

Planning and Managing a Community “Giving” Garden in Maine



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Planning and Managing a Community “Giving” Garden in Maine

By John Jemison, Extension Professor, Soil and Water Quality,
University of Maine Cooperative Extension.



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Background

Fifteen years ago, I taught an Environmental Sustainability course for University of Maine Cooperative Extension. It was a seven-evening session involving approximately 20 hours of education/training. I asked participants to return 20 hours of service to the community. I also suggested (having never really gardened in a group or community setting) that we might consider taking some unused town land and starting a garden where we could supply food to the Birch Street Senior Citizen Center in Orono, Maine. A low-cost lunch is offered at the center four days a week, which helps ensure that Orono seniors do not go hungry. I thought some fresh food would be nice. The original plan fell through, but we altered the plan to grow diverse fresh vegetables and bring a bag of vegetables with a recipe to people living in low-income senior housing near the garden (Figure 1). We have delivered many tons of food over the past 15 years and made great connections with seniors in the area. All of us have learned a great deal about the challenges and rewards of growing food and working together. This publication is an effort to capture what we have learned and give others a guide to do this type of a program in another area. The information provided here should be reasonably applicable across all New England.



Figure 1. The Orono Community Garden, 2011.

Guide Organization

My hope is that this guide will help anyone who has an interest in community gardening to do that task with skill and capacity. Gardening isn't difficult, but gardening well is not easy. I hope this guide will be useful for anyone who gardens, but I have designed this intentionally to help people start community gardens and community giving gardens. This guide provides information on gardening methods; pest management; what, when, and how to plant specific vegetables with a focus on New England growing conditions; delivery program basics; and putting the garden to bed for the winter. I have also included some of our favorite recipes that we give to the food recipients so that they know what to do with the foods we provide.

Starting a Garden Program

First, I applaud your effort to start a garden program. There are several key components that you will want to line up before getting started. You will need land, water, tools, a place to keep your tools, and a picnic table to work at while cleaning vegetables, as well as to sit/rest/talk, etc.

I contacted the staff of the Orono Recreation Center about my idea, and we discussed several possible places to put in a garden. The head of Parks and Recreation suggested we garden in a small (1/2-acre) park area next to the Birch Street Senior Center. We looked over the area and found the soils were good. Soil tests indicated no issues, and we decided to start by tilling up the ground to make raised beds.

We did well to work with the town to create a relationship, but our first mistake was to not communicate with the people who lived next to the garden area about our plans. When we started to rototill the grass, two families came out and were very angry at our taking away

their kids' play area. A better effort to reach out to them initially would have likely stopped their concerns, as later this same area became a garden for a different organization with a different purpose.

After a series of discussions, the neighbors thought it was okay for us to use the area behind the Birch Street Senior Center. So, that is what we did. We collected additional soil samples and rototilled the area where the soils were the best, and proceeded to form a series of raised beds. Testing soil is essential to ensure that lead levels are low and to give you a sense of your soil pH and nutrient content. It will also give you a baseline nutrient and organic matter content to follow over time. We do this every 2–3 years to see how our nutrient levels are trending over time.

Volunteers and Volunteer Management

Volunteers are the key to a successful gardening program. Without volunteers you will not get far. There are several keys to managing volunteers: 1) provide structure for the volunteers; 2) make them feel as important as they are to your program; 3) greet them when they arrive, and say thank you to them each day when they finish their time with you; 4) bring them treats to eat and drink; and 5) recognize your volunteers.

Volunteers really are the key to a successful giving garden program. At the start of every year, we put flyers out to recruit volunteers. I drafted volunteer job descriptions that give them a sense of what is required of them. I have job descriptions for people who want only to garden; those who want only to harvest, wash, bag, and deliver; and for those who want to do both. In the description, I talk about how much is required of them, how many days a week we will work, and the duration of the commitment.

KEY LESSON #1

The first lesson is yes, work with your town to identify the right area to establish your garden, but also talk with all surrounding neighbors, and work to get their support and buy-in. Otherwise you will not build community!

If you garden at home, you are the boss. If you want to garden barefoot, that's your decision. But if you want to do this type of a gardening program where you are responsible, you have to have some rules. I have a safety training the first garden day of each year and go over a few rules that are essential to our work:

- 1) If children are going to garden, their parents must be with them at all times.
- 2) All garden volunteers must wear intact, closed-toed shoes.
- 3) I encourage the use of insect repellents to reduce chances of tick-borne illness (I don't make people wear bug repellent, but I discuss tick concerns).
- 4) I discuss safe tool management (tools sharp-side down, return at end of session).
- 5) I point out the location of the first-aid kit and its basic use.
- 6) I demonstrate the safe and ergonomic way to use garden tools.

Children should be exposed to gardening early to appreciate what it takes to grow food and have fun in the garden. That said, children allowed to run around unsupervised would not be helpful to anyone's garden operation. You want the gardening experience

to be fun, relaxing, and pleasant for everyone with good discussion opportunities. Children with their parents overseeing them are less likely to have issues, bother people, or get hurt. We have followed this rule closely without an issue.

When you have sometimes 10 or 12 people working, tools can become hazards. I ask that all tools be left vertical with sharp ends or points down in the soil when not in use. Rakes must be left tines down in the ground. I also try to get people to work effectively with tools and not hurt themselves. Using proper body position and taking full advantage of the leverage of the tool will help people reduce the chance of back or other injuries. I warn them on the first evening that I may pester them about such things. If you see people gardening with very poor posture, most appreciate learning how to use the tools to the best effectiveness.

Volunteer appreciation is key. Many people want to try to help out in their community. Helping to provide food is a good medium through which to provide help. It is important to realize that while people want to be helpful, most have limited time. Volunteers need to know they can leave early if they need to. They need to know that being there every week is not essential, but you also need a critical mass to make it feel like you are making progress. Food is a must. I usually buy a half-dozen homemade cookies at the farmers market to bring for the Saturday workday. I also try to buy fruit when I can purchase it locally from our farmers market. Often times, just a taste of a strawberry or a slice of melon goes a long way to make volunteers feel appreciated. Finally, at the end of the year, my wife and I put on a party for the volunteers. We cook food, have drinks, and give out awards for the longest serving volunteer, most social volunteer, best new gardener, and gardener of the year. Following this type of volunteer management program,

you will be more likely to have volunteers return year after year.

Every giving garden will require volunteers. The actual numbers of volunteers depends on many factors including experience and stamina. It is impossible to say if you have to have 6, 12 or 18 volunteers to make a project happen. Starting out a giving garden project, I would want a minimum of a dozen volunteers, and six with some gardening experience. To do a harvest and delivery in a three-hour period requires a minimum of six volunteers. If you can get 15 to 18 interested people who can come most weeks, I believe you will have a sufficient amount of staff to make a go of this.

Breaking Ground

Initially, you will likely want to hire someone to come in and rototill the garden area. I don't recommend rototilling as a regular practice, but it is an excellent way to initiate a garden. If the ground is in sod, you can incorporate that sod, and it will break down over the course of the first year or two of production and help supply nutrients to your garden. This will save you a lot of unnecessary work, and make the next steps to develop beds much easier!

This is also the best time to apply lime. Lime and nutrient recommendations usually are provided on soil test reports to be added in pounds per 1,000 ft². You can estimate your garden area, and determine the amount of lime to add to each area or bed accordingly. Lime is best mixed into the upper root zone at this time; then, you can add it as needed over time to the surface and incorporate it into the upper soil as you work the bed.

It is also advisable to start with a small project and grow over time. Gardens can often be added to over time if you feel you need more food, want more diversity of garden beds, or have enough gardeners who want to participate to warrant this. Over time we have

developed 52 beds in our Orono Community Garden site. This, combined with food from my university research projects, and an additional 1/4-acre spreading garden at the university farm has allowed us to distribute a total of more than a ton of fresh vegetables to more than 40 low-income seniors each year.

Why Raised Beds

Many people will rototill a garden area each year and plant their seeds or transplant vegetable in rows. The biggest issue with this method is that it is not easy to tell where you planted which vegetables the previous year(s). If you can't tell that, it makes it very difficult to rotate your crops, and this greatly increases your chances of disease buildup in your garden project. The alternative is to plant in semi-permanent raised beds (Figure 2). These do not have to have permanent wooden frames (Figure 3), and you can be flexible in your work with them. But the best thing about raised beds is that you have semi-permanent paths to walk through to access the beds, and these paths can be mulched with straw or other materials to keep weeds down. You won't compact your soil by walking in the rows. You can also make a map of the plot area, and then you can rotate the vegetables in each bed by family or by plant type (leafy crop, root crop, soil-building crop,

or fruit crop). You can use wooden-framed beds and bring in a soil/compost garden soil. We did this in one area with very poor soils, and we recently have adopted some other wooden-framed beds from another children's garden educational project. These can be helpful, particularly to volunteers or project leaders with back issues.

Double Digging

Many people employ a practice called double digging garden beds (see also <https://communitycrops.org/education/double-digging/>). This entails digging out soil in a bed to about 8–10 inches deep, and then adding lime, fertilizers, and compost in the bottom of the trench you just created, and working the amendments in using a fork to an additional depth of 6–8 inches. Specifically, the process involves removing about a shovel-width of soil down to 8–10 inches across the width of your bed, and you put that excavated soil into a couple of buckets and take them to the end of the bed. You apply the materials you want to work into the subsoil at the bottom of the trench, and fork them in well so that the materials are well mixed in the bottom of the trench. You then take the next shovel-width of soil and place it on top of the loosened soil, the area you just dug up and amended. You can at that point add lime



Figure 2. Examples of raised beds and planting across the bed.



Figure 3. Examples of wooden-framed raised beds.

and compost to that soil and mix that well in the upper part of the bed. You then add amendments to the bottom of the second trench and repeat this process until you get to the end of the bed. You finish by filling the last of the bed trenches with the soil in the buckets that you started with. Add lime and compost to that soil, work in, and then rake the bed. If you do this practice once, your bed will be a tall raised bed at this point, likely higher than it will be again, but it will settle some over time.

This is very hard work, but it is worthwhile. I would only try this one time in a home or community garden. But there is no better way to improve soil quality with depth than through this process. It is, however, physically demanding. If you are a lot younger and have a better back than I do, you could do it every 5 or 10 years to ensure highest soil quality. In a community gardening project, it may be possible to recruit young volunteers to make faster work of this physically demanding double digging process.

Adding Fertility Using Organic Production Methods

All fertility should be added to a garden based on soil tests. Lime and compost are the most important materials to add to improve the soil both chemically and physically. I am a fan of and use only organic production methods in my home garden and at the Orono Community Garden. We can grow high quality vegetables with great productivity without traditional fertilizers and pesticides. We can control insects (see Controlling Insects Organically below), fungal pests, and weeds easily enough, and soil fertility can be easily managed with organic fertilizer sources, but you will need to replace the ease of conventional production with

vigilance. Pest issues can develop quickly, so staying on top of plant health is key.

Proper Use of Compost

Many people want to supply their garden's fertility with compost. You will over apply compost if you try to use it to meet the plants' fertility needs. Too much compost can actually be problematic over the long term. Plus, compost is precious stuff. It's better for building soil structure. In your initial production year, you should likely put out an inch or two of compost and work into the beds. See the section Double Digging (page 4) above to find out how to get compost deep into the bed and encourage deeper root growth. The compost will help build soil aggregation (which relates to its ability to resist erosion), improve the soil's capacity to absorb water (infiltration), and hold water during periods without precipitation (water-holding capacity). In subsequent years, I add about 0.5–1 inch of compost to the surface of a bed, work in with a broadfork or shovel, and rake the bed surface.

A broadfork is a wonderful tool that has between five and nine heavy-duty tines and two handles. You can jump on the tool to sink the tines deep into the soil, and then you can rock back and pull the broadfork back toward you to loosen the soil. The 9-tine tool is also an excellent tool to dig up carrots and parsnips when that time comes. You can start at one end of a bed and work backwards to the other end to loosen any soil you might have compacted in the process.

Feeding Plants

If compost is used primarily for building soil structure, you will need some immediate soil fertility. In an organic garden, several sources of fertility can help plants grow well. If I have access to them, I like to apply meals (ground nutrients) when I form beds. Meals can

include soybean meal, blood meal, cottonseed meal, or mustard meal. Application rates for these are provided on your soil test forms. But often I don't have meals, I rely on fish emulsion to provide a dilute but effective nutrient source for my plants. It comes in quart, gallon, or multiple gallon containers and can be purchased at hardware stores or in bulk from manufacturers. In a 2.5-gallon watering can, I will put about 0.5–1 cup of fish emulsion into the container, and fill this with water. The liquid should have a light brown appearance, and it is strong smelling. So it is often best to wait until the end of the garden day to fertilize your plants so you don't scare off volunteers.

The next thing to determine is how often to fertilize. I never use fish emulsion until I see

that my seedling transplants are starting to grow or seeds have germinated and have an inch or two of growth. Fish emulsion can be expensive and should be used appropriately. I will apply fish emulsion two to four times in a season to each crop, depending on the crop (Table 1, page 6).

Controlling Insects and Other Pests Organically

Controlling insects is important. Row covers are essential to keep insects such as flea beetles (which love all brassicas – kale, cabbage, broccoli, etc.) from putting shot holes in the leaves of your plants (Figures 4 and 5). Row covers come in a variety of lengths, weights, and widths. For garden beds

Table 1. Fish emulsion applications to various plant types

Plant type	Number of fish emulsion applications/season
Chenopod family (spinach, Swiss chard, beets)	2–3
Aster family (leaf and bunch lettuces)	2–3
Umbels (carrots, parsnips, and parsley)	2–3
Legumes (peas, beans), no inoculum*	2–3
Legumes (peas, beans), with inoculum	1
Alliums (leeks, onions, garlic, shallots)	3–4
Solanums (potato, tomato, eggplant, peppers)	3–4 (depending on soil organic matter content; maybe 2x for tomatoes)
Brassicas (Cabbages, collards, kale, broccoli, turnips, bok choy, kohlrabi)	3–4

* Legumes can make their own nitrogen if the appropriate bacteria are present. Inoculum is sold to be applied to the seed to ensure an adequate population is present. This can be purchased from most seed company.

our size, I like to buy “15 weight” (for insect control) floating row cover. It comes in 250-foot rolls and is 118 inches wide. The key to effective row cover management is to roll out your cover the length of the bed plus a couple of extra feet on each end. So, for a 4x10 ft bed, I might roll out 14 feet of row cover to make sure there was enough material to cover the plants and not blow off. I measure the length of row cover required by counting the number of foot falls heel to toe walking down the alley next to the bed in question, and then I add two more feet for each end to have plenty of extra material to bury and hold down with rocks. If you have a carpenter who might be replacing old windows, ask him/her to save you the anchor weights. They make excellent weights to ensure the fabric stays in place. The other key component is to try to bury the edges of the row cover to prevent the wind from blowing the cover off.

