

Wide Row Planting

by Dick Raymond

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Why Wide-Row Planting?

This is a good question. But maybe a better question would be; Why narrow-row planting? Think about it. Is there any good reason to arrange all your vegetables in single file? No one has ever given me a satisfactory answer to this.

Wide-row planting is simply a matter of broadcasting seeds in bands anywhere from ten inches to three or more feet wide. I started experimenting with it many years ago and have been continually amazed and excited by the results. One of the most surprising things I found is that it can actually be easier and involve less work than conventional gardening methods. But there are many other benefits as well, and I'd like to share them with you now.

1. Increases Yield

Just about anyone can grow two to four times as much produce when they start using wide rows. The reason for this is obvious. In a wide-row garden, more square feet of garden space is actually producing food and less is wasted on cultivated areas between rows.



But won't individual plants produce less when they are more crowded? Yes, there will usually be a slight decrease in production *per seed* — perhaps about 25 percent. But since a wide row contains so many more plants than a regular row, there is a big increase in production *per square foot*.

For example, if you compare a single row to a row that is twelve inches wide, you can expect up to three times as much produce per foot from the wide row. With rows that are more than a foot wide, you can sometimes get four or five times as much produce.

Let's look at it another way. A fifty-foot single row of peas might yield about twenty servings. That same length of wide row might yield sixty or more servings. Think of how much less you would have to buy at the store.

2. Saves Time

If you try wide-row planting, you will spend much less time weeding and harvesting. This is partly because you have to move around much less. When you bend down to pull weeds or pick peas in a regular row, you can only reach about three feet in either direction. When you bend over a wide row, you have far more growing area right at your fingertips. You can pick or weed the equivalent of nine to fifteen feet of single row without moving.

You can also save some time early in the season. Seeds planted in wide rows, do not have to be exactly spaced. Random distances will work just as well. This means that at planting time, you don't have to be quite as careful about distributing the seeds evenly. You can thin them easily after they come up with an ordinary garden rake. I will explain how to do this in a later section.

Plants in a wide row will have to be watered far less, in many cases not at all. This is another time-saver. Once the plants have grown tall enough to shade the ground, moisture will be held there. Any weeds that germinate after the plants are well established will not have much of a chance to grow. The only place they will appear is on the sides of the row.

3. Saves Space

Say, for example, that you would plant a row of onions thirty feet long to have enough to feed your family. To get the same number of onions, you would only have to plant a row ten feet long if the row were one foot wide. If you planted a row that was two feet wide, it would need to be only five feet long. By planting shorter rows you leave yourself space to plant more varieties of vegetables than you could before. This is a big help if your garden space is limited.

4. Saves Mulching

A wide row shades the soil beneath it, keeping the soil cool and moist. Last year, during two very dry spells (when all of my neighbors were complaining about watering every day), my wide rows of beets, lettuce, carrots, peas, and beans did very well with no watering at all.

Wind has a strong drying effect on plants. A staked tomato plant that sticks up in the air may take twice as much moisture out of the soil as one which is allowed to run along the ground. The staked plant transpires, or releases more moisture to the atmosphere, because it is more exposed to the winds. Only those plants on the edge of a wide row feel the drying effects of the wind.

Many people like to mulch their gardens, covering the soil with a layer of material, either organic matter such as hay or straw, or a sheet of plastic material. What they are doing is keeping the sun from reaching the soil so that weed seeds do not germinate and water does not evaporate.

In a wide row, you are doing almost the same thing. I like to think of a band of growing foliage as creating what I call a "shade mulch." It's even better because you cut out all the expense and labor of hauling in enormous amounts of mulching material. You may still want to mulch between the rows, so that you have to do no weeding, but in most cases you should never have to mulch between the plants themselves.

