GCC193 (H1600)

Gardening Delights for All:

Nontraditional, Money-saving, Sustainable Gardening

Ron Smith and **Todd Weinmann**
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Gardening is for everyone: the young, old and everyone in between. Gardening has evolved significantly since the "Victory Gardens" of World War I and World War II. Not that continuing to use conventional gardening methods (planting in rows with ample space to till in between) is wrong; you'll always get good results with this approach. All you need to do is follow the directions on nearly every packet of vegetable seeds.

However, in this publication, we are encouraging more "convenient" gardening, such as raised bed, container and square foot styles, for the following reasons:

- We have yet to run into anyone who enjoys spending hours weeding. These newer methods essentially will eliminate weeding or certainly reduce it significantly.
- These gardening methods will make more efficient use of space, resources and time.
- Other than weed problems, poor soil drainage often is a major problem in the typical Victory Garden-style site. The raised bed, container and square foot gardening methods eliminate this problem because they use a "designer soil."
- These newer gardening methods typically produce greater harvests per unit of space.
- The new gardening methods will allow you to plant earlier and have better control of Mother Nature's capricious ways, as well as result in an earlier, cleaner harvest. Raised beds also warm the soil.

So, let's get started. Here is what you'll find in this publication:

Getting Started: Planning What to Grow

We all have our vegetable likes and dislikes. So the natural tendency is to grow lots of just those vegetables you know you like. But don't pass up the opportunity to try something outside of the "traditional" vegetables, such as peas, beans, carrots, cabbage, corn, tomatoes and peppers. Give crops such as okra, parsnip, rutabaga or brussels sprouts at least one chance to see if you like them when they come from your garden.


Todd Weinmann, NDSU Extension Service

Raised bed, container, square foot gardening

Your planning largely will depend on the type of garden you want to have.

Square foot gardening (SFG) maximizes space use, resulting in fewer weeds and an abundant harvest.

Raised-bed gardening, which as a variation of SFG, will yield generously and allow you to be creative with unique or practical designs.

Container gardening is ideal for apartment dwellers or folks who just want a few tomatoes or peppers to enjoy during North Dakota's short growing season. It offers the advantage of being moveable to allow plants to get maximum sunlight, escape violent weather or be sheltered when frost threatens.

Herbs

If you are a gourmet cook, you may be interested in growing the easiest garden delight: herbs. Chives are completely perennial in North Dakota and can be grown indoors through the winter as well. Or try one or more of a dozen different cultivars of basil, which enhances the flavor and aroma of food and adds mouth-watering scents when a hand or gentle summer breeze brushes the plants.

Mint, another perennial, can be grown anywhere in the garden with only a half day of direct sunlight, and you can grow it indoors to garnish winter meals. You also can grow parsley, a biennial herb, indoors during the winter.

Grow what you like

What vegetables make up the bulk of your diet? Are they carrots, tomatoes, peppers, sweet corn or peas? Then make those favorites a major part of your garden plan.

You can sow carrots and sweet corn directly into the garden as seed, while you generally need to start tomatoes and peppers at home under lights or buy them from local garden centers, then transplant them in your garden.

Part of planning is getting the dates right for sowing seeds indoors for transplanting or directly outdoors. The tendency is to start sowing seeds indoors too early, which results in seedlings that are too weak and spindly to become established properly when moved outdoors. Direct seeding too early outdoors also can be a problem for a crop such as sweet corn. The initial warm days of April or May often give way to colder temperatures that could include spring frosts, which would be detrimental to emerging corn seedlings. Some vegetables such as Swiss chard, lettuce, kale, spinach, arugula and cabbage can tolerate occasional bouts of cold temperatures without any measurable setback in growth.

Cool- and warm-season crops

Broadly speaking, vegetables can be divided into “cool season” and “warm season” crops. Those designations can help you make the right decision on when to plant seeds indoors or outdoors (see table listing of cool and warm season vegetables).

