



# Intro to Summer Gardening

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# Agenda

How to set up your garden

Early season plantings

Regular season plantings

Later plantings

Common garden pests

Common garden diseases



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All gardeners know  
better than other  
gardeners.

Chinese Proverb



# Getting Started

Ideas for setting up your garden bed



# Garden Bed Types

## In Ground

- Pros:
  - Cost effective
  - Plants can establish deeper root systems
  - Larger planting area
  - Water retention



## Raised beds

- Pros:
  - Custom soil mix
  - Less weeding
  - Deters some ground-based pests
  - Taller beds create ease of access



## Container



- Pros:
  - Ideal for small spaces
  - Portability/Flexibility- containers can be moved to maximize sunlight or protect from harsh weather
  - Custom soil mix
  - Easy to start and maintain
  - Reduced pests/diseases

# Garden Bed Types

## In Ground

- Cons:
  - Needs tilled
  - Soil quality
  - Calling 811
  - WEEDS

## Raised beds

- Cons:
  - Initial cost
  - Initial labor
  - Decreased area for crop rotation

## Container

- Cons:
  - More frequent watering
  - Nutrient management
  - Limited root space
  - Cost of containers that last

# Garden Bed Types

## Straw Bale Gardens

### Pros:

- No digging/tilling
- Excellent drainage/good aeration
- Very low weeds
- Nutrient rich growing medium
- Natural/biodegradable
- Potentially cost effective start up

### Cons:

- Many factors can affect the price and availability of straw bales
- Can attract rodents
- Needs conditioning before use
- Messy decomposition
- Not very attractive



# Finding the Best Spot

- Sunshine
  - Most vegetables require 6-8 hours of sunlight daily
- Drainage
  - Vegetables require well drained soil
- Soil Quality
  - If planting directly in ground, consider sending your soil in for testing



# Early Season Plantings

- Beets
- Carrots
- Kale
- Kohlrabi
- Mustard Greens
- Parsnips
- Peas
- Potatoes
- Onion (sets)
- Radishes
- Spinach
- Swiss Chard
- Turnips

# Early Season Plantings- For Future you

- Asparagus

- Year 1
  - NO harvesting
- Year 2
  - Minimal to no harvesting
- Year 3
  - Okay to harvest



- Rhubarb crowns

- Years 1&2
  - NO harvesting
- Year 3
  - Minimal harvesting- only the thickest stalks for about 4 weeks
- Year 4
  - Full harvest- never take more than 1/3 to 1/2 of the plant at a time and avoid harvest after June.



# Regular Season Planting

- Beans
- Sweet corn
- Cucumbers
- Eggplant
- Melons
- Peppers
- Pumpkins
- Summer squashes
- Tomatoes
- Broccoli
- Cabbage
- Cauliflower
- Celery
- Head lettuce

# Later Planting

- Leafy greens
- Root vegetables
- Brassicas
- Peas
- Garlic (for spring harvest)



# Maximizing Garden Space

## Interplanting

- Planting fast growing plants around slower growing plants
- Example: Planting radishes around tomatoes

## Companion planting

- Pairing plants that benefit each other
- Example: Tomato plants and basil plants. The basil helps deter pests.
- Another great example is The Three Sisters: Corn, Pole Beans, and Squash

## Succession planting

- Planting plants directly in the space left harvesting another plant or planting with staggered timing.
- This allows for an almost continuous harvest

# Aphids

## How they harm:

- Cluster on new growth and suck out the plant juices. Can cause distorted leaves, stunted new growth.



## Natural predators:

- Ladybugs
- Lacewings

## Other control methods:

- Water spray
- Insecticidal soap

# Cabbage Worms



## How they harm:

- Attack brassicas. Small, but voracious eaters.

## Natural predators:

- Ladybugs
- Lacewings
- Birds

## Other control methods:

- Row Covers (must be placed before the eggs are laid)
- Handpicking
- Bt (*Bacillus thuringiensis*)



# Squash Bugs

## How they harm:

- Sap suckers. Cause wilting and eventual plant death.

## Natural predators:

- Toads
- Praying mantis
- Birds

## Other control methods:

- Handpicking



# Squash Vine Borer



## How they harm:

- Bores into squash vines leading to plant death

## Natural predators:

- Beneficial nematodes when the squash vine borer is in pupal stage

## Other control methods:

- Rotate your cucurbits
- Row covers secured so that the borer cannot get under (must be removed when the vine starts to flower)

# Colorado Potato Beetle

## How they harm:

- Quickly defoliates potatoes, tomatoes, and eggplants.

## Natural predators:

- Ladybugs
- Lacewing larvae

## Other control methods:

- Bt (*Bacillus thuringiensis*)
- Handpicking



# Corn Earworms



## How they harm:

- Feed on corn silks, reducing the number of kernels on the cob.
- Emotional damage of peeling open an ear to find one

## Natural predators:

- Lacewing larvae

## Other control methods:

- Bt (*Bacillus thuringiensis*)
- Buy resistant varieties

# Tomato Hornworms

## How they harm:

- Can eat an entire tomato plant down to a skeleton in what feels like 2.5 seconds

## Natural predators:

- Parasitic wasps



## Other control methods:

- Bt (Bacillus thuringiensis)
- The BEST control method is handpicking

# Rabbits

- Cute
- Fuzzy
- Harbingers of Destruction



# Ladybug Larvae- The Good Guys



# Common Garden Diseases

## Fungal

- Early blight (tomatoes, potatoes, eggplant)
- Late blight (tomatoes, potatoes)
- Septoria leaf spot (tomatoes)
- Powdery mildew (cucurbits, tomatoes, peas, beans- most plants really)
- Downy mildew (cucurbits, basil, lettuce)
- Anthracnose (beans, tomatoes, cucurbits)
- Verticillium and Fusarium wilt (tomatoes, potatoes, eggplants, peppers)
- Damping-off (seedlings)

## Bacterial

- Bacterial diseases:
- Bacterial spot (tomatoes, peppers)
- Bacterial canker (tomatoes)
- Bacterial wilt (Cucurbits)

## Viruses

### Viruses:

Tobacco Mosaic Virus (TMV)/Tomato Mosaic Virus (ToMV)- tomatoes, peppers, tobacco

Cucumber Mosaic Virus (CMV)- Cucurbits, tomatoes, peppers, beans

- Aster yellows- carrots, lettuce, tomatoes

Early blight



Powdery mildew



Septoria leaf spot



Anthraxnose



Late blight



Downy mildew



Fusarium Wilt



Verticillium Wilt



Bacterial canker



Bacterial spot



Bacterial Wilt



Tomato Mosaic Virus



Cucumber Mosaic Virus



Aster yellows



# Blossom End Rot



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- a common issue that is a mineral deficiency of calcium. Test your soil to ensure that enough calcium is present, avoid high nitrogen fertilizers, and water consistently so the plant's roots can uptake the calcium. Foliar calcium sprays are available for immediate treatment.

# Gardening Resources

- ISU Extension
  - <https://store.extension.iastate.edu/Topic/Yard-and-Garden/Gardening?S=0&A=0&F=0> -Find great FREE downloadable guides here!
- Earl May
  - If you have a diseased plant but aren't sure what is wrong with it, you can take a sample here and they will help figure it out. Sometimes they even offer free soil testing.
- Your local library
  - A great source for gardening books

# Thank you

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