5. Makes Harvesting Easier

Some folks think that it is difficult to harvest peas or beans. But in a wide row all you need to do is to take a stool, sit down next to the row (or even *in* the row) set a basket next to you, and gather in a peck or so of produce. When you are finished, you can move up the row, sit down again, and pick another peck. You may miss a few peas or beans this way because there will be so many, but a few ripe pods will enrich your soil if you till the plants back in when they have finished bearing. The same thing is true of all other wide row crops. Since they produce so much

more per foot of row, you can pick a lot more from a single location.



6. Permits Cool-Weather Crops in Heat

Shading the ground keeps it cooler. Crops such as spinach will “bolt,” or go to seed, quite quickly once the weather gets warmer in early summer. A wide row will continue to produce tender green leaves much longer than will a single row.

Anyone who has ever grown spinach knows that it is difficult to raise enough. A single row of spinach one hundred feet long might fill a twenty-pound bag. In a row fourteen inches wide and one hundred feet long you should be able to pick as many as five or six twenty-pound bagsful.

Most gardeners find it impossible to grow what we call English peas in warmer climates because the weather gets too hot and dry for them to do well. I have received many letters from such places as Texas and Hawaii, where people tell me that they are able to grow peas for the first time using the wide-row method. Even here in Vermont peas will not do well in July or August — sometimes not even in September. I find that if I use a variety of Wando, which will stand some heat, I am able to grow peas from early spring until late fall.

7. Improves Quality of Crops

Soil experts tell me that a crop that grows in an even environment — without being overly moist after a rain and too dry during a sunny spell — will be far superior to one that has been growing under varied conditions. I won't say that vegetables grown in wide rows will be larger than those grown the conventional way. But I can assure you that the texture and consistency of the produce will be greatly improved. Smaller vegetables grown in wide rows will be crisper, tastier, and more moist. They will also be less prone to diseases because they will have less dirt splashed on them by raindrops.

8. Reduces Insect Damage

Many good gardeners realized some time ago that healthy plants are less frequently attacked by insects. It is also true that by keeping the soil temperature constant, there is less likelihood of nematodes invading your plants. Wide rows are a lot closer to growing conditions that you find in nature. Somehow non-isolated plants are less attractive to a horde of chewing insects and pesty worms. And even if a small section of a row does get infested, there will be more than

enough left over for you and your family.

9. Makes Companion Planting Easier

If you decide to adopt wide-row planting, you will see that precise seeding arrangements for companion planting are not necessary. You can spread more than one type of seed in a wide row. It is not complicated at all to plant radishes with just about anything else, or to sow beet or carrot seeds among onions. Carrots and beets will help each other in a wide row. When you pull a small beet or carrot you are automatically cultivating and aerating the soil, as well as leaving a small cavity for the other bulbs or roots to expand into.

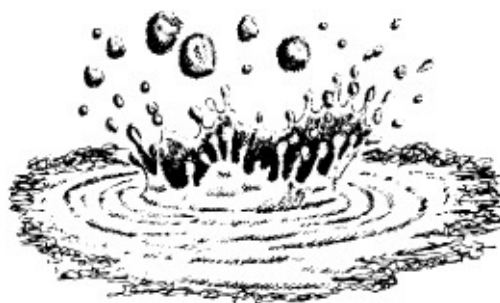
10. Frees Gardener for Vacation

Many people like to take a week or so off in the summer for a short vacation. But they worry about leaving their gardens for such a long time. Some hire youngsters to help, or ask neighbors to come in and do some cultivating so that the garden is not overrun with weeds when they come home. With wide rows there is no need to worry; the only place you should have weeds when you return is between the rows.

If you own any kind of good cultivating equipment, cleaning out the weeds between the rows should be no problem at all. You can forget about watering while you are gone too, although if it was very dry while you were away, you might want to give everything a good soaking when you return.

11. Keeps Plants Cleaner

In wide-row planting, little mud splashes up on lettuce, chard, spinach or anything else during a heavy rain.



Cleaner produce is healthier produce. One of the reasons such crops as peas are often grown on brush or wire fences is to keep the plants off the soil. Peas grown in three- to four-foot-wide rows will support themselves, saving the extra time and expense needed to make any kind of supporting trellises. The whole row may sway to one side or the other, with the wind and rain, but only a small portion of the crop, those plants on the edges, will lean over enough to touch the ground.