Table 1: Cool- and warm-season vegetables (those that will and will not tolerate light frosty temperatures).

Cool: Sow when soil is free of frost and easily worked: mid to late April.	broccoli cabbage carrots lettuce	onions parsnip peas potatoes	radish rutabagas Swiss chard
Warm: Sow around the time lilacs come into bloom.	beans corn cucumbers	eggplant melons pepper	pumpkins squash tomatoes watermelon

Growing Media:
Test Soil Fertility Levels

The initial step for first-time vegetable gardeners is to have the soil tested. This would include any soil mixes you concoct for use in container or square foot gardening. Even if you are experienced at gardening but disappointed with the results, get the soil tested.

NDSU's soil testing lab provides that service for a nominal fee. Lab staff suggest doing an initial, basic test for pH (acidity or alkalinity), organic matter content, phosphorus, potassium and soluble salts. Although these tests often do not check for nitrogen because it is readily mobile in the soil, the soil should be tested for nitrogen because high nitrogen levels from excessive fertilizer applications often cause poor crop performance. Visit www.soilsci.ndsu.nodak.edu/soiltesting.html and go to the section labeled "For Homeowners: Lawn and Garden" for a form to complete and send with the sample. You'll also be able to review the price structure for this and other soil tests.

Tilth

The major hallmark of a successful vegetable garden is the tilth, or workability of the soil. Good tilth equals good drainage, and good drainage increases the chances of crop success. Adding organic matter such as unmilled sphagnum moss always helps improve soil conditions. Working it into the soil profile every year assures good drainage, provides a buffering action against temperature extremes and results in more efficient water use.

Ideally, you should turn the soil over in the fall after removing the crop. That would make the soil subject to the freezing and thawing action in the spring, which would help break up any clods. Turning the soil over in the fall with square foot or container gardening would make it ready for planting the following spring. Then all you need is a little touch-up leveling with a garden rake. If you can't condition the soil this way in the fall and you must put it off until spring, take care not to work the soil when it is too wet. Doing so could destroy the structure of the soil, eliminating any good drainage characteristics.

Designer soil

If you intend to use a “designer soil” consisting of three or more components for container or square foot gardening, the best way to make sure the soil is mixed uniformly is to use a portable concrete mixer. You can rent a mixer from local equipment businesses. The soil components usually are mixed well after spinning in the tub for about three to five minutes. Uniformity results in superior drainage and, ultimately, great vegetables; without it, you’ll have frustratingly undersized vegetables or low production.

Todd Weinmann, NDSU Extension Service

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Check for herbicide residue

If some of the components are coming from unknown sources, such as fields where crops have been grown for several years, the soil likely will contain herbicides used for weed control. Before committing an entire gardening season to an unknown soil or compost source, do a small test first.

Here’s how to do the test: Find a couple of small pots or paper coffee containers. Put some of the soil mix or components of the mix in the containers. Grow a bean seed in one container and a corn seed in the other. If the seeds germinate and appear to grow without any apparent deformities, then the soil mix is safe to use. If the bean or corn seedling becomes stunted or dies, then don’t use the soil and find another source of soil or components.

Typical designer soil components are coarse (washed) sand, sphagnum peat moss, vermiculite, perlite, compost and sandy soil.

Starting Seed and Purchasing Transplants

Ron Smith, NDSU Extension Service

If you are starting seed at home, you'll need an adequate source of light that is conducive to plant growth. This could be a "Gro-Lux" bulb or two that you direct at the seeded area. Or simply install two shop fluorescent bulbs, one a "cool" white and the other a "warm" white, in the appropriate holder and lower them to about 6 inches above the seed bed. As the seeds germinate, raise the light source to maintain the 6-inch separation.

As the seedlings grow, they have what are known as "seed leaves" (cotyledons), which function as the first food factories for the developing plants. Shortly, the first "true leaves" will emerge, and the cotyledons will begin dying off slowly. At this point or shortly thereafter, lift the seedlings carefully from the seedling tray and transplant them into small pots or market packs of six using purchased starting soil.