When storms or heavy winds are expected, it is worthwhile to go out to the garden and check the status of the row covers. It's a good time to tuck in corners and check weights or sandbags holding down the row cover. It is also good to check after the storm is over. Sandbags can also be purchased or made to hold down row covers.



Figure 4. Cabbage growing beneath supported row covers. You can see the fine-spun nature of the row cover fabric, which allows much of the rain and sunlight to penetrate, but keeps out insects. Installed properly, insects will not bother your cabbage under row covers.

It is essential to cover the beds immediately after you sow or transplant. Flea beetles are small black insects that are barely visible, and they can do great damage to newly emerging leafy greens or transplants. It is also essential to thoroughly water your transplants and your newly seeded beds prior to covering. Although row cover fabric is designed to allow water to penetrate, a good percentage will run off. So making sure everything is well watered prior to covering it with row covers is essential. The cover warms the soil on cool nights, keeps the wind from whipping your new transplants, and keeps vertebrate animals from dining on your handiwork, which can also be beneficial. Row cover has not traditionally been needed for some leafy greens, such as Swiss chard and spinach, unless leaf miner insects are active in the area. They can eat the epidermis of the leaf, leaving unsightly patchy areas on the leaf. That is why they are said to mine out the leaf. As well, we never really needed to cover onions or other allium plants. However, you should be aware of thrips and the leek moth, which is becoming increasingly damaging in Maine and the Northeast U.S. I hope we don't end up having to cover everything in a garden, as it is not particularly attractive to cover everything.



Figure 5. Use of supported vs. unsupported row covers. The vegetable-specific sections below detail which crops I recommend to be grown under covers.

Slugs can be a very problematic production pest. Slugs crawl or burrow under the row cover and will feed on leaves and burrow into cabbage heads. It is really not fun to have slugs in the cabbage heads that you want to deliver. There is an organically approved product called Sluggo that serves as a repellent to slugs. The product consists of pellets of iron phosphate, which the slugs don't care for. You should put it down when you transplant cabbage seedlings, and reapply as often as you pull off the covers to weed. Always recover your plants until they have grown so large that they might not fit under it. We typically apply Sluggo four times a year. Although it is relatively low risk, make sure to read and follow all label instructions, as it is a registered organic pesticide product.

There are other organic products that can be used in gardens if insect pressure is high enough. Through effective crop rotation (discussed below in the vegetable-specific sections), you may be able to prevent too much insect pressure and will not have to



Figure 6. Scarlet runner beans as a backdrop to the Orono Community Garden.

KEY LESSON #2

Always apply water to seeds and seedlings transplanted in your garden at the time of sowing or transplanting. You never want to rely on rain, even if it is forecast. Early water stress will set back your plants, and they will likely not recover. It doesn't take too much time to do this, and you will sleep well knowing your plants are off to a good start!

resort to other organic insecticides like PyGanic or other pyrethrum products. We have used only iron phosphate repellents in our Orono Community Garden.

Finally, when you are working the soil, look closely for insects. Earthworms are always good things. But in turning over the soil you will often find larvae, pupae, and adults of insect pests. Wireworms commonly overwinter in soils (Figure 7); they are small 0.5-inch tan, hard wormlike organisms. It's generally a good idea to remove these from your beds if you locate them.

Controlling Fungal Pathogens in the Garden

We have generally not had major issues with fungal organisms in our gardens. We use bed rotation to prevent pathogen buildup in soil. Also, some cover crops such as mustard can be useful to suppress these soil-borne organisms. There is somewhat less control over airborne fungal pathogens. Some people apply copper-based fungicides, but again, I don't like to use even organic pesticides if it's not necessary. It is important to carefully monitor the plants for any symptoms. Take advantage of the Cooperative Extension

resources that are available. In Maine we have educators that will identify specific pest and diseases that might afflict your garden. There are also factsheets describing specific insect pests and disease symptoms. Taking advantage of these resources may help you avoid more serious issues. Early and late blights of tomato (Figures 8 and 9) can be and have been a problem at various times, and you should be familiar with the symptoms of each of these diseases.



Figure 7. Wireworm.

Controlling Weeds in the Garden

Weeds are easy to control in a reasonably sized organic garden. There are three real keys to effectively controlling weeds:

- weed early and often with the right tool for the job
- don't let weeds go to seed
- be ready for the annual grass flush in July and August that can take you by surprise.

Traditional hoes are not very useful, particularly for early garden weeding. I like small specialized hoes like loop hoes and other special tools (Figure 10) to be able to carefully weed close to new transplants such as onions. Loop hoes are circular and are designed to disrupt germinating weed seeds early in their

growth stages (in what many refer to as the thread stage of growth) without disrupting too much soil. They can cut the germinating weeds before they actually emerge. Traditional hoes are useful to weed in the alleys, but not so much in the production area.

I can handle a few “imposters” in the garden, and early in their growth some weeds (e.g., lambsquarters and purslane) are actually quite edible. But if plants are allowed to go to seed, problems intensify each year. As the garden season progresses and the days start to shorten, weeds will go to seed at a much smaller size. So keeping at the weeding and not letting plants go to seed is important. One



Figure 8. Early blight of tomato. Note the concentric circles in the infected area.



Figure 9. Late blight on tomato stem. Typical leaf symptoms include a black center of disease with a halo of white mycelia around it.

really important thing to do in beds like onions and other alliums is to weed before you think you need to. You will be disrupting germinating weeds when you carefully weed around transplants before you see weeds emerging.

Mulching alleys with barley straw or other materials is a very good means of controlling unsightly weeds. Sometimes the row covers can shade out emerging weeds, but if not, then barley straw makes a nice weed discouraging cover. Scratch the soil to ensure that you have disrupted any germinating weeds, then spread 3–4 inches deep of straw in the alleys after the beds have been sown.

Lastly, the flush of annual grass in late July and August can be a real headache. You think you have managed your weeds, and then there is often a flush of growth. Both annual and perennial grasses such as quackgrass

always require time and effort to control. Quackgrass reproduces with underground rhizomes, which need to be dug out intact and disposed of. Annual grasses



Beautifying Your Garden To Attract Beneficial Insects

You can plant flowers in front of your production garden to make the area more attractive. Flowers such as borage attract beneficial insects to the garden. Others flowers, such as marigolds, are thought to keep away insect pests. You can plant flowers in the front of a bed and tuck the row cover in behind them. Scarlet runner beans are also beautiful and provide a lovely backdrop to a garden (Figure 6).

should not be allowed to go to seed. Weeding should be approached as a zen-like activity. But if you start to hurt, back off and rest. Gardening should not inflict pain!

Controlling Vertebrate Pests in the Garden

We have had moderately good luck through the years with vertebrate pests. The biggest issues we typically have are deer, groundhogs, and cats. Early in the season, with many beds covered with row covers, we don't have a lot of issues with deer. It is generally later in the year that we begin to have issues. Deer love Swiss chard and beets. So if your area is loaded with deer, you should expect some feeding damage. Groundhogs are tricky too. Our garden has tremendous groundhog habitat, because a train track runs below the garden, and groundhogs burrow into the side of the hill. We have trapped them with live animal traps, but they are a bit wily, and you might catch a skunk if you are not careful. Unfortunately, cats sometimes like to use raised beds as their litter boxes. I find it frustrating, and I have yet to figure out what to do about that. Finally, we have had snapping turtles come and burrow in the soft beds to lay their eggs (Figure 11). Tell me what to do about that? They can be run out of the garden, but they will return. Fencing would be a solution to all of these issues, but our garden is shaped so that this is impossible. So we tend to rely on close inspection/monitoring and a lot of hope.

How Finely Should the Soil Be Worked?

The more you work the soil (mixing, digging, rototilling etc.), the more you destroy soil clods or aggregates. The finer you work your soil and the smoother you make the soil surface, the easier it is to form a crust, reducing the amount of water that will

infiltrate and be available for your plants. The crust also makes it difficult for germinating seedlings to emerge. If rainfall cannot infiltrate your soil, the more likely your soils will be to erode. If soil erodes into lakes, the phosphorus content can stimulate algal blooms, causing loss of water quality and lake land value. So any bed that you are planting to established transplants (cabbage, broccoli, tomatoes, peppers, etc.) does not have to be finely prepared. If you are sowing seeds, the fineness of the soil surface should be based on the size of the seed you are planting. For example, planting green beans does not require a fine soil surface, but planting carrots does (Figure 12). We will discuss sowing in more detail shortly, but for the practice of working your beds, less is often more. Work to improve soil physical properties with compost. The more silt and clay you have in your soil, the more compost will help improve aggregation and facilitate drainage in the spring. If your soils tend to be sandy (coarser textured soils), compost can help that soil accept the water and hold it for plants to use. You really cannot change the percentage of sand, silt, or clay in your soil. But you can improve soil health and soil aggregation by increasing soil organic matter content over time.



Figure 10. Snapping turtle laying eggs in an onion bed.

KEY LESSON #3

Do your best to never allow your plants to get stressed. Stresses include chill stress, overcrowded transplanting, too densely sown seeds, weed competition, overly root-bound transplants, disease, and insect stress. Once a plant has been stressed, it is not likely to ever reach its full potential! Many times it is better to start over than to think the plant will recover. Chill-stressed basil is a great example. It rarely recovers.

Soil Organic Matter Management and Impact on Plants

There are three types of organic matter (OM) in soil: living, dead, and very dead. The living components consist of living organisms in soil (bacteria, fungi, actinomycetes), and other larger organisms (nematodes, earthworms, etc.). These organisms play many important roles in the soil, including releasing nutrients from OM to the plant. Bacteria break down OM and convert plant-unavailable nitrogen (N), phosphorus (P), sulfur (S), and potassium (K) to the plant-available forms. This is obviously very important for production purposes. Bacteria are generally favored by near neutral soil pH, whereas fungi prefer a lower (acidic) soil pH. Keeping cover crops growing during the off-season can provide food for microbes to feed on as the plant roots exude materials that support their metabolism. Particulate OM (the “recently dead” material) is identifiable plant material that is breaking down ultimately to become humus. Humus provides plant nutrients and can help build soil structure. Humus (the “very dead”

material) is the dark, unrecognizable product of degradation, consisting of long-chain hydrocarbon compounds that are effective at holding water and soil nutrients. Since compost is organic material that has undergone bacterial and fungal breakdown, additions of compost are essentially equivalent to adding humus to the garden.

Most starting soil OM contents in New England will range from 2–4 percent. With regular additions of organic matter and refraining from overworking the soil, you can easily build the soil OM content to twice that or more. Surprisingly, it is possible to add too much OM to a soil. If you exceed 10–12%, this can pose a risk to groundwater quality. I have been called into places where people had contaminated their neighbor’s drinking water well because their garden soil OM exceeded 15% from using too much animal manure over a number of years. Aim for 6–9% OM with regular additions of compost and use of cover crops.



Figure 11. Finely worked raised seed bed for a small-seeded crop such as carrots.

Ready to Plant: Stage 1— Earliest Sown and Transplanted Vegetables

Equipped with our soil fertility test results, we have limed our soil, formed our raised beds, and worked compost into the soil. Are we now ready to start planting? I would say almost. You need to figure out a planting schedule and how many beds you want to plant to which crops. The second thing to consider is how much to stage your plantings to have a regular supply of vegetables for your recipients. You will want to have a sense of how many people you want to supply food to, and is that clientele able to eat the food that you are preparing to grow? Nearly everyone loves tomatoes, cucumbers, and sweet corn, but it may not make sense to grow a lot of greens if your recipients are told by their doctor not to eat them. Many seniors are on blood thinners and are required to limit their consumption of dark leafy greens because this can thin the blood too much. But greens can be healthy foods, and recipients should be encouraged to try to consume greens. Providing them with tasty easy recipes (like those supplied in this guide) can encourage it. But if they won’t or can’t eat them, you are wasting your time. An important thing to communicate to your recipients is that you can supply them with leafy greens early in the season, while waiting for the spreading summer vegetables (squash, cucumbers, and tomatoes) to grow.

Most of our beds run from 18 to 25 feet long and are 4 feet wide with a 1-foot alley around each bed. Typically, two 80-square foot beds would produce enough spinach to supply 40 people (particularly senior citizens) with enough spinach to make a couple of spinach salads in a week. The same could be said for a bed of baby kale. Each of these can be among your first beds to sow. You can also transplant onions, cabbage, brussels sprouts, and broccoli in early May.

Stage 1 plants are those that you can plant 4–6 weeks before the last killing frost of the year. In an era of a changing climate, don't be confused and think that since things are warming slowly that you can plant ridiculously early. Generally consider the last freeze date in the Central Maine area to be the last week of May. So count back from Memorial Day and you could potentially get away with planting Stage 1 plants in mid- to late April, although most of the time the soil is too wet to work that early. But the following plants should be planted first in a garden season.

Sowing Leafy Greens: Spinach, Kale, and Arugula

I try to achieve the maximum production possible. I think having a row marker to run across the width of a bed, not lengthwise (Figure 2), tends to create the best system to space your seeds. If I had unlimited space, I would follow the sowing and spacing recommendations that are on seed packets, but we never have enough space. So, I use the sowing rate recommendations that are provided on the seed package—so many seeds per foot, but I almost never follow the row spacing recommendations. If a packet recommended 12 seeds per foot in rows 18 inches apart, I would do 12 seeds per foot sown in rows 8 inches apart. To do this, you

need to stay on top of your thinning, watering, plant feeding, and weeding.

Also, check the germination percentages they provide for you on the seed package. If the germination is 90% or more, you won't really factor that in your calculations of how many seeds to sow per foot. But if the seed package says germination percentage is 75%, you will want to plant 15 seeds per foot where 12 was the number recommended. If I know the specific seed is slow or difficult to germinate and emerge anyway, I'll likely plant an additional 10% above the recommended amounts.

We at the Orono Community Garden have a special row-marking tool that was made by an excellent volunteer. Other row-marking tools are available for purchase from gardening companies, and I think they are really helpful. With the row marker, I form rows that are a couple inches deep and a couple inches wide across the bed instead of lengthwise. Our marker has sticks that scratch the soil surface and are about an inch wide on an 8-inch spacing. This forms a small band in which I sow seeds in the bottom of each little trench made by the row marker. The trench holds water better than simply broadcasting the seed across the surface of the bed. Then, after sowing the recommended density, I cover the seeds with soil, generally with an



Figure 12. Baby spinach ready for harvest.



