

Establishing Garden Beds

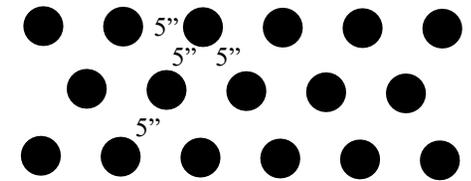
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In constructing your Garden Beds, planning will be a crucial step. Things to consider while planning:

1. You want an area of flat open ground that gets 6 or more hours of sun per day.
2. Beds should run east to west if possible to help maximize sun exposure.
3. Keeping the size of the beds only wide enough that you can reach the center of bed for maintenance without stepping into bed. (4' is a nice size, but can be smaller or larger depending on your area)
4. Planning 16"-24" wide path(s) between beds can also ease in weeding and maintenance.
5. How much space do I need per person to feed myself & family? A Guideline is 1 4x4 area for salad greens and 1 4x4 for vegetables per person.
6. You can maximize growing space by going vertical; grow vining vegetables such as beans or cucumbers on trellises .
7. Placing the trellis on the North side of the garden helps maximize sun exposure.
8. You can make your own trellises from inexpensive materials such as electrical conduit or PVC pipe frame with string or rope strung between, you can recycle things around the house like, sides of an old crib, a section of fencing, or the metal framework of an old mattress. Let your imagination go and have fun with it.
9. Stakes put in the ground with string tied to them can help visualize your garden area. They are also a helpful guide when you start to dig.

10. A good way to maximize space is staggering the row of plants. Diagram. →



11. Another good way to get the most yield per square foot is to *succession plant*. This means to re-plant the bed as soon as older plants are done producing. For instance; Replace spring cabbage plants with summer green beans, then replace the spent summer green beans with a fall planting of Brussel sprouts.

Establishing New Garden Beds

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Put a plan together for your garden, then it's time to start digging!

1. Grab a tape measure and mark the four corners of the beds with stakes, then outline each bed by tying string to the four stakes.
2. Beginning in the center of each bed, work your way out, so your feet do not compact the soil. Follow your string line for a nice square or rectangle. Remove the sod and loosen the soil to a depth of approx. 10”.
3. Let the soil dry out if needed, then break up large clumps and rake the bed level. Following your string line, form a ditch at the edge of your bed, use a shovel to pat the slopes of the ditch to help keep it in place.
4. Prepare your soil by adding compost, aged manure, or natural fertilizers (available at garden centers) to feed your plants for the season. Check with your local farmers for inexpensive organic additions. Work these into the soil, mixing them well.
5. Wait until danger of frost has passed; check with local garden centers or a farmer's almanac to determine a date for your area....then plant away!!
6. The diagram to the right gives an example of what you can plant in a 4'x4' bed.

4 lettuce	16 scallions	9 turnips	1 cauliflower
16 carrots	4 lettuce	8 Swiss chard	1 broccoli
9 spinach	16 beets	1 cabbage	16 carrots
32 radishes	4 lettuce	4 lettuce	5 lbs sugar snap peas

You can grow all these vegetables in two months and 16 square feet. Replant in the same space for a summer crop.

Making Raised Garden Beds

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After a year or two of successfully growing your own food, you may want to make raised beds, which are more permanent and keep the soil easier to work.

Create raised walls for your beds that are at least 8"-10" high. You can construct sides for the beds using bricks, cinder blocks, or wood boards. In the past, treated lumber was a no-no due to chemical preservatives. However, modern treated lumber is considered safe. If making a framework of wood avoid using railroad ties or older treated boards due to toxic chemical content that can leach into the soil and taint your vegetables (making you sick).

If using boards keep in mind they should be staked every 4 to 6 feet to support the weight of the soil pushing outward on the boards.

After your sides are in place, fill them with a mix of topsoil, compost, sand and peat, all available from your garden center.