Don't transplant too early

The biggest mistake most beginners make is starting their seeds too early. The many garden catalogs with their beautiful color photos of produce can tempt us to do that. Basically, use "income tax day" (generally April 15) as the starting point for just about all seeding. Planting seeds on this date means the warm-season crops such as tomatoes, peppers and eggplants should be ready to transplant around the typical "safe planting time" of Memorial Day weekend. Monitor weather forecasts and conditions to prevent setting transplants out when frosty weather still is in the forecast.

If the weather is not cooperating, use these management approaches to work around this problem:

Get the outdoor planting sites graded to uniform smoothness. Cover them with plastic, using clear or black plastic. Clear plastic will warm the soil faster but also will encourage weed seedling germination; black plastic is not as efficient at warming the soil, but because it excludes light, very few, if any, weeds will germinate and survive.

Use plant protectors available commercially to provide protection for the transplants, or you can make your own. Gallon plastic milk containers with the ends cut out or coffee cans work well. This will protect the plants from too much initial exposure, wind, pounding rain, hail and early cutworm activity.

Plant seeds indoors
(income tax day)

Plant seedlings outdoors
(Memorial Day weekend)

Frost-free dates in North Dakota: don't count on it!

The savvy North Dakota gardener would be wise not to depend on the average dates for the last frost in the spring or earliest frost in the fall. Frosts have occurred as late as July and as early as September. When frosts occur will vary widely across the state, depending on elevation, latitude and exposure. For example, southwestern North Dakota will have much different frost dates than northeastern areas of the state.

You can record the dates yourself and build a personal diary of their variation from year to year. Generally, the frost-free period in North Dakota can range from 110 to 130 days.

When an unexpected frost shows up in the forecast, protect the tender vegetables, such as tomatoes, peppers and eggplant. Hardier plants such as cabbage and chard are tolerant of frost and need no extra protection unless a hard freeze is predicted.

Hardening off seedlings

Indoor growing conditions typically produce soft, succulent and tender plants. The seedlings must be hardened off, or prepared for “combat” in the real world. To do this, move the plants outdoors, gradually increasing the length of time they are outdoors for about seven to 10 days before planting them in their permanent location.

Basically, they should spend their first day outdoors in a protected location away from direct wind and sun forces for about an hour or two. Increase their exposure outdoors in the following days by about an hour each day until you feel confident enough to leave them out overnight when no frosty weather is predicted. After this, move the seedlings to the garden site when the weather appears to be settling down with no hard frosts predicted in the immediate future.

Direct seeding

Beans, corn, peas, cucumbers and squash are examples of annual vegetables you can sow directly, rather than as transplants.

Corn will germinate faster if soaked overnight in tepid water or until the embryonic root is just emerging. If you are going to soak the seed more than one night, change the water. In tight gardens, sow climbing bean or pea seed in the same hole as the corn. The corn provides a stalk for the emerging tendrils from the bean or pea plants to wrap around.

Some vegetables are considered biennials, taking two years to complete their life cycle. Several vegetables, including leeks, cabbage and carrots, are examples of biennials that we grow and harvest as annuals, meaning that we plant and harvest them in the same year. If left in the garden, they will flower, set seed and die the second year. Crops such as carrots, cabbage, radishes and leeks are biennials and can be sown directly with success in North Dakota. In fact, the nature of carrots and radishes requires them to be sown directly.

When sowing fine or small seed such as carrots or radishes, gardeners often question whether they’ll need to thin the seedlings. Conventional seed sowing, which involves shaking seeds out of the packet or sowing seeds by hand, usually requires follow-up thinning.

