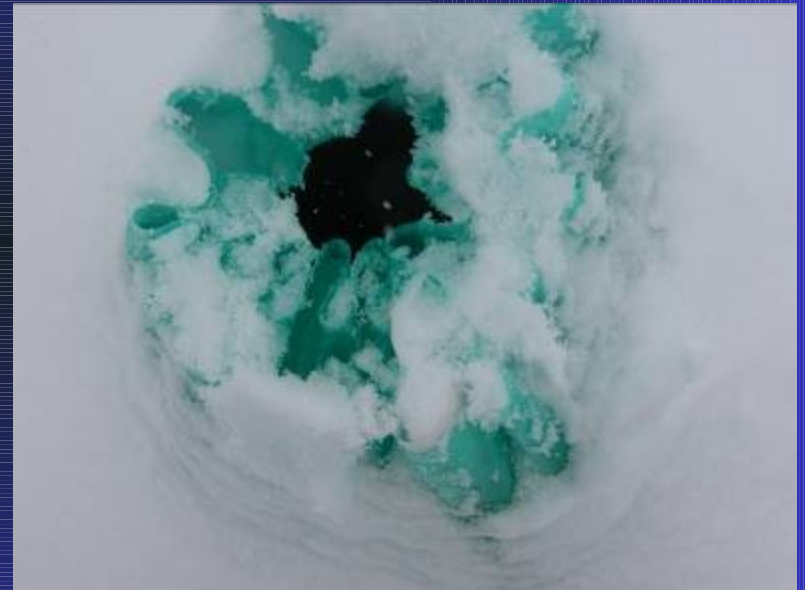
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- These ingenious devices hold almost 25 pounds of water

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The water warms in the day and releases heat at night and if the water freezes it releases more heat



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- This protects and warms the plants and accelerates planting times and maturity



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- For earliest maturity, grow tomatoes that set fruit at colder temperature including Glacier, C...



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Wall O' Water

No Wall O' Water



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- Hot caps give some protection from the wind and cold temperatures



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- This protection is very limited and also offers minimal soil warming



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- Planting can be accelerated only a week or two with hot caps, milk jugs or similar devices



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- The use of protective coverings to produce a miniature greenhouse effect is not a new idea



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- Placing glass bell jars over plants was a popular way to get early produce in the 1900s in Europe



- In 1910, 2 million jars were in use on Paris farms

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- Less expensive paper "hot caps" or "hot tents" covers replaced bell jars by the 1950's



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Red plastic under tomatoes



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Expensive pyramid
hot caps



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- Late frosts, low yields, a short growing season and insect damage are four common problems that home gardeners would rather do without

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- Fortunately, row covers add choices to the eco-gardener's management strategy



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- Row covers are available in a variety of materials, including plastics and fabrics



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- Floating row covers can allow earlier planting, enhance yields, allow an early harvest, and extend fall harvest



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- When properly used, they effectively block the feeding activity of some insects



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- An ideal row cover would be inexpensive and prevent air temperatures from falling below freezing at night



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- It would increase growing degree-days, and avoid excessively high temperatures and humidity that can have a negative impact on growth and flower development
- If you have experimented with row covers on your own, you know there is no such material at this time

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- There are no row covers that can offer more than a few degrees of frost protection



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- Their major benefit is more rapid growth by increasing daytime temperatures, not with frost protection



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– An approximate ranking of row cover types from warmest to coolest is:

- **Hottest**
- **Clear w/ holes**
- **Spunbonded fabrics**
- **White w/ holes**
- **Woven fabrics**
- **Clear slitted**
- **White slitted**
- **Coollest**

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- Wire hoops are needed to support plastic row covers as they cannot touch the plants



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- After the crop is planted, 10 gauge hardened galvanized wire pieces are bent in the shape of an arch and placed in the soil at 3-4 ft. intervals

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- The height of the tunnel is determined by the height of the crop to be grown



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–This tunnel is closed with clothes pins so it can be opened up to let heat escape



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- Lightweight spunbonded floating row covers can be placed over the plants without wire supports with the edges held down with soil or stones



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- These are easier to apply, and are the choice for small gardens



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- Proper ventilation is essential, particularly with the hottest materials
- Growers drill holes in the rolls of plastic prior to application; home gardeners may do this or slit plastic after it has been rolled out

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- Excessive heat build-up is the most costly and common error with first-time row cover users
- Usually, if outside air temperatures approach 80 degrees F., additional ventilation is needed

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– Insect control



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- Another benefit is that covers exclude many crop-damaging insect pests, including aphids, cabbage loopers and other worms



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- For insect control, row covers must go on before the insects are present
- Rotate the location of crops that attract insect pests that overwinter in the soil

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- To be effective insect barriers, row covers must be sealed at the sides and ends.



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- If you don't you can increase insect problems by trapping the insects with their food source



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- Floating row covers are permeable to water, oxygen and light and don't require support.



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- Cover the beds with the row covers after planting



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- These lightweight spun-polyester covers produce amazing results



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- Since the cover is so light in weight, it never has to be removed
- It is easy to use and causes almost no interference with the plants
- Temperatures underneath the cover climb 8 to 10 degrees, and the cover gives several degrees of frost protection in the event of a late spring frost

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- Plastic mulches warm the soil to allow earlier planting and enhanced maturity



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- While black plastic gets very warm, it only warms the soil by 2 or 3 degrees



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- Clear plastic can raise soil temperature by 10 degrees F. allowing earlier planting and maturity



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- I have had some of my best success from using Wall O' Waters with clear plastic mulch



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- Organic mulches generally cool the soil and are not used to facilitate earlier planting



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- Plant protection devices keep the plants and soils warmer and protect the plants and soils from the wind



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- Peppers: Flower abortion can occur with high temperatures, so adequate ventilation is critical
- Early growth and early yield can be successfully obtained with ventilated white plastic



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- Tomatoes: Row covers are not recommended as high temperatures reduce early yields



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- Cole Crops, Lettuce, Spinach, Celery: Row covers increase early production with these crops



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- Spinach, Beets, and Chard: Row covers increase growth and provide protection from leaf miners



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- Muskmelon: A 7-10 day earlier harvest and better yields but remove tunnels when plants flower



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- Summer Squash: Similar to melons, it is easy and responsive to growing under tunnels



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- Cucumber: Similar to melons, but ventilated white plastic or fabric tunnels are safest



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- Plant protection devices help make possible an accelerated start even in a questionable season



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- Though it's not nice to fool Mother Nature, it's OK to help plants to grow faster and better



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- Use these techniques to help bring about some of the best plantings and greatest harvests you'll ever enjoy



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