In the off season, the raised beds can be used as compost areas. As you bury your kitchen scraps in different areas of the beds, the organic matter decomposes and will feed your plants the next growing season.



PA German Foursquare Gardens

The Pennsylvania-German FOURSQUARE GARDEN Magazine Antiques, July, 2001 by Irwin Richman



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House Museum,
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Benjamin Franklin did not particularly like the Pennsylvania Germans, but along with many of his compatriots, he admired the rich produce of their farms and gardens, and, indeed, the Pennsylvania Germans' reputation for gardening excellence continued well into the nineteenth century. In 1832 one English horticultural journal noted that in the United States, "It is chiefly among the Dutch and German settlers that vegetables are cultivated; and the overplus beyond their family wants is occasionally offered for sale." [1]

When most outsiders hear the phrases "Pennsylvania German" or "Pennsylvania Dutch," they automatically conjure images of picturesquely garbed Amish and Old Order Mennonites. But the vast majority of German immigrants were Lutherans and members of the German Reformed Church (now the United Church of Christ) who came here, not because of religious persecution, but because they were economically devastated, their lands having been decimated by wars that raged for decades. [2]

The oldest surviving garden plans that relate to the evolution of the Pennsylvania-German kitchen garden are the medicinal gardens of the Benedictine cloisters of Saint Gall in Switzerland and Reichenau in Germany. Plans dating from the 800s for their *berbularis*, or herb gardens, called for "creating a quadrant *Innenhof* [courtyard] or *atriolum* [small atrium] and dividing it into garden beds." [3] In turn, this plan was copied and adopted in cloisters and monasteries throughout Europe. By the Middle Ages, the enclosed kitchen garden laid out in quadrants with raised beds and pathways between them was widely promoted as the most efficient way of providing the vegetable needs for a household. By the Renaissance, city views show that this type of garden was widely used in urban settings as well. It was this tried-and-true garden form that immigrants from what now constitutes modern Germany and Switzerland brought with them to Pennsylvania.

To this day, many Pennsylvania Germans retain a closeness to the soil that goes beyond mere occupation. It has religious overtones. "Perhaps it has something to do with their unique history, perhaps it has something to do with their sense of clan and place." [4] In addition to a passion for gardening, the Pennsylvania Germans maintain a strong desire to preserve ancestral seeds, perhaps summed up in the saying "Gude Sume, Gude Gaarde" ("Good seeds, good garden"). [5] An extraordinary number of American heirloom seed varieties bear the prefix German or Amish.

In sharp distinction to the general American concept of vegetable gardening as a male pursuit, the Pennsylvania-German kitchen garden was always considered to be primarily the woman's province. The men in the family were expected to build the garden, spread manure on the beds in fall, and turn over the soil for spring planting, but the women and children planted, weeded, watered, and picked. The most common Pennsylvania-German garden contained four symmetrical raised garden beds, although six, eight, or other even numbers of beds were not unknown. The beds were divided by narrow paths of packed earth, and the gardeners' regular attention to the beds was all that was required to keep weeds in the paths to a minimum. Paving was rare. The raised beds were usually bordered with planks of first-growth pine or oak (good woods that would last for twenty to thirty years, much longer than modern-day lumber), which were held in place by stakes of the same wood eight to twelve inches high (see Fig. 2). The garden was always fenced, historically with a pale or picket fence, which was inexpensive in an age of abundant first-growth lumber; long lasting; and most important of all, allowed for a free flow of air in the garden -- very necessary in the humid summers of eastern and south central Pennsylvania. [6]

The principal function of the fence was to keep animals out, particularly rabbits, but also skunks, raccoons, and groundhogs, all notorious crop destroyers. Deer, the bane of modern gardeners, were no problem for the Pennsylvania Germans, who simply slaughtered them for meat. The fence was usually between thirty-six and forty inches high, and the pales typically extended into the ground or into a sill board that extended into the ground. Additionally, the pales were close together, seldom more than several inches apart, and the top of each one was cut into a point, symmetrically or on a diagonal, which allowed rainwater to drain easily, preventing the wood from rotting, and also made the fence uncomfortable to scale and unpleasant for a marauding cow to graze over. Pales were attached by two nails, one near the top, one near the bottom, to the supporting rails, and the nails were reused when the fence needed to be replaced.