To avoid having to thin seedlings, you have a couple of alternatives: Use properly spaced seed tapes, which have the seed impregnated in them, or try seed vibrators, which are battery-operated and allow you to space these fine seeds carefully. Lacking these aids, seedlings need to be thinned to have the crops develop normally. All you need to do is pinch out the unwanted seedlings with a thumbnail and forefinger or a small pinking shear.

Perennial vegetables

Perennial vegetables need special consideration when being located in the garden. These crops will come back every year, which means they should be placed where adequate sunlight is available and they will not compete with the annual vegetable crops. For example, rhubarb and asparagus plantings will become quite massive and could shade or crowd out the smaller annual plantings. Chives, which have a mild onion flavor, produce attractive purple flowers you can use in salads to provide some color.

About garlic: annual, perennial or biennial? How it is categorized really doesn't matter. The cloves should be planted in the fall around Columbus Day (approximately Oct. 10) about 4 inches deep. The root system will develop in the soil that's still warm from summer heat, with very little to no visible top growth emerging through the soil.

Both hard- and soft-neck garlic will grow in North Dakota and usually doesn't need mulching to protect it through the winter. The following spring, the tops of the garlic will emerge, and by the end of July or sometime in August, the foliage will begin "flagging," or losing its green and turning yellow.

That is the first indication the garlic is ready to harvest. At this point, pull up a sample or two. The garlic should be a decent-sized bulb of cloves in a papery sheath. Once harvested, allow the garlic to "cure" for a couple of days in some cool shade before bundling (or braiding if soft-neck garlic) it in a cool, dark location. Those that you don't bunch or braid should have their tops cut off and be stored in a cool, dark place where they are handy to use in the kitchen. Save the largest bulbs for replanting later in October and begin using the rest for culinary purposes.

By the way, garlic actually is considered a perennial, but it needs annual division and replanting to produce the bulbs you want for consumption.

Ron Smith, NDSU Extension Service

Fall plantings in the garden

Other than garlic, which is planted in October, most fall crops would be planted in late July or early August for harvest in late September or October. Such crops could be a succession planting of cabbage, spinach, lettuce, Swiss chard, edible pod peas or any crop that could tolerate early light frosts.

Root crops planted in early July will develop fast due to the warmer soil and can be harvested in mid to late fall as well. These would include carrots, parsnip, rutabaga, salsify and turnips.

Gauge your planting time based on the days to harvest. Count back from the first expected fall frost in your area to sow the seeds. Don't worry if the frost doesn't arrive on the predicted date. All of these crops will survive North Dakota's unpredictable weather and provide a delicious crop.

Season extenders

Use the same devices for protecting plants from late-spring frosts to protect the crops in the fall. They include floating row covers, also known as frost blankets, and individual hot houses.

Generally when fall arrives, most of the warm-season crops such as tomatoes, peppers and sweet corn already have been harvested, and the crops remaining usually are hardy low-temperature vegetables such as cabbage or root crops. To get that last tomato or pepper harvested before the cold weather moves in, your plants usually need around-the-clock protection once the fall frosts hit the area. Try to anticipate weather changes to maximize the effectiveness of the protection you provide.

Ron Smith, NDSU Extension Service

Gardening nemeses

In most instances, garden pests won't be a big concern unless the garden is in the open country where deer, raccoons and rabbits can have access to the crop. If any or all of these friendly animals are in your neighborhood, they will notice with delight your effort to get a garden established. The problem is, they think the garden is just for them, and they can eliminate a transplanting of any crop in just one night.

Repellents and exclusion fences work best if used in combination. Use netting to control bird predation, but it often is more trouble than it is worth because the netting can become tangled and birds will get caught in it.

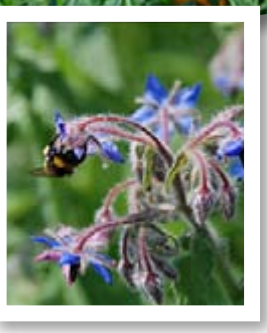
Because these animals all have an excellent sense of smell, repellents regularly applied around the vegetables and not on them will keep the pests at bay. Products such as Plantskydd and Liquid Fence are nontoxic to mammals and if applied before predation takes place, will be most effective in preventing any animal damage for the growing season.