Figure 13. Volunteers weeding "Lacinato" (Tuscan) kale.

amount that is about three times the diameter of the seed. I then gently pat or firm that added soil over the seed to effect good seed-to-soil contact. I maintain the trench and ridges because of the desire to maintain moisture in the trenches for germination.

Greens must be thinned regularly, or they will become overcrowded and bolt (a term for a plant going to flower and seed). I usually start to thin as soon as there is enough plant material to take home and enjoy in a salad. I remove the entire plant and pinch off the root. I like each plant to have enough room to grow and thrive, but I also want to there be a solid green canopy within a few weeks of planting (Figure 13).

Leafy greens planted in early- to mid-May will be the first plants to harvest, generally around the end of June or early July.

Spinach comes in many varieties, and some are more resistant to bolting than others. I really like the Red Kitten variety if you can plant it early and harvest for volunteer workers, but it likely won't make it to late June without bolting. The variety Space is productive, disease-resistant, and very tasty. Again, most of the time spinach does not need row covers, but you might experience leaf miner damage. We don't see bad leaf miner activity every year.

Kale also comes in many varieties. I like the Tuscan kale variety more than most of the others (Figure 14), but Russian red kale has performed well for us too. You will need row covers, but you do not have to support these. As the kale grows, it will simply lift up the row cover. Kale is a large plant, often growing to 2.5–3 feet tall. It will be helpful eventually if not at the beginning to use supports with the row cover on kale simply because it is easier to manage the row cover on such a large plant.

Lastly, I love arugula, but it is best grown early for volunteers as it too has a tendency to

bolt and may be too bitter for some recipients. That has been our experience. Because it's a brassica, it will also need row covers.

Favorite Spring Green Recipes

Wilted Spinach Salad with Sautéed Garlic Scapes | Serving Size: 2

Ingredients

- 1 large egg
- 2 strips bacon (I know ... not the healthiest of meats but it tastes really good!) I use it in these recipes mostly for flavor. (note vegetarian option below)
- 1 garlic scape (garlic flower), finely chopped
- 2 tablespoons olive oil (if using the vegetarian option)
- 1 tablespoon lemon juice or red wine vinegar
- 1/4 teaspoon Dijon mustard
- 1/2 teaspoon white granulated sugar
- 4 ounces spinach, rinsed and dried
- Salt and pepper, to taste

Directions

1. Hard-boil the egg: Place egg in a sauce pan. Cover with 1 inch of cold water. Bring to a boil and shut off heat. Let sit in water for 12 minutes. Drain and peel and cut into 6 thin slices.
2. While cooking the egg, sauté bacon. When appropriately cooked for your taste, remove to a paper towel to absorb the grease.
3. Toss in the chopped scapes to cook in the bacon drippings. Sauté for 4 minutes until scapes are soft and turn off the heat.
4. When bacon is cool, crumble it.
5. Remove scapes from the pan and place next to bacon crumbles on towel.
6. While bacon drippings are still warm, in bacon pan mix lemon juice or vinegar (depending on preference and availability), Dijon mustard, and sugar.
7. Place clean, dried spinach in a salad bowl.
8. Pour warm dressing over spinach and toss. This will wilt the spinach.

Vegetarian option: Instead of sautéing scapes in bacon drippings, sauté scapes in 2 tablespoons olive oil. Remove to towel after about 4 minutes. Use warm olive oil in place of warm bacon drippings.

Sautéed Baby Kale with an Over-Easy Egg

Serving Size: 2

Ingredients

- 2 tablespoons olive oil
- 1 garlic scape, finely chopped
- 6 ounces baby kale (1–2 cups), rinsed and dried
- 1 or 2 eggs
- Salt/pepper/red pepper, to taste

Directions

1. In a large sauté pan, cook oil and chopped garlic scape for about 1 minute over medium heat.
2. Add baby kale, add salt and pepper to taste, and sauté about 2 minutes.
3. Remove the cooked kale to a plate.
4. Add a bit more oil, and cook 1 or 2 eggs over-easy.
5. Place the cooked kale on the plate, and place the cooked egg on top of the baby kale. I like to shake a bit of red pepper on top of my egg, but that is of course optional. Serve and enjoy!

Turnips (Hakurei)

We have tried for years to grow purple-top stew turnips, rutabagas, and salad turnips (hakurei). Some years we do well, but other times, not so much. I have found that we have three major issues: the seed size of all turnips is very small and is therefore very easy to sow too densely; insects (particularly wireworms) will bore into the turnip, leaving an unusable product; and it is easy to be late on the harvest, and they become woody (same problem I have with radishes). If you sow seeds heavily thinking you'll come back and thin, you may be overwhelmed when you return. I have done that a few too many times. The seed is black and difficult to see when you are sowing in bands in the row. But last year we grew some salad turnips, and they were beautiful. What did we do right in 2018? I am really not sure, but we thinned them to one plant per 3 inches early when the plants were small, and the harvested lovely white globes were insect-free (good luck, probably). Wireworms are common, particularly in freshly turned gardens where turf or sod was growing, but they can also affect plantings

later. Look for them when you turn the soil and pull them out of the bed. You will have to cover all turnips with row covers as they are brassicas, but you won't need to have supports for the row covers for hakurei turnips. Hakurei turnips seem to do better planted only in the Stage 1 plantings (mid- to late April). The purple-top stew turnips can be planted with the Stage 1 or 2 plantings. But where the purple-top turnips are really best cooked, the Hakurei turnips are sweet, crunchy, and delicious sliced or diced into salads and also gently cooked. The purple-top stew turnips have many of the same issues (oversowing, insects, and appropriate harvest time) for the same reasons. It also seems that if a brassica is sown too densely, there is a short thinning window. If you miss this window, the plants will grow but the bulb doesn't form on the base of the plant. I have seen this with radishes, turnips, and rutabagas. So thin to the appropriate spacing early in the season when the plants are no more than an inch tall, and maybe even sooner.

Watch for: Early thinning; wireworms.

Favorite Recipes for Hakurei Turnips

If you harvest turnips small, they can be boiled and the greens added to make a wonderful side dish. Or you can always slice them raw and place in a salad.

Cooked Baby Hakurei Turnips

Serving Size: 2

Ingredients

- 6-9 small baby turnips with greens reserved
- 2 strips bacon
- 1 cup chicken stock
- 1/4–1/3 stick butter
- Salt and pepper to taste
- 1 tablespoon sugar

Directions

1. Carefully wash the turnips and snip off the greens. Reserve the greens and chop them coarsely.
2. Put the bacon in a medium-size sauce pot over medium heat and cook until the bacon is crispy.

3. Remove bacon and place on paper towel to absorb the grease.
4. Wipe the grease from the pot. Place the turnips in the pot and fill halfway with chicken stock and water.
5. Add butter, salt and pepper, and sugar. Cover pot and bring turnips to a boil, then turn to a simmer and cook uncovered until the turnips are tender (15–20 minutes, depending on the size of the turnips).
6. When the turnips are tender, remove them and continue to cook the liquid down until it begins to thicken.
7. Return the turnips to the pot.
8. Add the greens to the mixture, stir, and cook for an additional 5 minutes or until the greens have wilted.
9. Crumble the bacon onto the turnip green mixture and serve. Enjoy!

Potato, Leek, and Sausage Dish

Serving Size: 2

Ingredients

- 1 cup chopped leeks
- Sausage (any kind will work, select based on your preference) (2–3 pieces)
- 1/2–1 pound potatoes (Yukon Gold or similar type), cut into 1–2 inch chunks
- 1/2 teaspoon coarse salt
- 1 teaspoon ground pepper or to taste
- 2 cloves of garlic finely minced
- 1 tsp butter divided
- 1 tablespoon olive oil, divided
- 1 teaspoon butter, divided
- 2 cloves garlic, finely minced
- 1/2 cup chicken stock
- Salt and pepper to taste

Directions:

1. Cut the white and pale green part of the leek into 1/4-inch pieces. Put them into a colander and rinse very well.
2. Sauté the sausage in a skillet on medium-high heat until well browned, then remove from the skillet
3. Reduce heat to medium or even medium-low and add oil, butter, and potatoes and salt. Make sure the potatoes are well coated in oil and butter.
4. Add the leeks and garlic and cook for about 10 minutes.

5. Add chicken stock, return the sausage to the skillet, and cover. Cook for about 20 more minutes.
6. Season with salt and pepper to taste. Serve.

Onions

Aside from garlic planting, transplanting onions is probably my favorite garden task. There are several key components to the spacing. What type of onion are you growing? Does your group want to sauté garden-fresh, sweet white onions, such as Ailsa Craig onions, or have more storage onions, such as Copra or red onions? I use similar spacing for most onions, but I stretch the super sweet onions between each onion just a bit more than reds or storage onions.

Onions are easy to transplant as seedlings. Of course, following bed preparation (which can be a fairly rough soil surface for transplanted onions), mark the bed with the row marker, and then begin to remove the onions from the flat. You will want to tease apart each of the onions in the transplant cell. I always use a trowel to transplant onions. It helps me ensure that the hole is sufficiently deep so all the onion roots have enough room, and then I fill in the hole. You also want to make sure you don't plant the onion too deeply. The seedling has a root system, a slightly swollen bulb, and stem to the first leaf. Make sure that the top of the soil surface following transplanting is below that first leaf and that the bulb part is



Figure 14. Happy onions.

buried. When you start to weed these transplants, make sure you don't push soil over the first leaf. That would set back the onion and possibly kill it.

How far should you space each individual seedling transplant from others? I usually think of each super sweet onion as if it were a softball. As you plant them, study the bed and look at the center of the onion transplant, making sure that there is room for a softball to fit between each onion transplant. For red onions, I generally follow the same routine. For storage onions, I want to see a hardball baseball spacing between them. My hand with thumb to little finger stretched out as far as possible is about 6 inches or about the size of a softball. That works for me as a guide. You can also use a trowel to guide your spacing. If the bed is 4 feet wide, I'll generally have 6 or 7 sweet onions planted across the bed row with an 8-inch spacing between rows. This spacing, as a rough rule of thumb, generally works fairly well (Figure 15). I like to give our seniors an onion a week for several weeks.

I know that the onion is done growing when its top green growth flops over. When you see the first plants do this, at that point, that onion is ready to be harvested. The other



Figure 15. Thrips damage on onions. Some feeding damage is tolerable, but too much can cause reduced photosynthesis and overall production.

onions in the bed will not grow much more, so if you think your recipe needs an onion, it is fine to harvest enough to meet your recipients needs. Snip off the roots, brush off the bulb, and bag it for your recipients.

If you happen to be bed-limited and you end up with extra onion seedlings at the time you are transplanting, you can plant a whole transplant cell into the side of the raised bed. The onions will grow and push out from each other as the onion starts to swell. Spring onions are wonderful, and this is a good way to provide your recipients with an early spring onion to chop into foods without having to wait for a majority of the summer to pass before being able to start an onion harvest.

Watch for: Thrips is a tiny flying insect that can suck plant fluids and scar the outside of onion leaves. Watch closely for damage (Figure 16). PyGanic is an organic pesticide labeled for thrips control.

Leeks

Another member of the allium family, leeks are similar to onions but they're treated quite differently in planting. In a 20- x 4-foot bed, I would plant across the bed in rows at least 8 inches apart, but with this crop, row spacing could and maybe should be stretched to a foot between rows. Much like potatoes, you need to form a trench in which to plant the leek. Leeks can grow 2-3 feet tall, but you really only want to eat the white and lightest green portion of the leek. Form a 4-6 inch deep trench and plant the leeks in the bottom of the trench. Plant similarly to onions and make sure that the roots are tucked into a 2-3 inch hole. You'll fill in the rest of the trench after the plants start to grow. One key reminder: When burying the bottom of the plant, make sure you do not bury the plant above the first leaf. A trench is likely to have some soil slough into the trench and bury that first leaf. If that happens the plant will be stressed or die. That is why planting on a wider row

spacing likely makes sense. After they have become established and start to grow, fill in the trench that the leeks are growing in to prevent light from greening the bottom of the leek plant. Over time your 6-inch-deep trench will become a 2–3 inch hill around the bottom of the plant. The part of the leek that is buried will stay white. That will allow you to be able to eat at least 6 inches of the bottom of the plant.

A wider row spacing will also allow your leeks to achieve a more full potential. A leek can potentially form a stalk that is 2–3 inches in diameter and 30 inches tall (Figure 17). As such, you will want to plant about 12 leeks across a 4-foot-wide bed. Leeks require a full season to grow. Often you will think they are shutting down in the hot part of the summer. But when cooler temperatures return, leeks begin to bulk and grow. So give them the full summer to grow. You will want to provide your recipients with 2–3 leeks in a delivery, and leeks should be in one of the last deliveries made to your participants (Figure 18). Directions for how to use the leeks should include information encouraging very aggressive washing. Dirt always seems to find its way into the plant between the leaves, and they can be quite gritty without this washing. I usually recommend rinsing the leek, putting it on a cutting board, and cutting cross-wise across the stem into 1/2-inch chunks. I push

out the core of the cut leek, and place in a colander for thorough cleaning.

Watch for: Soil sloughing onto leeks from trench, burying them too deeply. Check for thrips damage as well.

Favorite Onion and Leek Recipes

Summer Corn Chowder | Serving Size: 2-3

Ingredients

- 2 slices bacon or 3–4 tablespoons olive oil (for vegetarian option)
- 1 large sweet onion, diced, or 2 large leeks, chopped
- 1 cup white cooking wine (optional)
- 3–4 medium-size gold potatoes, diced
- 2 cups vegetable or chicken stock (with use of 1 cup cooking wine above); 3 cups otherwise
- Corn kernels cut from 3 ears of fresh corn (2–2.5 cups total)
- 1/2 pint half and half or light cream
- Salt, to taste
- 6–10 cherry tomatoes, each cut in half
- Chopped fresh basil

Directions

1. In a large, heavy-bottomed sauce pot, cook the bacon over medium heat until browned, 3–4 minutes, turning occasionally. Remove the bacon



Figure 16. Diversity in size of leeks growing at the Orono Community Garden.



Figure 17. Harvested leeks for delivery.

from the pot and place on paper towel to absorb grease. For vegetarian option, heat olive oil in pot over medium to medium-high heat.