Head lettuce can be damaged by splashing soil. In a wide row, the only splashing it will receive will be at the edge of the row.

12. Makes the Garden More Beautiful

The beauty of wide-row planting is a plus that can't be ignored. Wide rows have a full, lush look that is quite striking. Expect to hear voices of surprise from your neighbors, and expressions of pleasure as well, as they see the blocks, bands, and strips of green vegetables that you're growing.



Soil Preparation

The Key to Success in Wide-Row Planting

Good soil preparation can help you get more out of any garden, but when you use wide rows, it can be especially rewarding. Planting, thinning, cultivating and every other operation related to wide rows is so much easier when you have a loose, loamy soil that is rich in organic matter. And it will help your crops be healthier, more nutritious and more productive as well.

Unfortunately, few people are blessed with soil like this to start with. Some of us have clay, some of us have sand, and some seem to have an abundant crop of stones. But with the right preparation, we can garden successfully on any of these and plant wide rows on all of them.

First, if you can get your hands on any sort of organic matter, you should add it to your soil. This might be in the form of grass clippings, compost, leaves, spoiled hay, weed-free manure or any other kind of dead or decaying vegetable matter. This should be tilled or spaded into the soil to a depth of four to six inches. Be sure to do this early enough so that the materials are well-decayed before planting time. It is often best to do this in the fall.



While you are preparing your soil, you should also be thinking about fertilizer. Wide-row planting does not require any special fertilizing techniques, but if it is at all possible, you should take a soil sample and have it tested. This is the best way to insure that your soil has a balanced supply of nutrients. Your County Extension Agent can help you with this.



If a soil test is not possible, there is a rule of thumb you can use to determine the approximate amount of fertilizer to apply. Use 1,000 square feet of garden space as a standard area measurement. Spread a ten- or twelve-quart bucket of commercial fertilizer, such as 10-10-10 or 5-10-10, on the area and mix it into the top three inches of soil. If you choose an organic fertilizer, use an equivalent amount; and work it into the soil early in the spring.

A soil test is also the best way to determine whether your soil requires lime. But again, if you are unable to test and you know that your garden has not been limed for several years, you can use the same rule of thumb: A twelve-quart bucket of lime for every 1,000 square feet of garden space. Broadcast the lime over the area and mix it into the top four to six inches of soil. Liming can be done at any time, although fall is usually best because the lime itself will have time to work into the soil before spring.

Before planting, you should have your soil broken up to the point where it is loose and crumbly. When soil reaches this condition, we say that it has “good tilth.” You can work the soil by hand, but renting or borrowing some sort of power equipment will save you lots of sweat and possibly a sore back. I use a roto tiller with tines in the rear for all my soil preparation and find it to be the ideal tool for the job. It leaves a mellow, smooth seedbed that requires little, if any, raking.

NOTE: Once you have worked up the soil, be careful not to walk on any of the areas where you will be planting seeds. This is important if you want the best possible results with your wide rows.