Chemical-free vegetable gardening practices

The major reason to grow your own vegetables is to have an excellent source of nutrition with minimal or no use of chemical pesticides. In most instances, weeds, insects and diseases are not a major problem if you practice good sanitation. This means weeds in the garden need to be controlled early because they often bring insects that alternately feed on them and your developing vegetables, causing damage and transmitting diseases.

Research has shown that the greater the diversity of crops you can grow in vegetable gardening, the fewer insect and disease problems you will have. Square foot gardening, raised-bed gardening and container gardening all have proven to have minimal insect and disease problems, which has eliminated the need for pesticide use. Should a plant become diseased or insect riddled, removing it immediately usually keeps the problem from spreading.

Mingling flowers such as marigolds with the vegetable crops or incorporating herbs such as borage, chives and hyssop will draw in pollinating insects. Also, oregano and basil are aromatic herbs that have culinary uses and fit nicely into vegetable garden settings.



Essentially, you achieve chemical-free gardening through good cultural practices, which include garden hygiene; removing old plant residue and incorporating generous amounts of organic matter such as compost, rotted barnyard manure or sphagnum peat moss on an annual basis. These practices will reward you with bountiful crops.

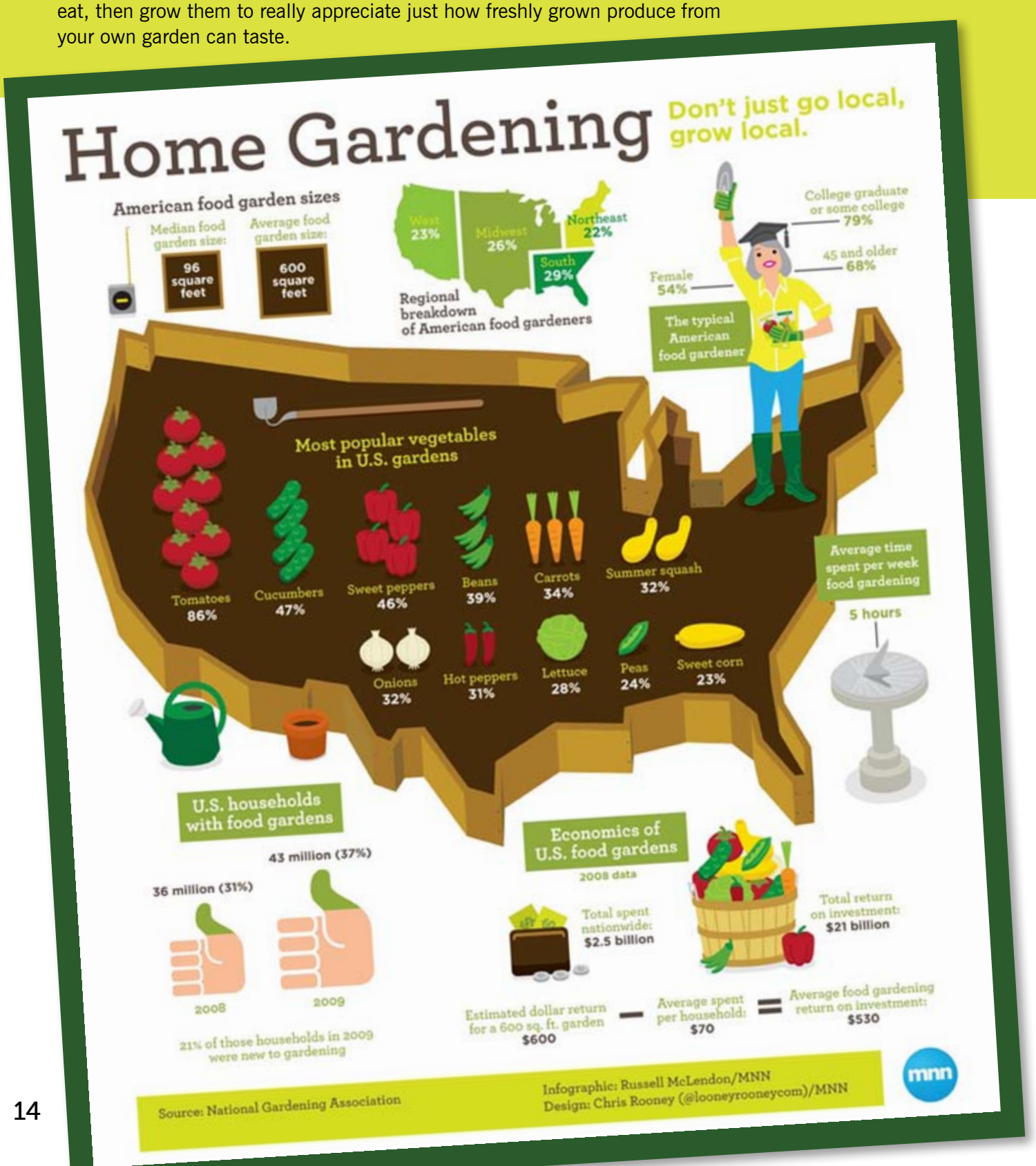
Herbs

Growing herbs is easy and lots of fun for the novice or experienced gardener. While parsley, sage, rosemary and thyme are all excellent choices, the North Dakota gardener can grow more than those four. Chives, hyssop and oregano already have been mentioned. Consider making them permanent residents of the garden, too. With the addition of basil, an annual herb or one of its many cultivars, the herb section of your garden is off to a good start.