2. Add the diced onion or chopped leeks to the sauce pot and cook in the bacon drippings or olive oil over medium to medium-high heat until the onion/leek has softened and browned, 2–3 minutes.
3. Add 1 cup of cooking white wine or 1 cup of stock and continue to cook until about half has evaporated.
4. Add the potatoes, the chicken or vegetable stock, and enough water to cover the potatoes. Raise the heat to high and continue to cook until the liquid is boiling, then reduce the heat to simmer. Continue to cook until the potatoes are soft, around 15 minutes.
5. Add the corn and cook for an additional 2 minutes.
6. Turn off the heat, stir in the half and half or cream, and salt to taste.
7. Crumble the crisped bacon. Portion the soup into bowls and top with cherry tomatoes, crumbled bacon, and basil and serve immediately. are well coated in oil and butter.

Cabbage

Quite possibly the hardest thing to do in a garden bed is believe that a tiny 2- x 2-inch cell of soil holding a

seedling cabbage plant that is maybe 4 inches tall will become a plant that is easily 3 feet wide and 2–3 feet tall (Figure 19). Broccoli is similar. We all, me included, want to plant too many plants in a bed. It's a very natural response. Your goal is to produce a lot of food for yourself or to give away, but if you plant too closely the plants can't express their full capacity and may be stressed. So try to achieve optimum spacing. Imagine your full-size plants when you are laying out your garden bed. If you have a 4-foot bed that is 20 feet long, how many plants do you think you can transplant? The answer could be "it depends." When laying out beds, some beds are not quite 4 feet wide. If the bed is really closer to 3 feet wide, I would likely plant no more than seven plants in the bed. This spacing is ideal for large red cabbage. I would put the first one in a foot from the end, and plant each 30 inches apart. If the cabbage is a smaller size "Napa"-type cabbage, you may be able to do plant more densely. Sometimes I use what I call a 1:2 planting pattern. I would start by planting one cabbage plant in the



Figure 18. Red cabbages. Note the giant size and use of supported row covers.

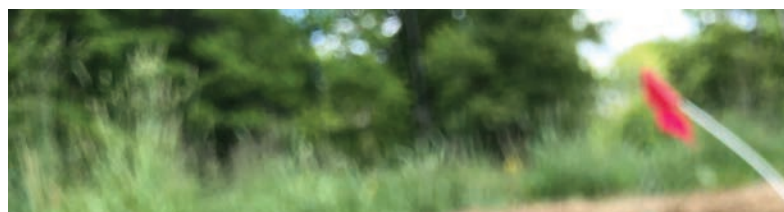


Figure 19: Red cabbage may be transplanted in 1:2 plant spacing.

middle of the bed about a foot from the end of the bed (again, to allow for row covers). Then, I would plant two cabbages across from each other about 8–10 inches from each side edge of the bed. Then I would plant a single cabbage 24 inches from the center of the two plants. I would repeat this planting pattern down the bed in a 1:2 transplant planting pattern. I could conceivably get around 20 plants in a bed this size, based on the 1:2 planting method. Always leave a foot at the end of the bed for effective use of row cover to fend off flea beetles.

One other important consideration is that unlike onions, you cannot tease apart two cabbages in a given transplant cell. You will have to snip off one if there are two in a cell, and then transplant into the bed. If the plant roots are tightly bound in the cell container, you can gently tease those roots before transplanting to help the plant effectively expand its roots.

You will want to use row cover supports for cabbages, broccoli, or other larger brassicas. We use straight wire supports, which we put in the ground in the side of the bed, and then lay the row cover over the supports. The Agribond row cover has a stripe down the middle of the material. Place that over the center of the bed and leave extra to bury in the soft soil on the sides and ends of the bed.

Some people plant radishes in between growing cabbages. If you remember to pull off the covers and weed regularly, then your radishes won't grow too long and be too woody. I tend to forget about them, and the end product isn't pretty. But because both are brassicas, it makes sense to plant them together and use row covers.

Watch for: Flea beetles; slugs.

Favorite Cabbage Recipes

Southern-Style Braised Cabbage

Serving Size: 2

Ingredients

- 2 tablespoons olive oil
- 3 strips bacon
- 1 onion, cut in half from top to bottom, then cut cross-wise into strips
- 1–2 cloves garlic, minced
- 1 cabbage; wash, cut out the tough inner core, then chop into 1-inch strips
- 3/4–1 cup chicken stock
- Dash of red pepper
- 1/2 teaspoon salt and 1/2 teaspoon ground pepper, or to taste

Directions

1. Add bacon to your deepest frying pan with a lid.
2. Cook the bacon over medium heat until it is slightly brown, then add the onion.
3. Reduce heat to low and simmer for about 5 minutes.
4. Add garlic and sauté for 3 minutes.
5. Add oil and cabbage and sauté over medium-high heat for 5 minutes.
6. Add chicken stock, cover, and let simmer for 10–12 minutes.
7. About 3 minutes into the simmer, taste the mixture and season with red pepper, salt, and pepper to taste.
8. Turn off the heat and allow the cabbage to cool.
9. Refrigerate the cabbage overnight in a sealed container.
10. Perhaps sauté some sausage and reheat the cabbage to eat with it the next day.

Grandma's Skillet Cabbage Dish

Serving Size: 2

Ingredients

- 2 cups shredded cabbage
- 1 small green bell pepper, seeded and chopped
- 1/2 cup chopped celery
- 1 large sweet onion, chopped
- 1 clove garlic, finely chopped
- 1 tomato, chopped
- Dash red pepper
- Dash red pepper flakes

- Salt and freshly cracked black pepper to taste
- 3–4 tablespoons olive oil
- 1 pat butter
- 1 teaspoon sugar
- 1/3-pound sausage (your favorite style--optional)

Directions

1. Place cabbage, green pepper, celery, onion, garlic, and tomato in a large bowl.
2. Add red pepper, red pepper flakes, salt, and pepper to taste.
3. In a large skillet heat olive oil and butter over medium heat until the butter is melted.
4. Add vegetable mixture and cook for 15–20 minutes until it's cooked through.
5. If you enjoy meat and would like to make this a complete two-pot meal, simply sauté some sausage in a separate skillet until cooked through. Remove and transfer cooked sausage to the cabbage skillet with about 5 minutes left in the cooking process. Mix well. Serve and enjoy!

Delta Cole Slaw | Serving Size: 2

Ingredients

- 1/2 head green cabbage, cored and thinly sliced
- 1/2 red bell pepper, thinly sliced
- 1/2 medium onion, thinly sliced
- 3/4 cup peeled and shredded carrots
- 1 teaspoon kosher salt
- 1/2 teaspoon freshly cracked white pepper
- 1/2 cup apple cider vinegar
- 1/2 cup sugar
- 1/2 teaspoon dry mustard powder
- 1 teaspoon celery seeds
- 1/4 cup vegetable oil
- 1/8 cup finely chopped green onion tops
- 1 tablespoon chopped fresh parsley leaves

Directions

In a large glass bowl, combine the cabbage, bell pepper, onion, and carrot. Season with the salt and pepper and cover with plastic wrap.

Refrigerate for 1 hour.

Combine the vinegar, sugar, mustard, and celery seeds in a small saucepan over low heat and warm, stirring periodically to dissolve the sugar. Once the sugar is dissolved, remove from heat.

Remove the cabbage from the refrigerator and pour the vinegar mixture over the top of the cabbage. Add the oil, green onions, and parsley, and toss well to thoroughly combine.

Cover with plastic wrap and return the cabbage to the refrigerator. Allow slaw to sit for 2 or 3 hours before serving, stirring occasionally. Serve and enjoy!

Everything Cabbage | Serving Size: 2

Ingredients

- 2 cups shredded cabbage
- 3/4 cup red apple, skin on, cut into small chunks
- 1/3 cup celery, chopped
- 1/4 cup carrot, peeled and shredded
- 1/2 large sweet onion, chopped
- 1/4 cup raisins
- 1/4 cup shredded cucumber
- 1/4 cup shredded summer squash
- Healthy dash red pepper or dash red pepper flakes
- Salt and freshly cracked black pepper to taste

Dressing:

- 1/4 cup mayonnaise
- 1/4 cup plain yogurt
- 2 teaspoons lemon juice
- 2 tablespoons sugar
- Salt and pepper
- Healthy dash red pepper

Directions

1. Combine all ingredients in a large bowl, excluding those in dressing.
2. Whisk the dressing in a small bowl, then mix into the larger bowl with grated and chopped veggies.
3. Allow to sit covered in the refrigerator for 2–3 hours prior to eating. Serve and enjoy!

Potatoes

We have not grown potatoes in our community garden project because we get potatoes for our seniors from research conducted on the farm where we have our second spreading garden.

If you choose to grow potatoes (Figure 21), it is important to determine how many beds you want to devote to potato production and plan to devote two additional beds to rotate potatoes into in subsequent years. So if you think you want to plant two beds of potatoes

for your project, I would have a total of six beds in an area dedicated to potato planting and rotation beds to move potatoes into over the next 2 years. It is important not to lime those six beds because when you use a lot of compost, common scab can become a problem if soil pH is elevated to the level used in the rest of the garden. If you want pretty potato skins, and since skins have the highest concentration of nutrients, I would keep six beds and not lime them. I would grow two beds of potatoes, two beds of a soil-building legume cover crop (such as crimson clover), and two beds for leafy greens followed by a cover crop such as crimson clover. After the first year, move the potatoes into the beds that had the soil-building legume cover crop, and put leafy greens and a cover crop in the two beds where your potatoes were. In year 3, move the potatoes to the two beds that have not yet produced potatoes and plant a cover crop where the leafy greens were grown. In doing so, you will have healthy potatoes, and the other beds are being improved with the intensive cover crop.

If you plant potatoes, consider buying only high-quality seed potatoes from a reputable source. In this case, I would plant my potatoes in trenches lengthwise down the

bed. I would form each trench to be about 8–10 inches deep, and each trench in the bed would be a foot apart. I would likely choose a specialty variety, such as fingerlings, that are easy to roast or put into a stew or soup.

About 5 pounds of seed potatoes should produce about 40–45 seed pieces. A typical seed piece should be approximately 1.5–2 ounces, and each piece must have an eye. I typically plant reds and specialty potatoes with 9 inches between each seed piece. So, if your bed is 20 feet x 4 feet, and you have two trenches down the bed, you would need about 53 seed pieces. A 10-pound bag of quality seed would meet your needs. If you have leftover seed, you can cook it up! If I were planting fingerlings, I would likely cut each one in half, assuming there are at least two eyes on each seed piece. Place each seed piece in the bottom of the trench at about a 9-inch spacing between each piece. Then cover the seed piece with about 2–3 inches of soil and tamp the soil down over the piece to ensure good seed-to-soil contact. As the potatoes sprout and the plant begins to approach the top of the trench, add more soil to almost bury the plant. As the plant grows more, you will completely fill in the trench and then you will begin to form a hill around the base of the plant (similar to what you do



Figure 20. Happily growing specialty potato plant.

Figure 21. Potatoes covered with Colorado potato beetle adults. The majority of the damage comes from the larvae.

with leeks). That should sufficiently cover the potato from sunlight, and you should get 7 or 8 potatoes per individual plant or hill. This again fits my economic model: plant 1 and get 7 or 8 back ... pretty good deal!

Watch for: Colorado potato beetles (Figure 22); fungal diseases (early and late blight).

Favorite Potato Recipes

Jacques's French Potato Salad

Serving Size: 3-4

Ingredients

- 1–1 1/2 pounds yellow-flesh potatoes
- 1/3 cup or so extra-virgin olive oil
- 1/3 cup scallion, green and white parts sliced to 1/4 inch
- 1/3 cup chopped onion
- 2 cloves garlic, mashed and coarsely chopped (1–2 tsp)
- 1/4 cup white wine
- 1 rounded tablespoon Dijon mustard
- 2 tablespoons chopped chives
- 1–2 tablespoons coarsely chopped fresh basil, tarragon, or parsley
- 1 teaspoon kosher salt
- 1/2 teaspoon freshly cracked black pepper (coarse), plus more if desired

For serving and garnishing

- 1 hard-boiled egg, coarsely chopped
- Chopped fresh parsley

Directions

1. Scrub the potatoes and put them, whole, in a saucepan filled with water to cover potatoes by 1/2 inch.
2. Bring the water to a boil, reduce the heat, and cook the potatoes gently until they are just tender and can be pierced with a sharp knife. Drain immediately and let cool slightly.
3. Heat 2 tablespoons of the olive oil in a small sauté pan over medium-high heat.
4. When hot, add the scallions and the onion, toss well to coat, and cook for about a minute.
5. Add the garlic, toss to mix, and cook for just a few moments, then remove the pan from the heat.

6. Slice the potatoes while still warm, cutting them crosswise into 1/2-inch sections. Put the pieces in a large mixing bowl, pour the wine and 3 or 4 tablespoons of olive oil over them, and toss gently.
7. Add the warm vegetables from the pan, mustard, chives, chopped herbs, salt, and pepper, and gently fold all together, mixing well but not crushing the potatoes.
8. Taste the salad and add more seasonings as you like.
9. Sprinkle chopped egg around the edges, and parsley over the top.
10. PServe warm (no colder than room temperature), and enjoy!

Peasant-Style Potato and Kale Soup

Serving Size: 2 servings.

Ingredients

- 1 tablespoon olive oil
- 1 onion, chopped
- 3 cloves garlic, peeled, root ends trimmed, finely chopped
- 4 cups turkey or chicken stock
- 4 potatoes, peeled and sliced into 1/4 thin slices
- 1 bunch kale, trimmed, washed, and thinly sliced
- 3–4 ounces sausage, sautéed and cut into slices (optional)
- Salt and freshly ground black pepper, to taste

Directions

1. Heat olive oil in a small skillet over medium heat.
2. Add onion and garlic and cook, stirring, until onions are clear and soft, 5–10 minutes.
3. In a soup pot, add turkey or chicken stock and potatoes. Bring to a boil.
4. Reduce heat to low and simmer, uncovered, until potatoes are tender, 10–15 minutes.
5. With a potato smasher, carefully crush some of the potatoes in the soup to thicken the soup.
6. Stir in kale, a handful at a time. Simmer for 5 minutes, or until the kale is tender.
7. If you have chosen to add sausage, add the sautéed sausage now.
8. Simmer 5 more minutes.
9. Season with salt and pepper and serve.