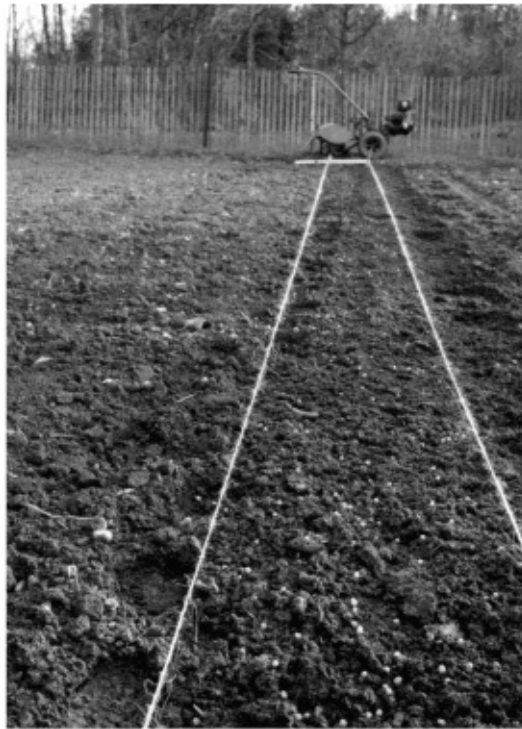
Planning the Garden

Before you begin planting, you should sketch out on paper exactly where you are going to plant each vegetable and herb in the garden. As you do this try to keep in mind which crops are hardy and can stand some cold. Be sure the tender crops are set out in full sunlight. Take note of the high spots and low spots in your garden, the places that may be wet, and those that may dry out early. You should also know which plants can stand a lot of moisture and those that do not do well with “wet feet.” You know your garden plot better than anyone else, and can judge best how to take advantage of all its little quirks and oddities.

Staking Out the Garden

Once your garden is planned on paper, you can begin laying out the rows. For a ten-inch-wide row, you can stake it out very much the same way that you would lay out a single row. Use a string attached to two stakes. Run the string across the garden area, pulling it tight along the ground. Once you have established this straight line, pick up a regular steel garden rake, hold one side of it next to the string, and run it down the length of the garden. This will give you a marked-off band that you can spread the seeds in.

For wider rows, you can use two strings and stretch them out parallel to each other. Then stand on the outside of the strings and rake the area between them. In both cases it is not necessary to rake the entire garden — just the areas within the rows where the seeds will be broadcast.



As you rake the seedbeds, you will also be smoothing and leveling them by removing all the clumps and organic matter that has not yet decomposed.

You'll remember that we plant seeds somewhat thicker in a wide row than we might in a single row. This means, to use peas as an example, that you should sprinkle the seeds about an inch and a half apart in the entire area you have just prepared with the rake.

The same is true of lettuce seeds. Sprinkle them closer together than you might in a narrow row.

Keep in mind that a seed should be planted to a depth that is four times its own diameter. Obviously if you are planting large seeds such as peas, you will want to have a lot more soil over them than you would over small lettuce seeds.

In order to germinate, a seed should come in contact with warm, moist soil on all of its sides. This is why we firm the soil around a newly planted seed by gently packing the earth.

How do we cover seeds in wide rows? Lettuce seed, because it is so small, will need a maximum of a half-inch of covering. After you have sprinkled seeds into the row, tap them

gently with the back of a wide hoe or rake so that you press them into the soil a bit. Then, using a hoe or rake, pull some soil from outside the wide row to cover the seed. Level it off carefully— with the back of the rake, and firm it down again, so that the seeds are covered with enough firm soil to equal four times their own diameter.

Larger seeds such as peas can be covered the same way. Of course, you will need more soil to cover them. (They will need an inch to an inch and one-quarter of covering). If you have organically rich soil that does not pack down too much, you might walk on these larger seeds once they have been spread to be sure they have a good contact with the soil. Later you can pull soil from the side of the row, and firm it down with a hoe. All of this is quite easy to do if your soil has been prepared well.



CROPS THAT DO WELL IN WIDE ROWS

Here is a list of vegetables and herbs that can be grown in wide rows:

"Small" Seeds

Anise	Kale	Peppermint
Beets	Kohlrabi	Radishes
Caraway	Leeks	Rutabagas
Carrots	Lettuce	Salsify
Chard	Mustard	Spearmint
Chives	Onions	Spinach
Collards	Oregano	Summer Savory
Cress	Parsley	Sweet Marjoram
Dill	Parsnips	Turnips

Endive

"Larger" Seeds and Transplants

Beans of all kinds

Cabbage

Garlic

Onion Plants (sets)

Peas (English, crowder, field, Southern)

Shallots

Thinning and Weeding a Wide Row

Many people think that thinning a wide row would be difficult, but it is actually one of the simplest operations. First of all, the crops in the “large seed and transplant” category in the list above should be properly spaced when planted and should not need to be thinned. Most of the crops in the “small seed” category, however, *will* need to be thinned as soon as they come up. This can be done quickly and easily with an ordinary garden rake. Just drag it across the row so that the teeth dig into the soil about a quarter to half an inch. Don’t press down too much, though, or the teeth will dig in too deeply. One thinning should be all you need to do with the rake.