Most herbs are quite adaptable in any soil, require full sun to perform their best and typically shun any fertilization, getting along with whatever nature provides in the native soil. You can start them from seed or purchase them as transplants from local garden centers.

Garden Favorites

Growing what you already enjoy is a very logical approach when developing a garden. For a snapshot of what the typical American gardener grows, check out the following graphic showing the results of a national survey that rated tomatoes, cucumbers, sweet peppers, beans, carrots, squash, onions, hot peppers, lettuce, peas and sweet corn as the national favorites to grow. If these rate high on your list of favorites to eat, then grow them to really appreciate just how freshly grown produce from your own garden can taste.



Harvesting, Storing and Preserving


NDSU Extension Service

These two publications provide guidelines on the length of time between planting and harvest for your chosen crops and what to expect at harvest, plus other valuable tips for success:

www.ag.ndsu.edu/pubs/plantsci/hortcrop/h912.pdf
www.ag.ndsu.edu/pubs/plantsci/hortcrop/h1185.pdf

To learn about storing and preserving your vegetable harvest, visit **www.ag.ndsu.edu/food**.

H-912 (Revised)

Vegetable Maturity Dates, Yields and Storage

Each summer brings many questions about vegetable yields, weights and storage conditions.

This list is compiled to help vegetable growers determine approximate yields to expect, what their usual packing weights are, and if necessary, conditions required for storage. Included are the approximate number of days from field planting to market under optimum growing conditions.

Approximate number of days from planting to market maturity under optimum growing conditions.