Baby Potatoes, Green Beans, and Zucchini

Serving Size: 2

Ingredients

- 2 tablespoons olive oil
- 1/2 onion, finely chopped
- 1 clove garlic, finely chopped
- 1 bunch of fresh green beans, trimmed and cut in half (approx. 4 handfuls)
- Pinch of red pepper or shake or two of red pepper flakes
- 2 small zucchini, split in half and cut into 1-inch thick slices
- 3-4 ounces small red-skin potatoes
- 1 tablespoon chopped fresh oregano or 1 tsp dried oregano
- 2 tablespoons chopped fresh parsley
- 1 can crushed tomatoes with juices
- 4 ounces feta cheese, crumbled
- Crusty French bread
- Salt and ground pepper to taste

Directions

1. Heat olive oil in a large sauté pan over medium-high heat.
2. Add onion and garlic and sauté for 5 minutes.
3. Add the green beans and red pepper and cook until the onions have become clear, about 5 minutes.
4. Add zucchini, potatoes, and herbs. Stir.
5. Pour tomatoes and their juices over the vegetables, bring to a boil, and reduce the heat to simmer.
6. Cover and cook for 40 minutes.
7. Season with salt and pepper.
8. Allow to cool or serve warm.
9. Serve in a small bowl topped with feta cheese and surrounded by French bread. Enjoy!

Peas

Peas are another plant that we do not traditionally plant in our Orono Community Garden, but they are an excellent plant for any garden. We have too many deer that wander through the garden to ever expect to grow peas. But if you have fewer problems with deer, then peas can be a useful crop. Peas come in edible pod and shelling pea varieties. I prefer shelling peas over edible pod, but

both are useful and delicious. Just make sure you tell your recipients which type they are receiving.

Peas require fencing. This can be established the year before or at the time of planting. Peas like to climb up a trellis or fence, and if your bed gets both morning and afternoon light, you can plant on both sides of the fence to increase production. Realize that the peas might shade out vegetables growing on either side of the pea bed. I would plant leafy greens on either side of the peas because they grow well in reduced light.

You will want your peas in near neutral pH soil. After amending with compost and lime (if needed) and preparing your soil, place your fence lengthwise down the bed in the middle of the bed. Form a long shallow trench an inch or two from the bottom of the pea fence on both sides of the bed (if sun shines on both sides of the fence). In a 20-foot-long bed, you might consider planting edible pod peas on half the row and shell peas on the other half, but make sure you remember which one is which. If you plant both sides of the fence, make sure to plant both sides of the fence to the same type of pea.

You can sow the peas at a 1-inch spacing and at about 1–1.5 inches deep. You can sow more if you want to harvest pea shoots for



Figure 22. Use of a 9-tine broadfork to loosen soil prior to planting. You work the soil from one end of the bed to the other (either direction) to avoid walking on your work.

volunteers. Your final plant density in a 20-foot bed should be about 15 plants on each side of the fence. You can also plant in front of the peas. If you like pea shoots, plant a couple additional rows of peas for pea shoots in front of the shelling or edible pod peas. You could also plant a little extra spinach in front of the peas.

Watch for: Sowing density: Remember to harvest pea shoots to the final stand density desired.

Ready to Plant: Stage 2—Next Plants to Sow or Transplant

The next plants to consider putting into the ground are plants that are slightly less forgiving of a late cold snap than the Stage 1 plants. They can be planted in early May or later. Plants in the Stage 2 group include carrots, parsnips, beets, lettuce, Swiss chard, dill, and celery. Second sowings of all of the Stage 1 plantings work as well at this time.

Carrots

This may be my least favorite crop to plant because it is difficult to establish, but it is a highly useful crop. The issue with carrots is germination and then thinning. I would start by preparing a very fine seed bed given the small size of the seed. You have to plant a carrot seed shallowly so it will have enough energy to emerge. But plant too shallowly and you risk the seed drying out. Regular rainfall or watering of carrots is essential to get them to emerge. They can take as long as 10–21 days to germinate! That is a long time to keep plants damp if you are having a dry spring. You will want to plant these seeds 0.5 inch deep and 0.5 inch apart in rows 8 inches apart for maximum production. If you have more room, plant at a wider row spacing, but again we aim for maximum production. Pelleted seeds are available that really aid in getting the proper spacing because you can see the

seeds with their white clay coating. However, you need a lot of water to penetrate and break the clay coating on the seed. That can make it take even longer to germinate, and make you have to work harder to keep that soil moist. So although I think the pelleting is beneficial, but it can make carrot seeds more difficult to germinate.

One way to help ensure germination is to mix in a bit of compost with your soil from the bed and use that to cover the seeds. Then water the seeds well and cover with row cover without supports. The row cover will help keep the seeds from drying out in between rain and watering, and rain will percolate through the row cover when it does come. The cover helps prevent any heavy rain from crusting the soil. Carrots need all the help they can get.

Then, depending on the methods used, you will likely have to thin the rows. A good-sized carrot will be an inch in diameter. Therefore, if you've planted across the width of a 4-foot bed, you will want to thin to a spacing that ultimately will allow you to have something on the order of 50 carrots per row in the 1–2 inch-wide bands across the raised bed. There will likely be gaps where nothing germinates, and there will likely be areas that are way too thick. So you will be forced to thin to the desired level. You may be tempted to put an



Figure 23. Carrots and beets harvested from the Orono Community Garden.

extracted carrot seedling in an area that did not germinate, but that won't work. Carrots and parsnips do not transplant well at all. It is a waste of time to try (as hard as it is not to want to do it).

Carrots will need to be thinned down to approximately 12 plants per foot in a 2-inch banded row to maximize productivity. Unfortunately, little carrots are not very good to eat. So they will need to be thinned and discarded or composted. Carrots will have varying times to maturity from 55 to 70 days. Early planted carrots have the best chance of germinating, and the last day to plant carrots should be just before the 4th of July.

We use a 9-tine broadfork to harvest carrots (Figure 23). You can easily loosen the soil and the carrots pop out very nicely. They can be rinsed off, bunched, and banded to give to seniors in their delivery.

Watch for: Keep seeds moist during germination; wireworm damage.

Favorite Carrot Recipes

Roasted Root Vegetable Medley with Coarsely Chopped Tomatoes **Serving Size: 2-4**

Ingredients

- 1–2 carrots, peeled, cut into 0.5–1 inch chunks
- 1–2 sweet onions, cut into 0.5–1 inch chunks
- 2–3 cloves garlic, minced
- 2–3 small turnips, cut into roughly 1-inch chunks
- 1–2 beets, cut into roughly 1-inch chunks
- 3–4 potatoes, cut into roughly 1-inch chunks
- 12 – 18 cherry tomatoes, cut in half and remove and reserve seeds
- 3 tablespoons olive oil
- Small pinch of red pepper
- Salt and ground pepper to taste

Directions

1. Preheat oven to 400 degrees.
2. Place all the vegetables but the tomatoes in a large bowl and coat with olive oil plus salt and pepper.

3. Place the tomatoes in a smaller bowl and coat with 1 tablespoon olive oil, red pepper, and salt and pepper.
4. Turn the vegetables onto a toaster oven pan or a baking dish and place in the preheated oven for 20–30 minutes. Stir frequently.
5. Add the tomatoes to the mixture and stir. Cook an additional 10–15 minutes. The vegetables should be tender but intact. Serve and enjoy.

Burnt Carrots | Serving Sized: 6 – 8

I know this doesn't start out sounding that good, but I am going to bet that this becomes your Thanksgiving carrot dish. It sounds so good to me.

Ingredients

- 1 pound carrots, peeled and cut in half lengthwise, then cut into 3–4 inch-long pieces
- 1/4–1/2¼ - ½ of a sweet onion finely chopped
- Olive oil
- Salt and ground pepper
- 3 tablespoons butter
- 1/4 cup bourbon (optional)
- 2 tablespoons brown sugar

Directions

1. Preheat your toaster oven or large oven to 400 degrees.
2. Toss carrots in a bowl with olive oil and salt and pepper.
3. Roast for 20–25 minutes until the carrots start to char slightly.
4. Remove carrots from oven and put them hot carrots back into the mixing bowl. Add onion, olive oil, salt and pepper, butter, bourbon, and brown sugar, and toss to coat.
5. Put back into the oven and roast, tossing occasionally, until sugars have caramelized and vegetables are completely softened, about 8–10 minutes.
6. Transfer to a plate and drizzle the juices over your carrot/onion dish. Serve and enjoy!

Parsnips

Just about everything that pertains to the planting of carrots is similar to that for parsnips. The difference is that many people plant their parsnips with the Stage 2 crops, but choose not to harvest in the fall, and instead allow them to overwinter for a sweeter spring product. That can work if you want to give your parsnips to volunteers who

might come help you work beds in the early spring. But it is likely a better idea in a community giving garden program to harvest at the end of the season and let the recipients add their own sweetness to the vegetable if they desire.

Seed bed preparation, sowing methods, thinning methods, and fertility are virtually the same for parsnips as for carrots. Instead of 50 plants per 4-foot row, you might go with fewer parsnip plants – more like 40 per 4-foot row. Harvest and vegetable prep at the end of the season is similar to that with carrots.

Watch for: Keep seeds moist during germination; wireworm damage.

Favorite Parsnip Recipe

Shredded Root Vegetable Pancakes Serving Size 2-3

Ingredients

- 1 cup shredded parsnips
- 1 cup each of rutabaga (or turnip), carrots and beets, shredded on the medium holes of a box grater
- 1 medium yellow onion, grated on the medium holes of a box grater
- 2 large eggs or 3 medium eggs, beaten
- 1/4 cup all-purpose flour, plus more if needed so mixture just holds together
- 1 teaspoon kosher salt
- Freshly cracked black pepper
- 1/2 cup olive oil
- Flaky sea salt
- 1/4 cup sour cream
- 2 scallions, finely chopped
- Red pepper flakes, ground red pepper, or chopped jalapeño pepper (optional)

Directions

1. Place the grated root veggies and onion in a large clean kitchen towel and wring out any liquid, then add them to a medium bowl.
2. Stir in the egg mixture.
3. Stir in the flour, kosher salt, and pepper to taste.
4. In a large skillet, heat 1/4 cup of the oil over medium-high heat.

5. Use a scant 1/4-cup measure to scoop batter into the skillet, using the bottom of the measuring cup to spread the mixture into 1/2-inch-thick pancakes.
6. Cook until the first side is deeply golden brown and crisp, 3–4 minutes, then turn the pancakes over and brown the other side, 3–4 minutes more.
7. Transfer the pancakes to a wire rack to cool slightly.
8. Work in batches so you don't overcrowd the pan, adding more oil to the pan as needed.
9. Serve the pancakes topped with a few pinches of flaky sea salt, a dollop of sour cream, and a sprinkle of scallions. Serve and enjoy!

Variation

If you prefer things a bit spicy, you can mince half a jalapeño or other hot pepper and mix it in prior to frying the pancake. We don't grow hot peppers, but you could always use some red pepper flakes or ground red pepper.

Swiss Chard

This is one of the beautiful vegetables in the garden. It is not usually necessary to cover Swiss chard with row covers, and the fineness of seedbed preparation is less for beets and Swiss chard than for carrots or parsnips. Swiss chard can be sown across the beds in rows 8 inches apart with approximately 10–12 seeds per foot sown at 1/2–3/4 inch depth. Due to the biological nature of this plant, a given seed produces two plants, and as such thinning will be needed. You will want a final stand of about 24 plants per row across a 4-foot bed in rows 8 inches apart. The multicolored Bright Lights variety (Figure 24) is my favorite, but solid colors (Figure 25) are also available.

Harvesting Swiss chard is particularly interesting. You can eat baby Swiss chard that you remove with thinning just as you would with spinach or lettuce. It can also be sautéed if you have a lot of it. When it comes to harvest, the majority of the plant can be cut, but leave about 2-3 inches of the existing plant with one to two interior leaves to regrow. You can harvest one bed at least twice during the season.

Watch for: Deer feeding damage; leaf miners.

Favorite Swiss Chard Recipes

Swiss Chard Pie Serving Size: 6

- Large bunch Swiss chard leaves
- 1 large onion or 2 small ones, chopped moderately coarsely
- 1 frozen pie crust
- Olive oil
- 1 small clove garlic, very finely chopped
- 4 eggs (approximately)
- 3–6 tablespoons half and half
- 1/4 cup grated cheese—your choice (cheddar, jack, pepper jack, etc.)
- Salt and pepper to taste (add some red pepper if you like things spicy)
- Chopped marinated artichoke hearts (come in a glass jar in oil; optional)

Note: The amount of Swiss chard and the size of your onion will very likely affect how much egg/half and half mixture you will need for this dish.

Directions

1. Remove pie crust from freezer.
2. Preheat the oven to 375 degrees.
3. Soak leaves in sink or large pot, rinse, soak again, rinse, and chop coarsely.
4. In a large skillet, heat olive oil over medium-high heat and add chopped onion. Cook for 4 minutes.
5. Add garlic. Cook an additional 3 minutes.
6. Add chopped Swiss chard and salt and pepper to taste. If you're using artichoke hearts, add them



Figure 24. Beds of Bright Lights Swiss chard and Bull's Blood beets in the Orono Community Garden.

at this time.

7. Cook to release the water in the onion and chard and allow water to cook off.
8. Place the chard-onion mixture in a strainer and let cool over the sink.
9. Prepare your pie dough in a pie pan or use pan provided with frozen crust.
10. Place the chard-onion mixture in the pie crust.
11. Add the grated cheese to the chard mixture.
12. Estimate the amount of eggs and half and half needed to fill the pie dish.
13. In a small bowl, whisk eggs and half and half until well mixed. Add red pepper if desired.
14. Pour egg mixture slowly over the onion-chard mixture to fill the voids.
15. Place in the oven and cook probably 45– 50 minutes.
16. Cook until the top of the pie turns golden and is firm in the center. You may choose to put a rimmed baking sheet to catch any drips.
17. Remove from oven and serve hot or at room temperature.

Swiss Chard and Herb Fritters

Serving Size: 2

Ingredients

- 1 bunch Swiss chard, destemmed
- 1/2 teaspoon kosher salt, divided (1/4 on the chard (see below) and 1/4 for the batter)
- 1/4–1/2 tsp ground coriander
- 1 bunch parsley, finely chopped
- 1 bunch dill, finely chopped
- 1 large onion, grated on large holes of box grater, excess water squeezed out using a paper towel
- 1/2 teaspoon red pepper flakes



Figure 25. Shelley harvesting Swiss chard leaves for a delivery.

