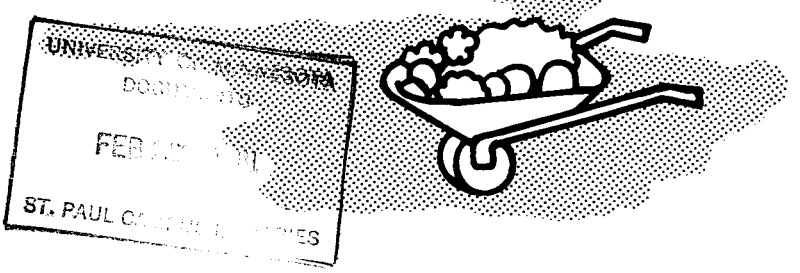
AGRICULTURAL EXTENSION SERVICE–UNIVERSITY OF MINNESOTA

YARD'N'GARDEN



Planning the Vegetable Garden

FACT SHEET 100

C. GUSTAV HARD

Is a vegetable garden for you? Gardening of any kind must be entered into with a commitment of time, energy, and skills. A lack of any one or more of these elements may cause the gardening effort to result in sheer disappointment.

Your personal time and the commitment of family members' time is not constant. It varies during the growing season, and there are times when acute competition for time will take you away from the garden. The result might be that the weeds take over, the peas don't get picked, or insects and disease go unattended. In gardening we must look forward to the entire season and not just spring, when enthusiasm is high.

Gardening is rewarding in terms of accomplishments, produce, and recreation. Only you can decide whether your health will allow full participation or whether you need assistance through help or mechanization.

Gardening skills are important but not always essential. It is possible to learn garden skills as you are growing vegetables, but certain steps must be followed to insure success.

Site Selection

Your garden should be near the house if possible. Many farm and country gardens are in one unit, but it often is more convenient to have a small kitchen garden near the house, with a larger garden out in the field for crops that are to be stored or preserved.

In the city the vegetable garden may have to be integrated into the landscape. Vegetables can be grown with landscape plant materials. If the landscape allows for a service area in the design (see *Landscaping Minnesota Homes,* University of Minnesota Extension Bulletin 283), the garden can be incorporated as part of this functioning unit.

The land should be fairly level and well-drained. It should have no soil pockets where water might stand or where frosts might strike. In windy regions, gardens should be protected by shelterbelts, shrub borders, or buildings, but they should not be shaded by these shelters. All vegetables like sun, and trees not only shut out sunlight but also rob the soil of water and minerals that the vegetables need.

Draw Your Plan

You want to make the best possible use of your garden area in producing food for your family, and planning is essential. Put your plan on paper. Draw it to an appropriate scale, showing the size of the garden, spacing between rows, crops and varieties to be planted, dates of planting, length of row of each crop, spacing of transplanted crops in the row, succession plantings, and general arrangement of the crops.

Make all rows straight and parallel. If you use power equipment, make the rows long to avoid unnecessary turning around. If you hand cultivate, you'll find that short rows are less monotonous to work. On a slope, rows should run along the contour or across the slope. Arrange the crops so that tall plants such as sweet corn and pole beans do not shade the small plants.

The size of the garden depends on a number of variables, such as the size of your family, what you want to grow, and whether it is just a table garden or if you wish to process foods and store them. The time and effort factor also will limit the size in terms of what can be cared for satisfactorily.

Some Planning Tips

- Put perennial vegetables like asparagus and rhubarb along with small fruits on one side of the garden where they will not interfere with garden preparation.
- Group the crops according to the time they mature to facilitate succession plantings, rotation, or planting of green manure crops after harvest of the early crop.
- Vine crops such as melons, squash, and cucumbers can be planted on one side so they can spread into the fence row.
- To insure good pollination of sweet corn, plant several short parallel rows in blocks rather than one long single row.
- Do not crowd the plants; allow ample room for each vegetable to develop properly.
- Do not plant too much of crops such as chard, leaf lettuce, and parsley. By removing a few leaves from each of several plants instead of harvesting an entire plant, you will induce the plants to produce a continuous supply of high-quality produce over a longer period.
- Do not plant vegetables that are disliked by the family.
- When space is at a premium, it may be dollar-wise to plant those vegetables that are high in cost at the store or market and purchase those vegetables which are "good buy" items at the market or are difficult to grow.

Use Space Efficiently

Wise use of space will not only increase the productivity of your garden over the year, but it also will reduce the amount of work involved and improve the diversity of cropping in the garden. Here are some tips:

Succession planting—follow a quick-maturing crop like lettuce with a fall crop like cabbage on the same area.

Intercropping—plant a quick-maturing crop that requires narrow spacing (peas or spinach) between rows of crops requiring wide spacing and a longer period to mature (melons or cucumbers).

Companion cropping—sow an early-maturing crop like radishes (thinly) in the same row as a late-maturing, slow-germinating crop such as parsnips. This will aid germination and will make early cultivation easier.

Staking or trellising—use these supports for such crops as tomatoes, pole beans, and vine crops.

How to Choose Varieties

In choosing varieties of vegetables for your garden, consider your family's likes and dislikes. Plan crops that will give the highest nutritive returns. Select adapted varieties best suited for your particular use. Disease-resistant varieties usually make your gardening task easier and should be selected whenever possible. Order your seed early from reliable seed companies. New and more productive varieties disappear from the seed store shelves early in the spring.

