

# Good Gardening Practices

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# Presentation Plan

- Garden planning
- Site selection
- Irrigation
- Tillage
- Weed Control
- Crop selection
- Garden tools
- Videos





# What is a Vegetable?

- Might be defined as a herbaceous plant or portion of a plant that is eaten whole or in part.
- Vegetable crops can be thought of as high value crops that are intensively managed and differentiated from agronomic crops such as wheat, rice, soybeans, and cotton. These are more widely grown but managed less intensively.



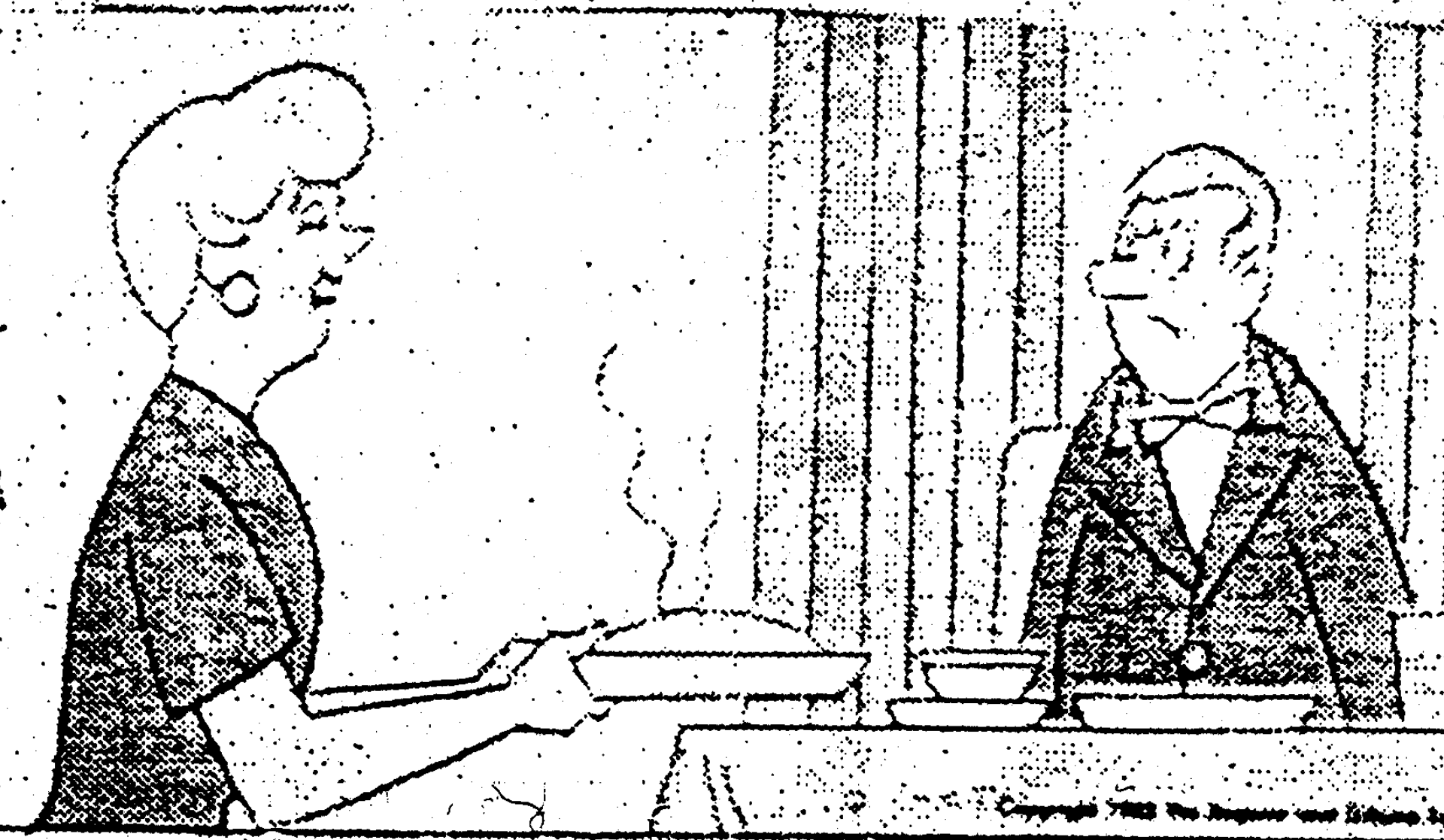


# Why Grow Vegetables?

- For a farmer:
  - Increase farm income
  - Farm diversification
- But for home gardeners it is:
  - Having their own food
  - Knowing the source
  - Enjoyable pastime
  - Something to share with neighbors and community
  - Reduce food costs







**"Bob, including seeds, fertilizer, garden tractor and chiropractor's bills, your lima beans cost \$600."**



# Planning a garden

- What do you want to grow?
- Will it all be for fresh consumption or will I freeze / can it?
- Who is going to benefit from the garden?
- How big a garden do I want?
- When will I have crops in the garden?
  