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The prime function of the raised beds was to promote easy drainage, but they also allowed for conditioning the soil so that the gardener could grow a larger assortment of crops than would be successful otherwise. Because of the quick drainage of the beds, cool soil vegetables like English (sweet) peas, lettuces, spring onions, and radishes could be planted earlier than they could in the surrounding fields, where wet conditions would rot the precious seed. If the soil on the farm or homestead was heavy clay, or rocky, one or more beds might be filled with sieved soil, enhanced with sand, so that root crops like carrots could grow to their full potential. Great attention was paid to keeping the soil in beds friable and loose. Cultivation was never done with a plow or a cultivator, but always with a hoe. When planting rows, boards were often placed across the edging planks, so that the gardener could lean into the bed without having to rest the weight of her hand on the soil.

What was grown in the kitchen garden varied with time, but it is important to note that a differentiation was made between field and garden crops. Staples, such as cabbages, potatoes, turnips, and field peas, were usually grown in the fields. Generally the kitchen garden provided at least two crops per bed per year. Besides those already mentioned, favored garden plantings included peppers, eggplant, tomatoes, cucumbers, and melons. Spinach and fancy cabbages like crinkled-leaf savoy were also popular, as were specialty corns, such as popping corn. [7] Many foursquare gardens were bordered with additional beds that followed the perimeter fencing. The fences could then be used to support vines or brambles. Cucumber vines might be trained on the fence, or hopvines, the dried flowers of which were used in making bread and beer, as well as for a pillow filling that was highly regarded as a soporific for insomniacs. These border beds might also be used for small fruits like currants or raspberries or for medicinal or flavoring herbs.

While the layout of the traditional Pennsylvania-German garden is derived from the herb gardens of monasteries, the Pennsylvania Germans did not have herb gardens as we understand them, which are a creation of the colonial revival of the late nineteenth and early twentieth centuries. Traditional German cookery used few flavor enhancers besides salt and pepper (if available). The most commonly grown seasonings were onions, parsley, sage, and dill, which was highly favored for pickling. Saffron, the product of *Crocus sativus*, an autumn-blooming flower that is notoriously laborious to harvest, was also very commonly cultivated, although today it is grown by few gardeners, most of whom are Mennonites. The other highly favored condiment plant, horseradish, was rarely, if ever, grown in a garden because of its invasive nature. The same is true of members of the mint family, which the Germans brewed into teas and gave great medicinal credit to as well. The rare Pennsylvania-German Roman Catholic sometimes placed a potted rosemary in the center of a foursquare garden, but its significance was religious, associated with the Virgin Mary, not culinary. Along these lines, Pennsylvania-German Protestants often planted an Adam and Eve plant (*Yucca filamentosa*) in the middle of their gardens (see Pl. VI). However, how this American native plant came to be considered an expression of Protestant faith is not known.

Traditionally the Pennsylvania-German garden was placed on level ground, although the archaeologically correct, re-created garden at Burnside Plantation, a Moravian site in Bethlehem, Pennsylvania, is on a terraced slope. Most important was the availability of water, for raised gardens drained so well that they needed to be watered more frequently than did flat gardens. Pennsylvania-German farms were invariably laid out on an east-west axis, with the house and barn facing south, and the garden was usually placed near the kitchen door, where it could share a water source, generally a well or spring, with the house. A garden needs at least one inch of water per week, so the chore could be arduous indeed in times of drought, when it might be necessary to fill and haul buckets from more distant water sources. Watering cans were considered a luxury until inexpensive machine-made galvanized-metal ones became available about 1900.