- 1/3 cup unseasoned bread crumbs
- 1/4 teaspoon freshly ground pepper
- 4 medium to large eggs, 2 in one bowl and 2 in another
- 1/2–3/4 cup vegetable oil (for frying)
- Plain Greek-style yogurt (for serving; optional)

Directions

1. Wash the chard, discarding most of the chard stems, and season chard with 1/4 teaspoon salt. Let sit in a colander for about 10 minutes, then squeeze out excess water with your hands. Transfer to a cutting board and chop.
2. Toss chard, coriander, parsley, dill, onion, red pepper flakes, bread crumbs, pepper, and 1/4 tsp. salt in a large bowl. Beat 2 eggs in a small bowl, then stir into chard mixture.
3. Working 3 tablespoons at a time, portion chard mixture into round, flat patties (you should have about 12 total). Transfer to a rimmed baking sheet or plate.
4. Pour oil into a large heavy skillet over medium heat to a depth of 1/4". Heat until oil shimmers.
5. Beat remaining 2 eggs in a medium wide shallow bowl. Dip each patty into egg, letting excess drip back into bowl.
6. Working in batches, fry patties until set and a golden-brown crust forms, 3–4 minutes per side. Transfer to a paper towel-lined plate; season with salt.
7. Serve immediately or at room temperature with a dollop of yogurt. Enjoy!

Swiss Chard Smoothie Serving Size: 1-2

Ingredients

- 1 cup yogurt (I use plain because it gives you options, but maple yogurt would be good too)
- 1 cup Swiss chard, main stem removed and leaves coarsely chopped
- Several mint leaves
- 1 1/2 cups frozen fruit
- 1 banana (frozen is better)

Optional:

- 1–2 tablespoon chopped candied ginger or 1 teaspoon chopped fresh ginger
- Add fiber by soaking a quarter cup of oats overnight in water. Drain and blend.
- Splash of vanilla extract
- If you are using raspberries, a dash of cocoa powder can be tasty.
- Pinch of salt: This will balance the sweetness and enhance the fruit flavor.
- Sweeten with maple syrup

Directions

1. Place yogurt and other liquids in the bottom of the blender.
2. Add Swiss chard leaves.
3. Add frozen fruit and other ingredients.
4. Blend for 2–3 minutes, depending on your blender strength.
5. Adjust for sweetness, reblend, and serve. Enjoy!

Beets

Beets are essentially Swiss chard with a fascinating root. If you ask most people if they like beets, the response is either positive or negative. They are usually all in or all out. Much like some people taste soap when they eat cilantro, some people taste dirt when they eat beets. Therefore, they don't care for them. Having made many a mud pie in my youth, I love them, and most of our recipients adore



Figure 26. Cross-cut Chioggia (pronounced kee-oh-ja) beet.



Figure 27. Beets growing in the Orono Community Garden.

beets. In our evaluations of the program, most people request that we continue with lots of beets.

There are several styles of beets. The standard is the blood red beet with standard green foliage. There are also golden beets, candy cane-colored striped Chioggia beets (Figure 26), and there is also a white beet (but don't grow this ... it's confusing because it looks like a turnip).

Beet culture is pretty easy. Given the fairly large seed size, we typically form moderately fine seedbeds and sow our beets in bands across the beds on 8-inch row spacing. As the plants emerge, most beets (except the variety Moneta) will have two plants per seed. So thinning will be important. I try to wait until there is enough green material to add to a salad before I thin. You may be able to thin four or even five times before you are at your final spacing for maximum beetroot development (Figure 27). Ideal harvest size for beetroots is between a golf ball-size root and a baseball. The larger a beetroot gets, the greater the potential for them to get woody or split. Regular moisture and appropriate spacing may help to prevent splitting, but it happens inevitably to some beets in a bed.

Stagger beet plantings from 2–4 weeks before the final frost until mid-July. This will guarantee that you will have sufficient beet greens to provide to volunteers and recipients throughout the summer.

Watch for: Monitor density of beets and try to have consistent watering. Also look for deer feeding damage and leaf miner damage.

Favorite Beet Recipes

Lemony Roasted Beet Green Salad **Serving Size: 2**

Ingredients

- 3 beets, bottoms removed
- 1/4 cup high quality olive oil, divided
- 1/2 teaspoon salt
- 1 bunch of beet greens, washed
- 1/2 lemon
- Salt and pepper to taste

Directions

1. Preheat toaster oven or regular oven to 400 degrees.
2. Make an aluminum foil pouch and place the beets inside. Add about 2 tablespoons olive oil to the pouch and close.
3. Roast beets in oven for about 45 minutes. It should be easy to put a knife through the beets when they are done.
4. While the beets are roasting, boil water in medium soup pot and add about 1/2 teaspoon salt to the water.
5. Cut off the beet green stems, leaving only the cleaned beet green leaves.
6. Place in the boiling salted water for 2–3 minutes, depending on the age of the leaf.
7. Drain the beet greens in a colander and allow to cool.
8. After cooling for about 10 minutes, gently squeeze the water from the leaves and chop coarsely. Set aside.
9. When beets are roasted, remove from foil and allow to cool.
10. As soon as possible, peel the skin off the beets.
11. Slice the beets crosswise to the root. This will show off the pretty candy cane pattern of the beets (assuming you're using Chioggia beets). Place them in a medium bowl.
12. Squeeze half a lemon into a medium bowl. Add the zest of the lemon peel to the bowl, if you wish.
13. Add the olive oil and whisk together.
14. Add the beet greens and dressing to the beets and toss.
15. Add salt and pepper to taste, and enjoy!

Poached Eggs on a Bed of Beet Greens **with Sautéed Garlic Scapes | Serving Size: 1**

Ingredients

- 2 tablespoons olive oil
- Couple garlic scapes, washed and chopped fine
- White vinegar
- Beet greens, washed in cold water, coarsely chopped

- Salt and pepper to taste
- Paprika or red pepper
- 1–2 large eggs
- Grated cheese

Directions

1. Bring a small sauce pan of water to a boil.
2. Heat a sauté pan over medium heat.
3. Add olive oil and chopped garlic scapes to the sauté pan and sauté for 2–3 minutes.
4. Add 2–3 tablespoons vinegar to the boiling water.
5. Reduce heat on the water to simmering boil.
6. Returning to the sauté pan, add the cleaned beet greens to the garlic scapes and add salt, pepper, red pepper or paprika to the greens and stir occasionally.
7. Cook the greens for approximately 4–5 minutes, then remove from heat.
8. Next you will poach the eggs. Stir boiling water with vinegar with a slotted spoon. Crack the egg(s) and drop gently into the water. The vinegar will make the egg(s) come together in the water and make a nice egg ball.
9. Cook the egg(s) for 3 minutes, then carefully remove the egg(s) with the slotted spoon and place on a few paper towels. This will soak up any excess liquid.
10. Put your cooked beet greens onto a plate and make a nest for the egg(s). Place the egg(s) in the nest.
11. Add grated cheese (if you choose) and salt and pepper, and enjoy!

Vegetarian Leafy Greens (Kale, Chard, or Collards) with Roasted Beets and Goat Cheese Serving Size: 2-3

Ingredients

- 2–3 beets (about 8 ounces), wash and remove both ends
- 1/4 cup olive oil (use some to drizzle on beets for roasting – remainder is used to cook the onions and garlic).
- Kosher salt and freshly cracked black pepper, to taste
- 1/4 onion – coarsely chopped
- 1 clove garlic – finely chopped
- 1 large bunch kale, beet greens, collards, or chard (about 1/2 pound), washed, destemmed, and cut into strips
- 1/4 cup low-sodium vegetable stock

- 2 tablespoons of lemon juice
- 3 tablespoons goat cheese, crumbled

Directions

1. Preheat oven to 400 degrees.
2. Place beets on a 12-inch square sheet of heavy-duty aluminum foil.
3. Drizzle with olive oil and season generously with salt and pepper.
4. Seal up the foil packet and roast until the beets are fork-tender, about 45 minutes. Open packet and allow beets to cool. Peel the beets and cut them into chunks.
5. To a large skillet over medium-high heat, add olive oil, onion, and garlic. Cook 5 minutes or until onions are translucent.
6. Add the leafy greens, stirring to coat in the onion/oil mixture.
7. Cover and cook for a few minutes, and then add the vegetable stock and a tablespoon of lemon juice.
8. Stir to combine, cover, and allow to wilt for 6–8 minutes.
9. Add beets to the greens mixture.
10. Stir in the remaining tablespoon of lemon juice
11. Add the crumbled goat cheese, stir to combine, and season with salt and pepper. Serve immediately, and enjoy!

Celery

The celery that we grow is used primarily for cooking purposes, not for spreading peanut butter on and munching it. However, this has not been the best crop for the Orono Community Garden. Every year I buy celery to plant in the garden. Most of the time, the celery gets stalk rot. We are not the only ones who suffer from this problem. The culprit is *Rhizoctonia solani*, the same fungal organism that causes black scurf on potatoes. If celery is really important to you, I would advise growing a mustard cover crop after you harvest a leafy green a year prior. Let the mustard grow to full flower. At full flower, if you can mow it with a mulching mower, do so. If not cut it the best way possible, and incorporate it immediately into the soil. Then, work the soil in the spring and transplant your celery.

Celery likes moist cool growing conditions. Regular watering is helpful, but warm and wet conditions favor rhizoctonia activity. If you choose to grow celery, good luck!

Watch for: Stalk rot.

Annual Herbs: Parsley, Dill, and Basil

In the grand scheme of things, herbs are fairly easy to grow, but they are often difficult to manage in a large food delivery program. Parsley is probably the most useful of the herbs because it is moderately easy to grow and grows fairly large. Flat Italian parsley is easy to wash, bind up with a rubber band, and give to recipients. It has wide enough uses that it warrants a good-sized bed. Grown from seed, the culture is fairly easy with the caveat that you need to keep this slow-emerging seed (from the same family as carrots and parsnips) wet for a long time. Sow 4–5 seeds per inch in 8-inch rows across the bed, water well, and thin to 3–4 good-sized plants per row foot. You can harvest branches, and the plant will regrow.

Dill is a useful herb, but it has fewer practical applications in a giving garden model. Some recipes call for a dash of dill, but its use is somewhat limited. Dill is best grown in a bed with other herbs, and its seed is planted at a 1/4-inch depth. Water well and plant as many seeds as you think you will use.

Basil is a great garden herb. It should really be planted after the last frost-free day has passed. It is extremely intolerant of cold. If you plant too soon, and the plant is stressed badly by cold, I would recommend replanting. I would buy basil plants to transplant into the garden. A small basil plant in a 2-inch plug will easily become a 2.5-foot-tall plant about a foot in diameter. So transplant in a bed across a row on a 3:4-type offset planting scheme. With olive oil, pine nuts, garlic, and Parmesan cheese, the leaves make amazing pesto. Leaves can be put onto tomatoes with mozzarella

cheese to make caprese salads in the late summer.

Watch for: Be prepared for long germination for the parsley. Protect basil if the temperature will drop below 40 degrees.

Ready to Plant: Stage 3—After the Last Frost

Now, summer is upon us. Chances are good that we won't lose any more plants to a freeze, but know that in case a late freeze happens, wise use of row covers will help protect the established plants growing at that time.

This next set of plants to produce loves warm soil, warm days, and ideally, fairly warm nights. These are not common in May and June in Maine. Plants in this list include beans, peppers, tomatoes, sweet corn, basil, cucumbers, and squash.

Bush Green Beans

This is a crop that takes up a fair amount of room, is a favorite of deer, and requires time to harvest. We have traditionally grown these at our research farm in a field that no one uses for research. I generally do two sets of plantings 3 weeks apart: the first planting around the first of June and the second planting 3 weeks later. In my home garden I do three plantings about 3 weeks apart. One of the plantings is a pole bean for diversity.

Beans can be inoculated to help them create their own nitrogen, or you can fertilize them with fish emulsion. We use a measuring tape to measure off three rows, each 100 feet long and 48 inches apart. We then sow seeds down the tape at six seeds per foot. We usually leave enough room between the rows at the farm to run a rototiller to weed between the rows, because the plot that we use has unprecedented weed pressure (Figure 28). In the second row, we plant a different variety of bush green bean. We typically plant

“Provider” in one row, “Burgundy” in the second row, and a “Roma” flat green bean in the third row. We then wait 3 weeks, and we repeat the process. We can usually get another two or three harvests with the second planting if we don’t get an early frost. With this approach, we can provide beans to recipients for as many as six deliveries.

If you don’t have this kind of area, you can sow green beans in raised beds. I would sow bean seeds 2 inches apart, 2 inches deep, but in rows no less than a foot apart. Bean plants get large enough that 8-inch row spacing is insufficient.

Watch for: Mexican bean beetles (Figure 29) will eat the leaves of the bean plant. A cold snap can hurt bean production. Don't push your planting date too early.



Figure 28. Bush green beans planted at the Rogers Farm in Stillwater, Maine.



Figure 29. Mexican bean beetle, eggs, and larva on a bean leaf. Photo credit: University of Maryland Extension.

Favorite Green Bean Recipes

Skillet Green Beans Serving Size: 2

Ingredients

- 2 large handful of green beans rinsed and destemmed
- 2–3 strips of bacon cut into 1/4–1/2 inch strips (vegetarian option use olive oil see below)
- 1 sweet onion, cut from top to bottom, then chop crosswise to make onion half circles and cut those into quarters
- Olive oil to coat the skillet
- Salt and pepper, to taste
- 1 teaspoon of red wine vinegar or lemon juice
- Red pepper (optional)

Directions

1. Blanch the cleaned green beans: Cook in boiling salted water for 3–4 minutes, then strain them in a colander and run under cold water to stop the cooking process.
2. Cook the bacon in a large skillet for 5–6 minutes over medium heat, turning as it browns. Remove the cooked bacon to a paper towel and discard all but 1 tablespoon of the bacon drippings.
3. If you are using the vegetarian option, skip step two and add olive oil to skillet.
4. Add the chopped onion to the skillet and cook until soft, about 6–8 minutes.
5. Add vinegar or lemon juice.
6. Add the reserved green beans, kick up the heat to medium-high, and cook for 5 minutes more.
7. Turn off the heat and taste the beans. Add salt or additional pepper to taste. Serve and enjoy!

Pasta with Mixed Veggies and Lemon Parmesan Cream Sauce Serving Size: 2-3

Ingredients

- 1 package egg and spinach tagliatelle blend or egg fettuccine
- 2 tablespoons extra-virgin olive oil
- 1 medium white onion, halved, thinly sliced
- 1 clove garlic, minced
- 8 ounces zucchini, trimmed, cut into small chunks
- Salt and pepper, to taste
- 8 ounces fresh green beans (3 cups), destemmed, and halved
- 2 teaspoons finely grated lemon peel

- 1 1/4 cups finely grated Parmesan cheese, plus more for passing
- 1/3 cup half and half or light cream
- 2 1/2 tablespoons fresh lemon juice

Directions

1. Cook pasta in large pot of boiling salted water until just tender.
2. Drain, reserving 2 cups cooking liquid. Return pasta to pot.
3. Heat oil in large skillet over medium heat. Add onion, garlic, and zucchini; sprinkle with salt and pepper.
4. Sauté until zucchini is almost tender, about 8 minutes.
5. Add beans and lemon peel. Cook for 1-2 minutes.
6. Scrape contents of skillet over pasta in pot.
7. Add Parmesan cheese, cream, lemon juice, and 1 cup reserved cooking liquid.
8. Place over medium-high heat and toss until heated through and sauce coats pasta, adding more reserved pasta liquid by 1/4 cupfuls to moisten as needed.
9. Season to taste with salt and pepper. Serve, passing additional cheese separately. Enjoy!