Crop	Early Variety	Common Type	Late Variety
Beans, bush	46	—	65
Beans, pole	56	—	72
Beans, lima, bush	65	—	78
Beets	50	—	80
Broccoli, sprouting[1]	70	—	150
Brussels sprouts[2]	90	—	100
Cabbage[2]	62	—	110
Carrots	60	—	85
Cauliflower, snowball type[2]	55	—	65
Chinese cabbage	70	—	80
Chives	—	90	—
Corn	70	—	100
Cucumbers	60	—	70
Eggplant	70	—	85
Kohlrabi	55	—	65
Lettuce, head	60	—	85
Lettuce, leaf	40	—	50
Melon, Honey Ball	—	105	—
Melon, Honey Dew	—	115	—
Muskmelon	75	83	90
Mustard	40	—	60
Okra	50	—	60
Onions	85	—	120
Parsley	70	—	85
Parsnips	100	—	130
Peas	58	—	77
Pepper, sweet[2]	60	—	80
Potatoes	90	—	120
Pumpkin	110	—	120
Radishes	22	—	40
Radishes, winter type	50	—	60
Rutabagas	—	90	—
Spinach	40	—	50
Squash, winter	50	—	68
Squash, summer	80	—	120
Tomatoes[2]	65	—	—
Turnips	40	—	—
Watermelon	65	—	—

When these crops are planted reaching the harvest stage

[1] For a direct-seeded cro depending on environ
[2] For a transplanted

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GROWING GREAT VEGETABLES In North Dakota

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There is more to vegetable gardening than putting seed in the ground. It involves seedbed preparation, selecting seeds of varieties that everyone in the family will enjoy, and deciding what will get planted where and when, what to seed and what to be set out as transplants.

Know The Soil Fertility – Test It First

The initial step with first time vegetable gardeners is to have the soil tested. The same advice holds true for experienced gardeners who have not had the soil tested for several years or are not getting the growth response expected from a particular crop. NDSU's Soil Testing Lab provides that service for a nominal fee. A basic test runs from $20 to $30 and should include pH, organic matter content, phosphorus, potassium, and soluble salt content. Although nitrogen is often not tested because of mobility in the soil, it is suggested that this test be included, as high nitrogen levels from excessive fertilizer applications often the cause of poor crop ance.

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year assures good tilth, a buffering action against temperature extremes, and more efficient water use.

Ideally, if the soil can be turned over in the fall, it would be subject to the freezing and thawing action in the spring that would help to break up the clods. All that is required in the spring is to level the soil. If the soil cannot be worked until spring, then take care to not work it too early when it is still wet. Doing so will destroy the structure of the soil, which could ruin any good drainage qualities the soil may have originally had.

Selecting Seeds

One way to shorten North Dakota's winters is go through the numerous gardening catalogs that arrive during those frosty months. The photos and descriptions of our favorite veggies make us long for the planting season to arrive. Many of us purchase more seed during this time than we would ever have time or space to plant in a single season, so make up a selective list, basing it on what you know your family will consume fresh, plus some more for preserving, if that is your intent. Refer to the "Vegetable Planting Guide" chart in this circular.

To-Do List for Fall

❑ Annuals

After you have harvested everything and are ready to clean up your garden, here are a couple of things you need to consider:

- If you don't have a map of what you planted where in your garden, now is a good time to make one.
- Plant rotation is vital for keeping disease and insect pressure at a minimum. Remember that eggplants, tomatoes, peppers and potatoes are all related. That means you should not plant them next year if you planted them this year, and you should not work their residue and fruits into the garden soil. That's because these vegetables have the potential to be disease "factories" for future plants. Check out "All in the Family! Potatoes, Tomatoes, Peppers and Eggplant" at www.ag.ndsu.edu/pubs/plantsci/hortcrop/h1326.pdf for more information. You can work other vegetable, flower and fruit residue into the soil as long as the plants were not diseased or infested with insects.

❑ Double crops in the fall

Once you have harvested your cabbage and broccoli heads, leave the plants alone. Many times, four new heads will form on your cabbage and you will be able to get a second crop from the same plant. The leaves below the broccoli head will form little heads, which can be comparable in yield to your first harvest. Check out "Horticulture for the Home: Cabbage Harvest" at vwww.ag.ndsu.edu/ndsuag/lawns-gardens-trees/horticulture-for-the-home-cabbage-harvest for more information.