- **WHO IS GOING TO DO ALL THE WORK?**



# Planning a garden

- Try to plan early, as much as possible
- Know which crops are direct seeded and which are transplanted
  - direct seeded
    - beans
    - carrots
    - sweet corn
    - Lettuce
    - pea
  - transplanted
    - tomato
    - pepper
    - melon
- Soil testing





# Crops for different seasons

- Peas – mid-March
- Onions – mid-March
- Spinach – late-March through April then in the late summer through September
- Lettuce – spring and fall, winter with season extension
- Beets and Turnip – late-March/April
- Cabbage and Broccoli – late-March/April and August/September
- Green beans and Edamame – May
- Sweet Corn – May
- Eggplant and Tomatoes – late-April/May



# Virginia's Growing Conditions

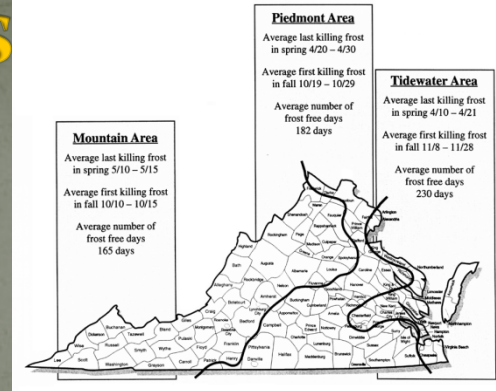
- Growing season days-165 to 230.

## Tidewater Area

- Average last killing frost in spring 4/10 – 4/21
- Average first killing frost in fall 11/08 – 11/28
- Average number of frost free days 230 days

## Piedmont Area

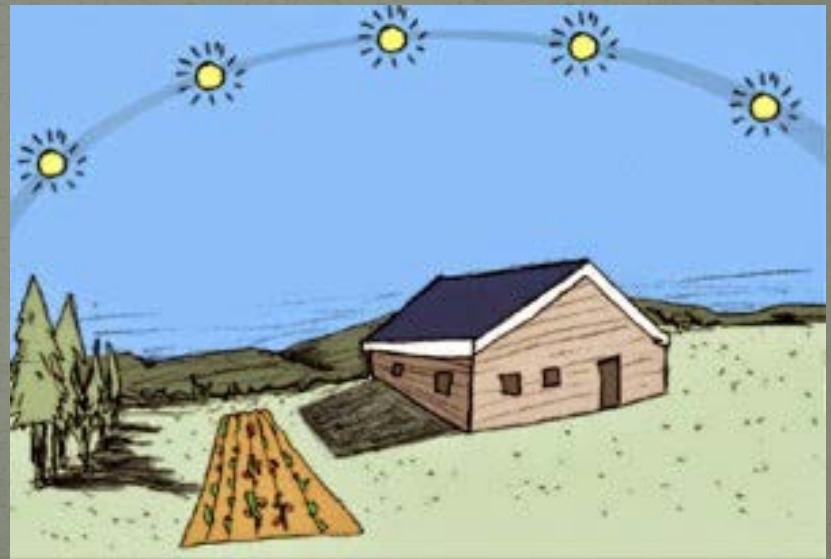
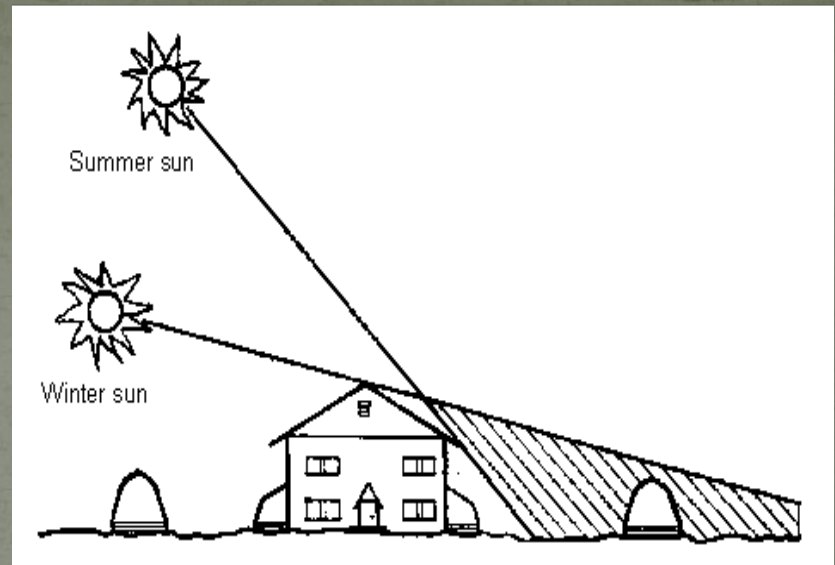
- Average last killing frost in spring 4/20 – 4/30
- Average first killing frost in fall 10/19 – 10/29
- Average number of frost free days 180 days