Peppers

We generally grow bell peppers only as transplants in our program. Peppers are in the Solanum family, so take care to have abundant soil phosphorus and do not overapply nitrogen or you will get large plants with little fruit. Most seniors do not appreciate hot, spicy food, but there may be a few exceptions. We have a couple of seniors who always ask for jalapeño peppers, so we will plant a couple of hot pepper plants at the end of a row. We grow most of our peppers at the same place we grow our beans, and we generally lay three large rows of black plastic and plant into the plastic. If you do not have that capacity, you can still grow really nice peppers. There are lots of sweet bell pepper varieties, including Carmen and Ace, that are quite productive and delicious.

Culture is fairly simple. Plant two peppers in a bed side by side with a foot between each pepper (Figure 30). Skip 2 feet down the bed, and plant two more side by side. Peppers



Figure 30. Peppers planted in doubles a foot apart and 2 feet between with supported row covers.

seem to like to touch another pepper plant. The 2-foot spacing allows light to hit the pepper plant, and allows you access to harvest peppers.

Red, purple, or yellow peppers are ripe peppers. Green bell peppers are immature. Some recipes call for green peppers, but I try to give the peppers the full season to mature. These are generally harvested for the second to last or last delivery. If I didn't have a black plastic bed, I would plant three peppers across from each other in a 4-foot-wide bed, and I would plant them in rows 2 feet apart.

Watch for: Sun scald on the side of the peppers; bird damage.

We never have enough peppers to give out to do more than be a component of a recipe.

Tomatoes

I have a love-hate relationship with tomatoes. I love them in recipes, and I love to walk out to a garden and harvest a vine-ripened warm tomato and eat it like an apple or slice it up for a sandwich. But getting to that point, or trying to get vine-ripened tomatoes to recipients, is not an easy task.

Tomato is another member of the Solanum family, so watch your nitrogen applications

for the same reason as given above in the pepper family. Tomatoes are difficult to grow well. They suffer from two physiological problems: yellow shoulder syndrome and blossom end rot. Tomatoes need very fertile soil with rich levels of potassium and calcium. They also need water to the tomato root to get calcium and potassium into the plant. Crows can also play hell on the fruit.

Yellow shoulder is a phenomenon in which the fruit turns yellow to almost white on the shoulder of the tomato (Figure 31). Longer hang or ripening times won't affect this or improve the situation. It is a physiological developmental issue that appears to be exacerbated in some varieties more than others. Keeping high levels of potassium in your soils can help prevent/reduce this.

Blossom end rot is the other common physiological problem. The bottom of a tomato fruit develops a water-soaked black spot (rot) on the blossom end of the fruit. Calcium is important in cell membrane stability, and it is often difficult to get enough calcium into the plant and moved to the fruit. This can happen even in reasonably moist soils. Regular moisture for tomatoes is particularly important.

Because calcium is highly immobile in soils, roots have to encounter the ion to absorb it. You can have abundant calcium in soil but have insufficient water to take calcium up into the plant and move it within the plant. So two things are important to consider: add lime to beds receiving tomatoes with soil pH below 6.5, and ensure that there is sufficient water during flowering and fruit bulking to make sure those cell walls are stable in the fruit. If your soil pH is adequate, you can enhance your chances of avoiding end rot by applying gypsum (CaSO_4) to the soil, which will not change the soil pH, but will give you abundant calcium and sulfur.

If blossom end rot is affecting your production of tomatoes or peppers, focus your energy on calcium, soil moisture, and variety selection. Some varieties are less prone to this problem. I have taken to growing cherry tomatoes for our project. They produce early and abundantly, they can be put into containers and not get crushed in the delivery process, and they are popular.

Tomato variety selection is important. If you are using this guide for a home garden, I'd suggest you consider growing several types of tomatoes based on your preferences. I really enjoy large slicing tomatoes. I would



Figures 31. Yellow shoulder of tomato (l) and blossom end rot (r).
Photo credit: University of New Hampshire Extension

grow one or two of these in a back- or front-yard garden, but in a delivery program they will split in the delivery process and make a mess. Roma tomatoes are excellent for cooking and cooked side dishes. These can still split and make a mess, but if harvested not quite vine-ripe, you can do better with these. Cherry tomatoes are likely the best option for the community giving garden approach because they can be put into containers and delivered in the bag. They are very likely to arrive intact.

Culture of tomatoes begins with transplanting seedlings at 3-foot spacing with some form of a trellis structure/system to hold up the plant (Figure 32). If your tomato transplants have gotten lanky, you can bury the plant and roots will grow out of the lower stem. Feel free to plant these fairly deeply as a result. If you have black plastic-covered rows, transplant a tomato plant every 3 feet. You can install a 6–8 foot bamboo cane to hold the plant up, cage it, or build an A-frame-style wooden trellis structure. From the top of the structure, a string can be tied to the top and dropped down to support the growing tomato plant. My complaint with wooden A-frame structures is that birds rest on them and poop on your fruit, which is not very appetizing. Some sort of bird repellent may be needed.

Watch for: Carefully water tomatoes to avoid soil splashing on lower leaves, which encourages early blight. Also watch for late blight. Don't over fertilize with nitrogen.

Favorite Recipe for Tomatoes

This is a great recipe for a cool late August or September rainy day. The oven needs to be on for several hours, and you don't want to make this on a hot summer day, but it is delicious!

Shelley's Slow-Cooked Roma Tomatoes with Fresh Ricotta Cheese | Serving Size: 4

Ingredients

- 1 dozen Roma tomatoes, sliced in half, seeds/juice scooped out
- 3–4 cloves garlic, minced
- 1/2 cup olive oil
- Salt and ground black pepper, to taste
- Dashes of thyme, parsley, oregano, and rosemary
- 1/2 pound fresh ricotta cheese

Directions

1. Preheat oven to 225 degrees.
2. Place tomatoes in a large baking dish cut side up.
3. Add oil, garlic, salt and pepper, and herbs over the tomatoes.
4. Cook uncovered for 2 hours.
5. Turn tomatoes over, and cook for another 2 hours.
6. Allow the tomatoes to cool.
7. Place in sealable container. Add olive oil to cover the tomatoes.
8. Keeps well for 2 weeks or more in the refrigerator.
9. When ready to eat, allow to warm to room temperature and sprinkle fresh ricotta cheese on the tomatoes and serve as a salad or side dish. Enjoy!

Row Covers with Tomatoes and Peppers

These plants like to be warm. That is why we plant them late and frequently use black



Figure 32. An A-frame tomato trellis system. Note the twine that hangs from the support system to tie up the tomato plants. Squash is planted in the front two rows.

plastic mulch to heat up the ground. We could use a row cover over peppers to add to the insulation and heat holding, but given that the growing point is at the top of the plant, you must use supports for peppers (Figure 30). Otherwise, the fabric will rub the growing point and destroy it when the wind blows. If the growing point would touch the row cover fabric, you have to use supports.

Sweet Corn

We make one or two deliveries of sweet corn to our recipients a year. Some people love it, but it is not my favorite plant to grow. Many things can happen to sweet corn before it arrives at the home of a food recipient that should make you think twice about growing it: space requirements, insects, and critter pressure.

Sweet corn seed should be sown at a 1-inch depth with 7 inches between seeds down the length of the row. Most people grow three rows of sweet corn to effect adequate pollination, but there must be at least two rows. If you can't plant a long set of rows like we described for growing green beans, then you could potentially grow two 20-foot-long rows of corn in a 4-foot-wide bed and have about 60–70 corn ears to harvest. If you were supplying food to 40 people, you would need to have two big beds devoted to this, because most people would want 2–3 ears minimum in a delivery. That is a commitment of bed space that I would question supporting.

Then, there are the insect and critter issues. Corn earworms infest the tips and sides of the ears, and there is no really effective organic treatment except to cut off the ear tip. You could tell your food recipients to do this, blanch the corn, and cut the kernels off the ear, but my guess is that they would take offense to seeing worms in the ear tips and throw away the ears. Then, there is the raccoon issue. They adore sweet corn, and most likely you will devote two beds to their

happiness unless you can fence off the area with electric fencing. They typically attack the corn just when it is ready to harvest.

My suggestion is to see if a vegetable grower would let you glean a field for your single delivery. I bet they would let you do this. Harvest the day of the delivery, and your recipients will be happy.

Watch for: Pull the silks when you harvest. If they give way, earworms are present.

Favorite Sweet Corn Recipes

Sweet Corn, Tomato, Zucchini, and Onion Stir Fry | Serving Size: 2-3

Ingredients

- 3 ears corn, husk and cut off tip, if needed
- Olive oil
- 1 red onion, chopped finely
- 1 clove garlic, minced
- 1–2 tomatoes
- 1–2 zucchini or summer squash, cut into half inch chunks.
- Salt and freshly ground black pepper to taste

Directions

1. Place corn into pot of boiling water. Cook for 2–3 minutes and remove. After it has cooled, carefully cut the corn off the cob.
2. PHeat a skillet over medium-high heat. Add olive oil, onion, and garlic and cook for 2-3 minutes.
3. Add summer squash or zucchini. Cook for 3 more minutes, stirring regularly.
4. Add corn and tomatoes. Cook until just warmed through.
5. Season with salt and black pepper.
6. Serve over a bed of pasta or over white or brown rice. Or use as a side dish for anything else you are eating. Enjoy!

Sweet Corn, Tomato, Zucchini, Onion Succotash | Serving Size: 2

Ingredients

- 2–3 strips chopped bacon, or olive oil if you prefer
- 3 ears corn
- 1–2 chopped tomatoes or ripe bell pepper or

both

- 1–2 zucchini or summer squash or both
- 1 large sweet white onion, chopped coarsely
- 1 clove garlic, minced
- 1 tablespoon fresh chopped parsley
- 1 squeeze of a wedge of lime or lemon
- Salt and freshly ground black pepper, to taste
- Lastly, just about anything can be used with this.

Directions

1. Place corn into pot of boiling water. Cook for 2–3 minutes and remove. After it has cooled, carefully cut the corn off the cob.
2. Heat a large skillet over medium heat. Sauté bacon. When appropriately cooked for your taste, remove to a paper towel to absorb the grease. In bacon drippings cook onions and garlic for 3 minutes, then skip to step 4.
3. OR, if using olive oil, when oil is hot, add onions and garlic and cook for 3 minutes.
4. Add summer squash or zucchini and cook for 3 more minutes, stirring regularly.
5. Add corn and tomatoes and cook until just warmed through.
6. Toss in the reserved cooked bacon, and season with salt and black pepper, lime or lemon juice, and parsley.
7. Serve over a bed of pasta or over white or brown rice. Or use as a main course or side dish for anything else you are eating. As always, enjoy!

Squash: Zucchini, Summer Squash, and Winter Squash

This is another plant with which I have a love-hate relationship. I love squash because it is productive and moderately easy to grow, provides bulk in the delivery bag, and has many uses. The production issues involve the room required to grow them, insect pressure, spiny leaves that can irritate your skin, and many food recipients' lack of interest in eating squash. Some varieties of squash have less spiny habit.

Culture of squash is relatively easy. You can grow from seed or transplant. That flexibility is helpful in keeping a supply of all squashes into the fall. If you have black plastic-covered beds, transplant your squash on 3-foot centers (Figure 32). Use a similar spacing if you don't

have plastic, but you'll have to weed more often. Your next row can be sown to seed (either at the same time or a week or 2 later). I sow three seeds per hill, and I tend to keep the strongest seedling of the three to continue to produce.

We have had lots of issues with cucumber beetles and squash bugs (Figure 33). If you cover the squash with row covers, that will effectively control the beetles and bugs until you have to remove the covers so insects can pollinate the flowers. When you see blossoms, pull the row covers, and hopefully the plants are strong enough to be on their own against the insects. Continue to watch for these two insects. Squash bugs are "true" bugs that suck the juice out of your plant. They can transmit a bacterial disease that can make the plant turn yellow and die. Cucumber beetles just eat the plant.

Squash bugs lay bright shiny greyish brown eggs on the bottom side of leaves, so scouting is a good idea. I highly recommended that you kill the eggs. If cucumber beetle and/or squash bug populations get sufficiently high, you can treat the plants with the organic insecticide PyGanic, but it is annoying and difficult to kill the bugs because they tend to fly away when sprayed.

I prefer yellow zucchini to the standard green variety because they are easier to see. If you miss a green zucchini, the next time you



Figure 33. Squash bug.

harvest, you have a zucchini log, which is not ideal unless you want to make brownies or stuffed zucchini. A typical plant produces three, sometimes four, harvestable zucchini per delivery, so that will give you a sense of how many plants you need. Select varieties resistant to as many diseases as possible.

Culture of winter squash is similar to summer squash. The biggest thing to remember is that winter squash produces runners, which can take up a lot of room. They will run into another bed 4 feet away. Harvest is different because you generally harvest winter squash only one time when the fruit is ripe.

Cultivar types include acorn, butternut, and delicata. Each of these varieties produces 3–5 fruit per plant. You can determine ripeness of acorn squash by the patch on the bottom of the fruit. If the patch is orange, the fruit is done growing and is likely ripe. Delicata are long yellow squash that have green stripes. They are ripe when they turn from light tan to deeper yellow with bright deep green stripes. Butternut squash should be well-sized and deep tan in color, and the peduncle (the stem that holds the squash fruit to the plant) should be hard and dry and snap when you harvest them. The dry peduncle is the best measure for ripeness.

Watch for: Squash bugs and cucumber beetles will be your biggest concerns.

Favorite Summer Squash Recipes

Easy Fast-Baked Zucchini | Serving Size: 2

Ingredients

- 2 medium zucchini (yellow or green), sliced lengthwise into 1/2-inch slices
- 2–3 teaspoons extra-virgin olive oil
- 1 spritz freshly squeezed lemon juice
- Salt and ground pepper, to taste
- Cayenne pepper
- 1/4 cup Parmesan cheese

Directions

1. Preheat toaster oven to 425.
2. Place cut zucchini in a single layer on a cookie sheet.
3. Coat with olive oil, spritz with lemon juice, and add salt and pepper to taste.
4. If you like things warmer, dust zucchini with red pepper.
5. Cover zucchini with Parmesan cheese and bake 10 minutes or until tender.
6. Remove and serve as a side vegetable or as an entrée. Enjoy!

