



MASTER GARDENER
COLORADO STATE UNIVERSITY
EXTENSION



Vegetables

Learning Objectives

At the end of this unit, the student will be able to:

- Describe block style layout in a raised bed garden design.
- Describe garden planning and planting times.
- Describe soil preparation and fertilization for the vegetable garden.
- Describe routine garden care including mulching, irrigation, and water conservation.
- Describe routine care for tomatoes.
- List hints for growing other vegetables.
- Describe frost protection and microclimate modification.

Vegetables Curriculum developed David Whiting (CSU Extension, retired), Carol O'Meara (CSU Extension, Boulder County) and Carl Wilson (CSU Extension, retired)

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References / Reading

Colorado State University Cooperative Extension

CMG GardenNotes

- Block Style Layout in Raised Bed Vegetable Gardens – #713
- Frost Protection and Extending the Growing Season – #722
- Growing Vegetable in a Hobby Greenhouse – #723
- Irrigating the Vegetable Garden – #714
- Mulches for the Vegetable Garden – #715
- Sample Planting Guide for Raised-Bed Garden – #721
- Sample Vegetable Garden Seed Catalogs – #712
- Tomatoes – Early Blight of Tomato – #718
- Tomatoes – Growing Tomatoes – #717
- Vegetable Garden Hints – #719
- Vegetable Garden: Soil Management and Fertilization – #711
- Vegetable Gardening in Containers – #724
- Vegetable Planting Guide – #720
- Water Conservation in the Vegetable Garden – #716

- Climate Summary: Boulder and Longmont – #741
- Climate Summary: Castle Rock, Littleton and Parker – #742
- Climate Summary: Colorado Springs, Pueblo, and Cannon City – #742
- Climate Summary: Dillon – #744
- Climate Summary: Eagle and Glenwood Springs – #745
- Climate Summary: Fort Collins, Greeley and Estes Park – #746
- Climate Summary: Gunnison – #747
- Climate Summary: Northeast Colorado – #748
- Climate Summary: Northwest Colorado – #749
- Climate Summary: Southwest Colorado – #750

CSU Extension Fact Sheets

- Corn – Sweet Corn for the Home Garden – #7.607
- Eggplants – Peppers and Eggplant – #7.616
- Flea Beetle – #5.592
- Grasshopper Control in Yards and Gardens – #5.536
- Herbs – Growing, Preserving and Using Herbs – #9.335
- Horticultural Oils – #5.569
- Insect Control: Horticultural Oils – #5.569
- Insects – Flea Beetle – #5.592
- Insects – Grasshopper Control in Yards and Gardens – #5.536
- Insects – Greenhouse Whitefly – #5.587
- Insects – Potato or Tomato Psyllids – #5.540

- Leafy Vegetable Crops for the Home Garden – #7.608
- Onions and Related Species for Home Gardens – #7.614

- Peppers and Eggplant – #7.616
- Potatoes Seeds – Saving Seeds – #7.602
- Preventing E. coli From Garden to Plate – #9.369
- Psyllids – Potato or Tomato Psyllids – #5.540
- Root crops – Vegetable Root Crops – #7.604
- Seeds – Growing Plants from Seed – #7.409
- Seeds – Home Storage of Vegetable and Flower Seeds – #7.221
- Storage of Home-Grown Vegetables – #7.601
- Tomatoes – Recognizing Tomato Problems – #2.949
- Vine Crops – Cucumbers, Pumpkins, Squash, and Melons – #7.609

Review Questions

1. Describe how adding organic matter improves a sandy garden soil. A clayey garden soil.
2. List techniques to manage soil compaction in the vegetable garden.
3. What are the limitations on using manure and compost made with manure in the vegetable garden?
4. Describe the pros and cons of homemade compost, of commercial compost.
5. Describe the standard application rate for compost. How does it change with incorporation depth and potential for salts in the product?
6. If the soil is low in organic matter, will a routine application of compost and/or manure supply the nitrogen needs for crops? Explain why.
7. How the fertilizer application rate change based on soil organic content?
8. What is the purpose of a starter fertilizer? List examples of common fertilizers that could be used as a starter fertilizer.
9. What is nitrogen side dressing? List examples of common fertilizers that could be used for side-dressing.
10. In Colorado, what types of soils will likely have deficiencies of phosphorus and potassium?
11. Why are the advantages of a block style garden layout? Of raised bed gardens?
12. Describe how to design a garden in block style layout.
13. Describe how to make a raised bed garden. How high should the beds be raised? In routine raised bed gardening, where are the crop's roots?
14. Explain "double digging".
15. Describe how to set up a soaker hose drip irrigation system in a raised bed garden.
16. Describe procedures and limitations on using grass clipping mulch in the vegetable garden.
17. Can wood/bark chip mulch be used in the vegetable garden? Explain.
18. List gardening techniques to conserve water in the vegetable garden. What happens to vegetable quality with inadequate water supplies?
19. What is the critical water period for various vegetables?
20. Describe the ideal tomato transplant. How should tall, leggy transplants be planted?
21. What are the advantages of trellising tomatoes? How far apart should tomatoes be spaced? Give examples of trellising methods.
22. What are the advantage and limitations on using black plastic mulch on tomatoes, peppers, eggplants and vine crops? Describe techniques for using plastic mulch.
23. Tomatoes are often referred to as being a "low nitrogen" crop. More correctly stated, they are fussy about nitrogen levels. Explain the fertilizer needs at planting and as the crop nears harvest.

24. Explain the management option for early blight on tomatoes. Will a fungicide stop the disease when leaves have turned yellow late summer?
25. Why will vine crops bloom but not set fruit?
26. When should beans be planted?
27. Beans have a higher water use than other vegetables. What happens when they get a little dry? How can you tell when bean plants need irrigation?
28. Explain the growing techniques for quality cole crops.
29. *Bacillus thuringiensis*, *Bt*, is the standard biological control approach for worms in cole crops. Describe the criteria in using *Bt*. (See fact sheet #5.556.)
30. What is isolation required in growing Super Sweet corn varieties?
31. Gardeners often list “poor quality” as the reason most don’t grow leafy vegetables. What are the keys to great quality lettuce, spinach, chard, and other leafy vegetables?
32. What cultural practices are needed to compensate for the onion family’s poor, inefficient root system?
33. What is the difference between English peas, snow or sugar peas, and snap peas?
34. Describe how to get potatoes off to a great start.
35. What are the different temperature requirements of hardy, semi-hardy, tender, and very tender vegetables?
36. How does a gardener know when to plant various crops?
37. In covering plants for frost protection, what is the heat source, i.e., where is the heat stored?