# Location

- Convenient
- Check underground
- Should be located where it gets the maximum sunlight
  - Avoid shading by trees
  - 6-8 hours sunlight each day







## Garden Site Selection

Level, well drained site

Little shade

Near water

Rotate

Stay away from low spots

If possible, avoid previous sod





# Cover Crops

- Enhance biological activity in soil
- Add organic matter to soil
- Improve soil structure
- Increase availability of existing nutrients
- Reduce weeds
- Reduce disease and pest when used in crop rotation



**Buckwheat**

HGIC



**Winter wheat and hairy vetch**

HGIC



# Green Manure

- is a type of cover crop grown primarily to add nutrients and organic matter to the soil
- Soil organic matter – the fraction of the soil that consists of plant or animal tissue in various stages of breakdown





Cover Crop	Sowing Time	Seeding Rate Per 100 sq. ft. (10' x 10' Garden)	Does This Plant Fix Nitrogen?	Growth Rate	Primary Uses/ Comments
<b>Buckwheat</b>	Spring, Summer	2 lb	No	Fast	Is easily worked into the soil. Attracts pollinators and beneficial insects. Re-seeds prolifically. DO NOT allow to go to seed.
<b>Clover (Sweet)</b>	Spring, Summer	½ lb	Yes	Medium	Grows better in high pH soils than other clovers.
<b>Oats</b>	Late Summer, Early Fall	4 lb	No	Medium	Likes well drained soils. Dies over the winter. Makes a good choice in areas to be worked early the following spring.
<b>Peas (Field)</b>	Spring, Early Fall	5 lb	Yes	Fast	Can outcompete many weeds.
<b>Radish (Oilseed)</b>	Fall	1 lb	No	Fast	Is easily worked into the soil.
<b>Rye (Winter)</b>	Fall	4 lb	No	Fast	Easy to grow. Grows fast. Can be planted late in the season.
<b>Ryegrass (Annual)</b>	Late Summer, Early Fall	1 lb	No	Fast	Easy to grow.
<b>Wheat (Winter)</b>	Late Summer, Fall	2 lb	No	Fast	Needs fertile soil. Does not like low pH soils.



# Companion Planting

- Growing two or more crops near each other to help each in some way
- Encouraging beneficials
- “three sisters”, lettuce under tomatoes
- Farmscaping





# Tilling the Soil

Helps to improve air circulation, reduce weed pressure and incorporate materials

Frequent tillage can lead to reduction of organic matter and reduced soil structure