Plan for a 20 x 50 foot garden

Scale: 1 inch = 5 feet

Distance from end of garden (feet)	Distance between rows (inches)	
1½	18	Pars-ley* Dill* Swiss Chard† Pepper‖
3½	24	Parsnips* with radishes*
5	18	Spinach* followed by carrots¶
6½	18	Carrots* followed by kohlrabi**
8	18	Radishes† followed by carrots¶
9½	18	Beets* followed by turnips**
11	18	Onions,* seeded or transplanted
13	24	Cabbage transplants†
15	24	Cauliflower† interplanted with broccoli†
17	24	Peas,* double row, first planting
17½	6	
19½	24	Radishes* followed by cucumbers§
21½	24	Peas,† double row, second planting
22	6	
24	24	Lettuce* followed by tomatoes,‖ staked
26	24	Peas,‡ double row, third planting
26½	6	
28½	24	Onion sets* followed by tomatoes,‖ staked
30½	24	Peas,§ double row, fourth planting
31	6	
33	24	Kohlrabi* followed by tomatoes,‖ staked
35½	30	Pole beans§ on trellis or green bush beans
37	18	Green bush beans,‖ second planting
38½	18	Wax beans§
41	30	Sweet corn‡ / Sweet corn‖
43½	30	First planting: Sweet corn‡ / Second planting: Sweet corn‖
46	30	Sweet corn‡ / Sweet corn‖
48½	30	Sweet corn‡ / Sweet corn‖
50	18	

KEY TO PLANTING DATES: * When garden is prepared; † About May 1; ‡ About May 10; § About May 15; ‖ About June 1; ¶ About June 15; ** About August 1.

Try something new each year. This is one way to introduce new vegetables in the diet, and there is a certain intrigue that goes with growing something different.

Examine Your Soil

Does your soil meet the nutritional needs of the plants you wish to grow? Although the soil for the vegetable garden preferably should be a rich sandy loam, either a heavy clay or light sandy soil can be made suitable for gardening with liberal applications of organic matter. Always have your soil tested in the fall far enough ahead of cold weather to correct the pH before the soil freezes.

Good sources of organic matter include compost, barnyard manure, peat, and winter rye sowed as a cover crop about September. Barnyard manure or compost may be applied at the rate of 3 to 4 bushels per 100 square feet, or 15 to 20 tons per acre. Peat can be used at the rate of 5 to 6 bushels per 100 square feet.

Vegetables do best on neutral to slightly acid soils. In lime-deficient, very acid areas, lime may be applied in the form of ground limestone at the rate of 7 to 10 pounds per 100 square feet (hydrated limes 5 to 7 pounds, or marl 1/4 to 1/3 bushel). No lime should be added unless a soil test shows a need for it.

Soil Needs Nutrients, Too

In addition to organic matter and proper acidity, the soil should contain plenty of readily available nutrients. These are best supplied by liberal applications of manure and superphosphate or commercial fertilizers. A complete commercial fertilizer with a ratio of 1-1-1 or 1-2-2 (N-P-K) is suitable for the vegetable garden. This can be applied at the rate of 3 pounds per 100 square feet at the time the garden is prepared in the spring.

The fertilizer should be worked into the soil to a depth of 3 or 4 inches with a harrow or rake. Commercial fertilizer can also be applied as a sidedressing when you plant seeds. Apply the fertilizer in a furrow 2 or 3 inches deep and 2 to 3 inches on each side of the row where seeds are to be planted. Use 1/2 pound per 25 feet of row. This method is especially good when intensive gardening is practiced and when a succession of fall crops follows early-planted ones.

Don't Save Seed

Generally, it is wiser to buy fresh seeds each year than to try to save seed from your garden. Many of our vegetable crops are cross-pollinated. Some of these are corn, cucumbers, melons, pumpkins, squash, onions, spinach, radishes, beets, turnips, and cabbage. Seeds saved from these crops will not produce true to type. Sweet corn will cross with field corn, so it is not wise to save sweet corn seed if field corn is grown nearby. Hybrid sweet corn or any other hybrid vegetables should not be saved for seed.

You can save seed from choice watermelons if no other variety of watermelon or citron grew near them. Seed from muskmelons is safe even if it was grown next to cucumbers. Seeds of tomatoes other than hybrids often can be saved successfully, if stored under cool conditions.

Some seeds are not viable as long as others. Seeds of corn, beans, peas, onions, parsley, parsnips, and salsify are examples of relatively short-lived crops and usually are not good after 1 or 2 years. Beet, cucumber, muskmelon, eggplant, and tomato seeds last at least 5 years when stored in cool, dry conditions.

Handy Garden Tools

You need only a few tools to do a good job of gardening: spade or fork—for preparing the soil in a small, unplowed garden; rake—for smoothing the soil, covering seeds, clean-up; hoe—for breaking up clods, loosening the soil, opening trenches, covering seeds; planting line or chalk line—for marking rows; measuring tape or yardstick—for spacing rows; trowel—for making holes in which to set plants; putty knife—for removing plants from flats.

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