Ron Smith, NDSU Extension Service

❑ Perennials

Asparagus and rhubarb: Leave asparagus and rhubarb alone after July 1. When frost withers and dries the rhubarb leaves, rake them off gently and place them on the compost pile. Leave asparagus as a shrub until after the snow melts in the spring, then cut or pull it up and put it on the compost pile.

Raspberries: Many times, gardeners leave raspberries until spring. Then they and clip off the canes that do not leaf out at the base and send them to the landfill or burn pile. Leave only six to eight canes per square foot for optimum yield.

Strawberries: Cover strawberries with about 4 inches of clean grain straw or soy straw in the fall when the ground freezes. In the spring, gently rake off the straw when the plants start growing actively.

❑ Soil ammendments

Work approximately 1 to 2 inches of compost between plants. We recommend adding about 1 inch of composted manure in the fall and rototilling it into the soil.

Tree leaves are another nice, inexpensive organic matter you can apply. We suggest applying leaves 2 inches thick and rototilling them into the soil. Be sure to avoid black walnut leaves; their aleochemical properties are detrimental to many plants. Also, avoid using more than ½ inch of poplar leaves because they tend to mat together and do not break down well.

Green manures are plants (such as rye) that you plant after you harvest your crops and work in before the frost while they are growing actively. This helps increase the organic matter and nitrogen that the plants will use once these substances have been broken down.

To-Do List for Winter

Making a map of your garden is fun and will help you get a realistic picture of what you can fit into your garden. Here is a grid of four squares by eight squares. Using the premise that the average adult can reach approximately 2 feet, this would make a long square foot garden. We suggest you use a pencil and start placing plants where they could go.

Let us make the top of the map north. Placing your taller plant along the northern border will allow sunlight to reach the shorter plants and not be blocked by the taller ones. You also can place trellises on the north side for the same reason.

Flowers intermixed with your vegetables can complement the garden and attract pollinating insects. “Square Foot Gardening,” a book by Mel Bartholomew, is an excellent resource on the square foot gardening method.

Example: A key is vital to remembering

Sm	St	Sr	Sv	O	pB	O	yB
gB	E	Pe	Pb	C	Bb	A	Lr
		Pg	S	N	K	Bb	Lb
Ty		E	N	R	N	A	K

Sm = Mammoth Sunflowers
R = Red Radish
Ty = Yellow Pear Tomato
St = Teddy Bear Sunflowers
C = Red Carrots
E = Mini Fairy Tale Egg Plants
Sr = Moonwalker Sunflowers
Lb = Royal Oak Leaf Lettuce
Lr = Green Salad Bowl Lettuce
Sv = Valentine Sunflowers
gB = Fortex Beans

A = Arugula
O = Okra
Pb = Mr. Big Peas
Bb = Bulls Blood Beets
pB = Purple Beans
Pe = Bananarama Peppers
K = Azur Star Kohlrabi
yB = Mellow Yellow Beans
Pg = Golden Baby Bell Peppers
N = Nasturtium

If you have room, you can use the full name in the square, and perhaps use numbers as well.
More practice boxes are on page 20.

To-Do List for Spring

❑ Amendments and raised beds

Do not work your soil in the spring if it is wet; the soil structure will suffer tremendously.

You can work in unmilled sphagnum peat moss easily in the spring at a rate of 1 to 3 inches on the top of the soil.

Mark off the area into 1-foot by 1-foot squares. Have your map ready and plant according to the package directions.

Building a square-foot raised bed can be inexpensive, and you can tailor it to your needs and the size you desire. For more information, check out "Horticulture For the Home: Building a Raised Garden Bed" at www.ag.ndsu.edu/ndsuag/lawns-gardens-trees/building-a-raised-garden-bed.

❑ Rotation

Pulling out your map from last year will help you remember where plants were. Your map also will help you rotate your plants to avoid disease buildup. Trying different varieties of plants will open your world to variations of the plants you may not have encountered before.

Garden map practice boxes

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