Rototiller

Disc

Double digging

Plow

Never wet soil







## Raised Beds

Made of wood

Hills or mounds of dirt

Small volume of soil to warm in spring

More efficient use of irrigation

Compost



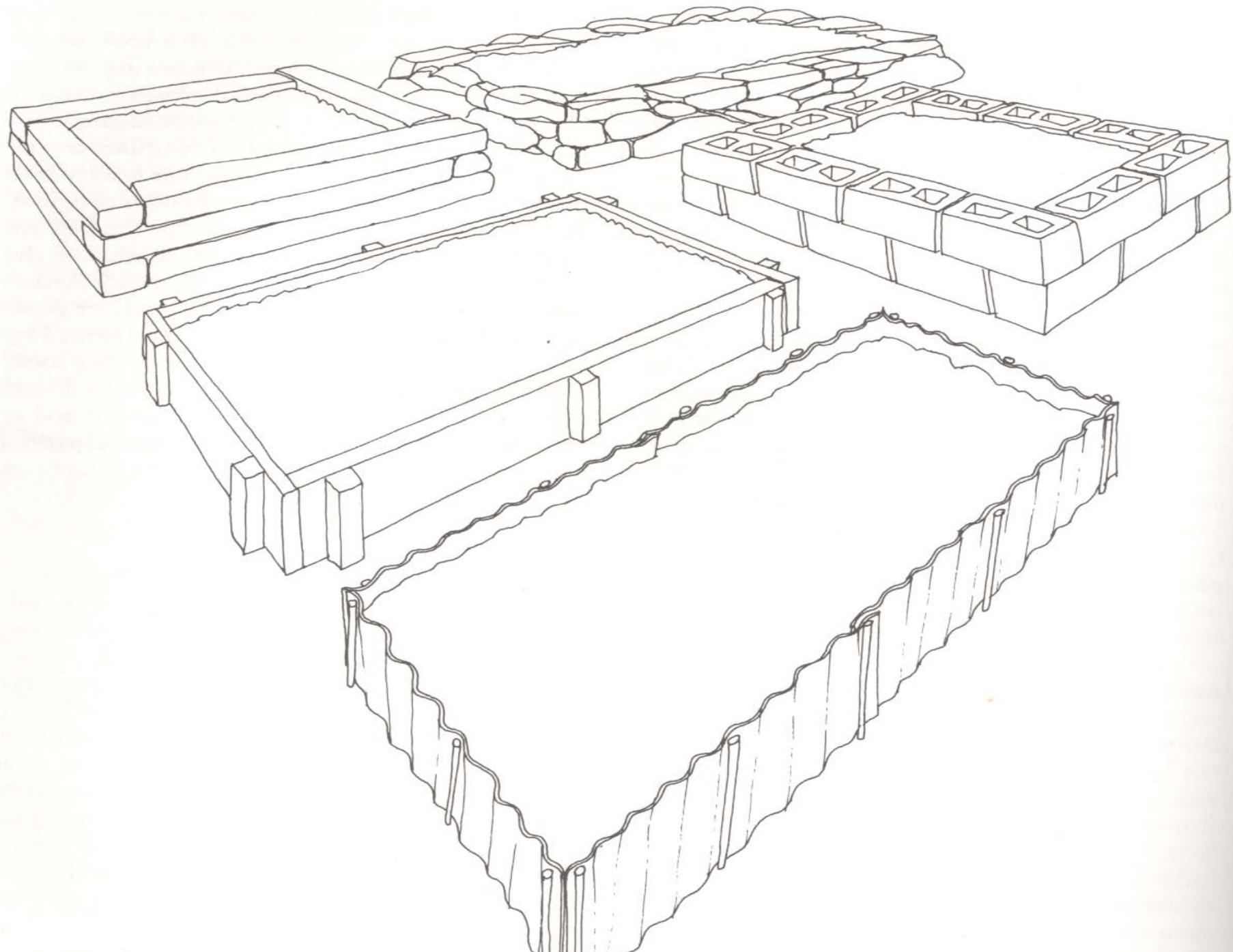
NCSU



KSU

Container Gardening Video







# Soil Amendments

pH correction

Synthetic fertilizer

Compost

Manures

Green manures







## Weed Control

Herbicides

Ground covers/  
weed barriers

Tight spacing

Cold, hard steel



[Weed Control Video](#)



# Tools

Shovels, rakes

Sprayers

Hand tools



[Tool Video](#)

[AgrAbility Video](#)





## Seed

Many sources

Saving seeds

Bakers Creek Seeds

Johnny's Seeds



## Irrigation



Rain

Drip

Sprinkler

Needed for consistency and success

Plants and fruit high water content

About one inch per week

Keeping soil moisture evaporation down



# So...do I need to irrigate my garden?

- YES

- Why?

- Most plants require 1-2" per week
- Seasonal drought
- Although most of Virginia receives ample precipitation, the summer months are the driest
- Critical watering times usually coincide with times with the least rainfall
- By providing the right amount of water at the best time and in the most effective way, you are giving your garden the best chance of succeeding



# Critical Watering Times

- Legumes – pod filling
- Cole crops – head development
- Sweet corn – ear development
- Tomatoes, melons – flowering to fruit development





# Drip Irrigation

- Very efficient in use of water
- Delivers water slowly
- Low pressure, low volume
- Less or no free water on leaves
- Tape, in-line, emitters, spray stakes, soaker hose
- Less weeds in row middles
- You can work while watering





# Drip Systems

System	Pros and Cons
Soaker hose	Easiest, expensive for many rows, inconsistent
Drip tape	Requires some specialized materials, inexpensive, not as durable
Drip emitters	Most work, get water exactly where it needs to be, more expensive and more parts than drip tape





## Transplant Production

Beneficial for many crops

Requires greenhouse

Requires proper planning

Transplant shock

Good initial watering



[Soil Blocking Video](#)



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Thank You.

Questions?



# Tomato

- Warm season, intolerant to frost
- Edible part is the fruit, processing or fresh market
- In Virginia, commercially produced mainly on the eastern shore
- Different size, shape, and color based on cultivar
- Transplants
- Prune suckers to immediately below first cluster
- Determinant 4-5' row spacing 18 or 24" OC in row, Indeterminate 5-6' row spacing 24-36" OC in row
- Catfacing, BER, cracking
- Worms, Colorado Potato Beetle, Aphids, Thrips
- Botrytis, Late Blight, Fruit Rot