It is very important to do this thinning while the plants are still very small. It may look like a terrible mess at first, but in a few days it will look just fine again and you will have saved countless hours of tedious hand-thinning. At the same time you will have completed your first weeding and cultivation of the row.

Let me tell you the secret of eliminating weeds. You must get them while they are still very, very small — before they even appear above the ground if possible. You see, most weeds grow from very tiny seeds that have to be quite close to the surface in order to germinate. When they first sprout, they are extremely delicate. All that it takes to kill them at this point is a small disturbance of the soil surface. The garden rake does this during the first thinning.



After a week or two, your plants will get too large to drag a rake over them, but they still

need cultivation. There also needs to be a way to cultivate large-seeded crops such as peas and beans. ~~To do these jobs, I invented a tool I call an In-Row-Weeder®. It is a special kind of rake~~ with long, flexible tines. It is designed so that you can drag it right over a row of established plants without injuring them, yet at the same time it will cultivate the soil and kill all the tiny, sprouting weeds there.

The first few weeks after your crop comes up is the most critical time for weeds in a wide row. If you can keep them under control during this period, you will have it made for the rest of the season. After several cultivations with a tool such as the In-Row-Weeder, most of the weed seeds that are close enough to the surface to germinate will have been killed. Since the In-Row-Weeder disturbs only a thin layer of soil, it doesn't bring up any additional weed seeds from deep in the soil. Remember also that as the wide-row crop gets larger, it will begin to shade the soil and further discourage the weeds.

Once again, the important thing is to get the weeds while they are still very tiny. Once they get too large, you will be forced to do a lot of hand-weeding. Don't wait until you see the weeds before you cultivate within the wide rows.

Harvesting from a Wide Row

Harvesting from a wide row is a simple matter. Just keep picking the largest vegetables whatever they are. Harvest the biggest carrots, the largest beans and so on, and leave the smaller ones so they can continue to grow. This way few vegetables should get overripe, seedy or woody tasting.

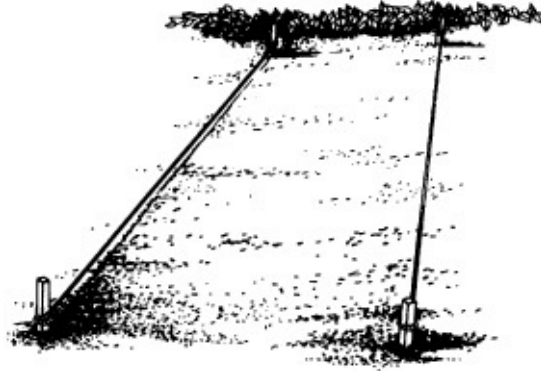
When you are harvesting greens, such as spinach, chard and lettuce, don't be too dainty about it. Cut off all the leaves of a plant to within an inch of the ground. It will grow more leaves.

A plant's main purpose is to grow seed so that it can produce another generation. As long as you prevent it from going to seed, it will continue to try. You will be amazed at the number of times you can cut back a leaf crop in a wide row and have it continue to produce. It's the old story. Keep your garden picked and it will continue to grow more. Let it go to seed and it is finished.

Summary: How to Plant a Wide Row

1. Stake with String

If the row is going to be just a rake-width wide, one string will be enough. For wider rows, use four stakes and stretch out two strings parallel to each other.



2. Rake Smooth

Rake the area between the two strings until it is level and smooth. Don't make any indentations or furrows.



3. Broadcast Seed

Broadcast your seeds over the raked area as evenly as possible. Sow them a little more thickly than you would in a single row.