The Pennsylvania Germans were among the first farmers to barn, pen, and pasture their animals, practices that allowed them to collect manure, which they applied liberally to both gardens and fields. They did not use compost, but they often placed their garden near the pigpen, chicken yard, or rabbit hutches so that these animals could convert less palatable garden produce into manure. Among the most dedicated of gardeners, different manures were, and are, preferred for particular crops.

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Flowers, per se, had no place in Pennsylvania-German kitchen gardens, although some plants we consider ornamental were grown for their food value. Nasturtiums, for instance, were often raised for their buds, which were pickled to provide a caper substitute; the tender leaves of calendulas, or "Pot Marigolds" (*Calendula officinalis*), were eaten as a vegetable and the flowers were used as a dyestuff. Occasionally French marigolds (*Tagetes patula*), which the Germans called, in translation, "stinky flowers," were grown among beans to repel beetles. In this vein, it is important to remember that although the Pennsylvania Germans had to contend with fewer garden pests than we do today, the problem has always existed. They occasionally used lethal, but organic, substances such as tobacco dust and arsenic-based compounds to deter insects, but a good deal of pest control was purely mechanical: the women and children hand picked insects, snails, and slugs, which is still the most effective organic method of pest control.

The traditional Pennsylvania-German garden was eventually abandoned because of increasing interaction with the English world and the rising importance of commercial seed houses and commercial or truck farming. The final blow was the widespread availability of the rototiller after World War II. When power machinery entered the picture, vegetable gardening among nonsectarian Pennsylvania Germans appears to have shifted to men. In the past two decades there has been a revival of appreciation for the raised-bed garden, both by organic gardeners and by historic sites and museums. Organic gardeners appreciate the virtues of a garden that allows for the use of compost rather than chemical fertilizer and a form that provides substantial yields in a small area. Among the most influential historical sites that have carefully revived the traditional German garden is the Landis Valley Museum near Lancaster, which not only has a very fine period garden, but is also home to the Heirloom Seed Project, which makes traditional Pennsylvania-German varieties of vegetable and flower seeds widely available.

IRWIN RICHMAN is a professor of American studies and history at Pennsylvania State University Harrisburg, in Middletown, Pennsylvania (1.) Gardener's Journal (1832), p. 74, quoted in William Woys Weaver, *Heirloom Vegetable Gardening: A Master Gardener's Guide to Planting, Seed Saving, and Cultural History* (Henry Holt, New York, 1997), p. 6. Most Pennsylvania Germans use die "Dutch" identifier, a corruption of the German word *Deutsch*, meaning German. The term Pennsylvania German was introduced in the nineteenth century to delineate these Americans from those of Netherlandish origin. The commonplace definition of who is considered Pennsylvania German, or "Dutch," is that they are descendants of the complex, mostly German-speaking peoples who arrived in America before 1800.

(2.) The largest number of Germans came from the Palatinate (*die Pfalz*), the region around Heidelberg, and many others came from Alsace, which is now part of France. A visit to an Alsatian folk museum is like viewing a collection of Pennsylvania-German artifacts, and Alsatian cooking was widely influential on Pennsylvania-German cuisine. The Moravians, famed for their advanced gardening techniques, had roots in, and some had moved from Moravia and Bohemia to other parts of eastern Europe before coming to America. The sectarian Schwenkfelders came from Silesia (much of which is now Poland). The Amish and most of the Mennonites came from the German-speaking cantons, or states, of Switzerland.

(3.) Weaver, *Heirloom Vegetable Gardening*, p. 5.

(4.) *Ibid.*, p. 14.

(5.) *Ibid.*

(6.) Since about 1900, the most common fences used for Pennsylvania-German gardens are made of woven wire, or chicken wire.

(7.) For information on appropriate historical varieties grown at different time periods, see Weaver; *Heirloom Vegetable Gardening*.

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