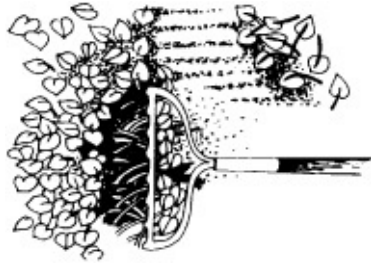
4. Cover Seeds

Seeds can be firmed into the soil with the back of a hoe or rake. You can even walk on larger seeds to push them into the soil. Cover the seeds to the proper depth by raking dirt over them from outside the row. Smooth with the back of a garden rake.



5. Thin With a Rake

When the plants are $\frac{1}{2}$ to 1 inch tall, use a garden rake to thin them. Large-seeded plants shouldn't need to be thinned.



Advice on Specific Vegetables

Not all vegetables, of course, should be planted in wide rows. Most warm season crops (corn, tomatoes, eggplant, peppers, etc.) grow quite large and like plenty of sun and heat. They should be allowed plenty of room to grow well. But the list of vegetables that really thrive in wide rows is quite long. Let's look at some of them individually.

Beans

Snap bean seeds should be spaced 2½ to 3 inches apart. This means that if you have a strip ten to fourteen inches wide, you should sprinkle three to five seeds across the row. Beans should be ready for harvest eight to twelve weeks after they are planted, depending on the variety. That's just about ten days to two weeks after the first blossoms appear. Be sure you don't make plantings until all danger of frost has passed in the spring.

To get a continuous harvest of beans, you should make at least two plantings at two- to three-week intervals. Pick them when they're about as thick as a pencil. If you wait until the pods fill with seeds and begin to look lumpy, the beans will taste tough and may be stringy.

Be sure to leave enough space between bush bean rows for walking, harvesting and cultivating. The plants themselves may spread as much as a foot to either side of your row, so allow for this. After the last picking be sure to till in the crop residue and plant a succession crop.

Beans, Lima

Lima bean plants are even bushier than snap beans. They will need even more space — at least three feet between wide rows. The seeds should be planted about four inches apart with about an inch and a half of firmed soil over them. This spacing is just about ideal for the plants to support each other and keep each other off the ground.

Don't forget that it takes eleven or twelve weeks for lima beans to reach maturity. People in some northern states don't have this much time, and should try to plant very early or forget about trying to grow limas.

Lima beans are ready to be harvested when the beans have formed to the point where the pods look fat. You should find from two to five beans in each one, depending on the year. Limas like well-drained soil, so it is best not to plant your wide row in a low spot where it tends to stay wet.

Beets

Beet seeds should be planted about an inch deep and about two inches apart in all directions. They seem to come up very slowly, so it might be a good idea to interplant radishes with them to mark the rows. Each beet seed will produce a cluster of two to six seedlings. These will have to be thinned — with a rake at first, and later picked for beet greens.

As soon as the beets begin to form little bulbs the size of a marble or so, some of them can be pulled. Use both the greens and the small beets for eating. This will leave room for the others to

expand. Keep harvesting the largest ones throughout the growing season.



Beets will do best if you keep the soil around them as loose as you can. The In-row Weeder/Cultivator is handy for this. Those beets that you have earmarked for winter storage should be allowed to grow as large and strong as possible.

Cabbage

You can grow cabbages closer together than most gardening books recommend, which makes them all the more suitable for wide rows. Leave twelve to fifteen inches between them and they should do fine. Early cabbage is usually grown from transplants, but seed can be planted between the plants you set out in wide rows some time in May.

All members of the cabbage family are rather shallow rooted. When you transplant them be sure to dig a hole deep enough to let the roots grow down. This may sound ridiculous, but if you don't give them a good deep hole, the roots will actually grow back up toward the surface. Because most of the roots are no more than an inch below ground, you must be very careful when you cultivate these plants.

As you harvest early cabbage, cut off the head, but leave the stem and four or five leaves. If you are lucky, three or four smaller heads will grow to replace the first one. These small heads will be useful in recipes calling for small amounts of cabbage.

Cabbage requires some fertilizer, but not much. If you feed it too much the heads may burst, although this is far less of a problem in a wide row. Cabbage heads, like all vegetable heads, grow from the inside out. If you notice that yours are starting to crack, this probably means that the cabbages are growing so fast in the center that the outside growth can not keep up. Whenever you see a crack beginning to form, give the whole plant a half turn. This will break off some of the roots and slow the growth of the plant. Give the plant another half turn in a week or so if the cracking continues.

Carrots

Plant carrots as early as possible in the spring. The seeds are pretty fine, and it is not the easiest thing in the world to keep from planting too many. One trick is to mix fine soil with the seed before planting. Carrots germinate slowly, so don't be discouraged if they don't show up

right away.



Carrots will do best in light, sandy soil, but they can be grown almost anywhere if they are properly thinned. If you don't thin them early with a rake, you may not get many that are large enough to eat. Later in the summer thin some of the smaller carrots by hand. These will be delicious in salads.

The largest carrots will be beneath the darkest, greenest tops. This is one way to tell if a carrot has a root without having to pull it up and see. Don't try to grow the gigantic prizewinners. They are too tough to be really enjoyable. Carrots are at their prime when they are about the same diameter as a quarter.

Chinese Cabbage

Chinese cabbage like cool weather. Most people start it indoors early in the spring and then transplant it outside after about four weeks. When it is grown this way, Chinese cabbage seems to get infested all sorts of insects and worms.

My recommendation is that you grow a fall crop of Chinese Cabbage directly from seed in wide rows. This way there will be fewer bugs and the crop will not have to suffer the shock of a transplant. Keep thinning until the final cabbages are eight to ten inches apart. If you don't dust them almost daily, the outer leaves may be riddled with insect holes. This looks awful, but the inner leaves are usually untouched when you harvest in September.

Collards

Collards can stand hot weather as well as or better than any vegetable, especially when they are planted in wide rows. This is one reason they do so well in the South. They form no heads, and can be grown directly from seed. The parts we eat, of course, are the leaves themselves.



Collards like the same type of soil as cabbages, are susceptible to cabbage diseases and may be attacked by the same insects. They too sometimes need to be dusted with rotenone, treated with Sevin, or sprayed with some other insecticide.

Dill

Plant dill very early in the spring so that the heads will ripen just as your cucumber plants start to produce. That way everything will be coordinated at pickling time. It may take as long as two weeks for dill seed to germinate. When you plant a wide row, you may want to add radishes as a companion plant. A row that is ten inches wide and three feet long should give you more than you need for pickling, salads, sauces, and seeds for next year's crop.

Dill leaves can be harvested anytime. If you want to save the seed heads, cut them just before they turn dark brown.

Garlic

Garlic, unlike onions, produces a cluster of bulbs (each called a "clove") rather than just a single one. For this reason, it needs just a small space in your garden if it is planted in a wide row.

In the spring you can break up a garlic cluster into as many as fifteen individual cloves. These should be planted at the full depth of the clove and four to six inches apart. Planting garlic in the spring produces an average sized bulb, but if you really want large garlic, plant some cloves in the fall. (If you plant garlic in the fall it should be planted to a depth of about three inches.)

Radishes as Companion Plants

The radish is a fine companion plant for many reasons, and it can be planted with many crops. Radishes are easy to grow, and we usually can harvest them in twenty or so days.

Whenever you plant fine seeds of any type, consider planting radishes with them. (I use approximately 5 percent radish seeds in just about every wide row that I plant.)

Here is what will happen: Some seeds are faster to come up than others, but radishes seem to pop out of the ground soon after they are sown. Because they are so early, they act as row markers, allowing you to cultivate the soil between rows, even before the primary crop has appeared.

Bugs can be a problem in anyone's garden. They seem to sit around waiting for something to munch on, and will pounce on the first shoots that appear — in this case the radishes. The

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