Zucchini Potato Pancakes with Yogurt Sauce | Serving Size: 2

Ingredients

Yogurt sauce

- 1/2 cup plain yogurt
 - 1/4 cup feta cheese
 - 1/2 tsp garlic, minced
 - 1 tablespoon chopped parsley
 - 1 wedge of lemon, 1 squeeze
 - 1 teaspoon olive oil
 - Salt and ground pepper, to taste
-
- 1 moderately large zucchini, grated
 - 1 carrot, grated
 - 4–5 medium sized yellow flesh potatoes (peeled if you choose), grated
 - 1 medium onion, chopped
 - 1 clove garlic, minced
 - 2 eggs
 - 4 tablespoons flour
 - 1/2 teaspoon baking powder
 - 1/2 teaspoon red pepper flakes or ground red pepper
 - Salt and pepper, to taste
 - 3 tablespoons high-quality olive oil
 - 1 small bunch parsley

Directions

1. In a small bowl, mix together all ingredients for yogurt sauce and set aside.
2. Place grated zucchini, potato and carrot in paper towels and squeeze out as much water as possible, then transfer to a large bowl.
3. Add onion and garlic.

4. In a small bowl, beat the eggs with a fork, then mix into the grated vegetables.
5. In another small bowl mix together the flour, baking powder, red pepper, and salt and pepper, then mix dry ingredients into the vegetables.
6. Take a heaping tablespoon portion of the vegetable mixture, squeeze any additional moisture out, roll into a ball in your hand, and set aside.
7. In a large frying pan, heat olive oil until very hot.
8. When you have enough to fill the skillet, place the balls in the pan and flatten them out.
9. Cook pancakes covered until browned and crisp on one side, then flip. Ensure that they cook through.
10. Drain on paper towels. Keep warm in a low oven. Serve with yogurt sauce. Enjoy!
4. Add the squash and onion and sprinkle with the salt, sage, pepper, and chili powder.
5. Cook for several minutes, turning gently with a spatula, until the squash is deep golden brown and tender (but not falling apart).
6. Remove to a plate and set aside.
7. In the same skillet, melt the remaining 1 tablespoon butter over medium-high heat and add in the kale or Swiss chard. Toss with tongs and cook it for 3–4 minutes.
8. Add in the cooked squash and gently toss together.
9. Serve and enjoy or ... make the risotto to accompany the veggies.

Favorite Winter Squash Recipes

Below you will find what I call a two-step recipe. You can simply sauté the squash, add the kale or Swiss chard, and serve as a side dish, or for those of you who are adventurous, you can make the entire recipe with the risotto that follows. I hope you enjoy it.

Butternut Squash with Kale or Swiss Chard Stir Fry | Serving Size: 3-4

Ingredients

- 1 butternut squash, washed, cored, seeds removed, peeled, and cut into bite-size chunks
- 2 tablespoons butter, divided
- 2 tablespoons of olive oil
- 1 onion, chopped coarsely
- Salt and freshly ground black pepper, to taste
- 1/4 teaspoon chili powder
- 1 pinch sage
- 1 bunch kale or Swiss chard, washed and chopped

Directions

1. Handling the squash is probably the hardest part of this preparation. Cut off the bottom 1" and top 1/2 inch of the squash. Cut in half. Using a spoon, core out the seeds and stringy interior of the squash.
2. Put the cut end of the squash against your apron and peel toward you. Then chop the squash into small bite-size chunks.
3. Heat 1 tablespoon butter and the olive oil in a large skillet over high heat.

Risotto

Ingredients

- 5–7 cups vegetable or low-sodium chicken broth
- 2 tablespoons butter
- 1/2 onion, diced
- 1 1/2 cups arborio rice
- Salt and freshly ground black pepper
- 1/8 teaspoon turmeric
- 1/2 cup Parmesan cheese shavings, plus more for serving
- 1/4 cup cream or half and half (less if desired)
- Finely minced fresh parsley, for serving

Directions

1. Heat broth in a saucepan over low heat. Keep warm.
2. Add butter to the skillet over medium-low heat.
3. Add onion and cook until translucent, 2–3 minutes.
4. Add rice and stir, cooking for 1 minute.
5. Reduce heat to low.
6. In 1-cup increments, begin adding the broth to the skillet, stirring to combine and gently stirring as the broth is absorbed.
7. As soon as the liquid disappears, add another 1–1 1/2 cups of broth.
8. Continue this process, stirring gently as the broth incorporates and the rice starts to become tender.
9. Add salt and pepper along the way.
10. Taste the rice after about 5 cups of broth have been absorbed and see how the consistency is. Add another 1–2 cups of broth as needed to get the rice to the right consistency. It should be tender with just a little bit of a chewiness—some call a "bite."

11. When the rice is tender, add in the cooked squash and kale or Swiss chard stir fry from the previous recipe, plus the turmeric, and stir gently.
12. Add Parmesan shavings and cream and stir until it's just combined. Taste and add more salt and pepper as needed.
13. Sprinkle the minced parsley over the top and serve immediately with extra Parmesan shavings!

Roasted Delicata Squash with Onions | Serving Size: 2

Ingredients

- 1 delicata squash, washed, cut in half lengthwise, and seeded
- 1 large sweet onion or red onion, chopped into chunks
- 1 pinch sage
- 1–2 tablespoons extra-virgin olive oil
- Salt and freshly ground black pepper to taste

Directions

1. Cut each delicata half into 1/2-inch segments, creating crescent moon-shaped pieces.
2. Arrange a rack on a middle rung in the oven and preheat the oven to 425 degrees.
3. Toss the squash and onion and sage in a dish to coat with oil.
4. Sprinkle generously with salt and pepper. Toss to coat.
5. Spread vegetables evenly onto a rimmed baking sheet
6. Roast uncovered in oven for 10 minutes.
7. With a spatula, turn the wedges so that the other side can brown.
8. Roast squash for an additional 7–10 minutes and turn again.
9. Roast an additional 7–10 minutes. When the squash is cooked through, but not falling apart, remove, cool, and serve as a side dish and, as always, enjoy!

Cucumbers

Cucumbers are the number one favorite vegetable for senior food recipients of our program. They start asking for cucumbers when we deliver early harvested spring greens. So this is one vegetable to transplant in a few varieties that come in at different times, and plan to sow some seeds to stretch out the harvest.

Culture is very similar to that of zucchini or summer squash. Cucumber beetle is the number one pest, so covering the plants with row covers is essential. I definitely recommend that you select varieties resistant to powdery mildew and as many other diseases as possible. Most plants produce about 10 cucumbers per plant. So if you plan to give a cucumber or two per delivery and if you have, say, 40 recipients, I'd plan on having 20 producing plants at a time. Make sure to spread those producing cucumbers over as much of the summer as possible.

Cucumbers can climb well. Growing some in small garden greenhouses can be a way to get some cucumbers early in the year.

Watch for: Cucumber beetles and powdery mildew on leaves.



Figure 34. Cucumber beetle.

Favorite Cucumber Recipes

Cold Cucumber Soup | Serving Size: 2-3

Ingredients

- 2 large cucumbers (1 1/2 pounds total), peeled, halved and seeded—1/2 cup finely diced, the rest coarsely chopped
- 1 cup plain yogurt
- 1 1/2 tablespoons fresh lemon juice
- 1 small red onion, finely chopped (save 1/4 for garnish)
- 1 garlic clove, minced

- 2 tablespoons chopped dill or 1 teaspoon dried dill
- 2 tablespoons chopped flat-leaf parsley
- 1 tablespoon tarragon
- 1/8 cup olive oil, plus more for drizzling
- Salt and freshly ground pepper (white pepper is preferred), to taste

Directions

Part 1.

1. In a blender, combine the coarsely chopped cucumber (reserve the finely chopped cucumber) with the yogurt, lemon juice, onion, garlic, dill, parsley, tarragon and 1/8 cup olive oil.
2. Blend until smooth.
3. Season with salt and pepper.
4. Blend again, and adjust seasoning.
5. Cover and refrigerate at least 8 hours or overnight.

Part 2.

1. Season the soup again just before serving.
2. Pour soup into bowls.
3. Garnish with finely diced cucumber and red onion, and a drizzle of olive oil.
4. Serve and enjoy!

Tzatziki (an accompaniment for anything)

Ingredients

- 1 cup Greek whole milk yogurt
- 1 cucumber, peeled, seeded, finely grated, and drained
- 2 cloves garlic, finely minced
- 1 teaspoon lemon zest (grated skin of lemon)
- 1 tablespoon fresh lemon juice
- 1 teaspoon olive oil
- 2 tablespoons chopped fresh dill
- Kosher salt and freshly cracked black pepper, to taste
- Dash of red pepper

Directions

1. In a medium bowl, whisk together the yogurt, cucumber, garlic, lemon zest, lemon juice, oil, and dill.
2. Season with salt, pepper, and red pepper. Chill.

Uses

You can use this as a dip. Brush a pita with some olive oil and sprinkle spices on them. Bake in the oven until crispy and serve using the tzatziki as a dip.

Or you can use the tzatziki as a salad dressing. The options are almost limitless. Enjoy.

Planning to Start Your Deliveries

There are several key things to consider when you are planning to start your deliveries: 1) Find out who wants food; 2) Get donated bags from a local grocery; and 3) Set your food delivery day and deliver on that day so that the recipients will expect you. We have always worked on Tuesday evenings and Saturday late mornings. We devote Tuesday nights to food delivery. This helps the food recipient know when we are coming. Once we start harvesting, we use Saturdays to replant beds, weed, water, feed, and do basic plant management.

We deliver to approximately 40–50 people primarily in low-income senior housing located near the garden. When our town had a “town nurse,” we worked with her to identify other people in the community who could use the food. I have traditionally picked a rainy day to send my student workers to knock on doors and see if the respondent would like to receive food. We generally return two more times to the doors where no one responds.

We make two lists (one for each development), and add names of other people who live nearby and request food. Given the



Figure 35. Reusable grocery bags filled and ready for delivery.

age group of people we deliver to, inevitably some people will be away visiting family, on vacation, or ill (in hospital, rehab unit, or at home). For the most part, we use reusable grocery bags to put the food in (Figure 34). We seek donations of these from our local food store. We start the year with about 200 reusable bags. Most grocery stores like to support civic projects like this. Every other year we request new bags. We ask food recipients to hang them on their door if they want food that week. If the bag is there, but

they don't answer, we leave the food by the door. If we miss count, or have planned food for someone who isn't there, we give the bag away to volunteers or others we think could use the food.

Harvesting and Delivering

It's exciting when it's time to start harvesting! We use a picnic table as our staging area.

It is a very good idea to wash off the table surface (Figure 35) first with a hose to remove

Table 2. This table reflects the delivery of different vegetables delivered to each recipient in a given year.

Date	Weight of bags (lbs.)	Some of the vegetables delivered by date*			
30-June	1	Lettuce	Swiss chard	Microgreens	
7-July	2	Beet greens	Garlic scapes	Swiss chard	Lettuce
14-July	3.5	Cabbage	Kale	Garlic scapes	Lettuce
21-July	3.5	Summer squashes	Cabbage	Broccoli	Swiss chard
28- July	4	Cucumbers	Summer squashes	Cabbage	Kale
4-August	4	Green beans	Garlic	Summer squashes	Cucumbers
11-August	4	Potatoes	Green beans	Cucumbers	Summer squashes
18-August	4	Onions	Potatoes	Green beans	Cucumbers
25-August	4	Tomatoes	Garlic	Onion	Potatoes
1-September	6	Rutabega	Beets	Onion	Potatoes
8-September	6	Bell peppers	Tomatoes	Green beans	Potatoes
15-September	6	Sweet corn	Leeks	Potatoes	Tomatoes
22-September	8	Winter squash	Potatoes	Leeks	Tomatoes

* The first and second columns reflect the new vegetables maturing and ready for delivery.

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* The first and second columns reflect the new vegetables maturing and ready for delivery.

any old food, bird feces, or other unwanted things. We place the reusable bags out, by housing development, based on the number of recipients in the units. Some married couples in the past have asked for two bags. In the past, I have determined on Saturday or Sunday what will be the likely food to be delivered that week. I then sit down and try to find or think up a great recipe to accompany the food. These tend to be simple, few-ingredient recipes that have been quite

popular. We write them a short letter, provide the recipe, and put that in an envelope, which goes in the bag.

Table 2 shows the fruits of one of our production seasons. We tracked what we produced and gave away in a year (nearly 3,100 pounds of produce!). This could be helpful to see what we were able to harvest by when. I don't have all the vegetables delivered in a given day in this table, but more this is to show

you what vegetables are ready to harvest and when. The first column will reflect the new vegetable delivered by week.

We load up the bags into a wagon for one group and a pickup truck for the other. The best part of the program is talking to the recipients. Sometimes they are perfectly well, take the food, chat a bit, and we move on. But other times they appreciate talking longer with someone, especially when something isn't right. Friendships can blossom from this that can be quite amazing. For many years I delivered food to a lady in her 90s who lived alone, then had in-home care, and then finally passed away. We became great friends. Another lady used to wait for me in her outdoor swing on nice summer nights. We shared books and stories. I loved her pudgy dog, Buddy. I will remember that friendship forever.

How Long to Deliver

We have typically harvested vegetables and continued our deliveries until the third week of September. We typically hope to harvest and deliver almost everything that we have planted. This tends to influence repeat plantings. I would rather cover crop (explained below) with something cheap and easy like oats and peas, than cover crop with vegetables that don't get harvested. Based on when you do your harvest and delivery, as September progresses, daylight shortens. We start our delivery at 4 p.m., and by the third week of September it's getting dark by 7 p.m. We try to be done by 7 p.m. on harvest night anyway so that volunteers can get home and prepare a meal. So if you wish to deliver later in the year, you might want to deliver on another day (perhaps Saturday afternoon). For our program, these dates and times have worked well. I have lots of other research harvesting duties in late September and October, so I needed to be done.

Repeat Plantings

You have moved a small mountain getting all of your beds planted. By this point, you are probably well into the month of June. You are busy thinning a lot of plants, weeding a lot of beds, and feeding on a fairly regular basis. The first plants you will harvest will be spinach, lettuce, Swiss chard, and baby kale.

Knowing which crops do well with multiple plantings is useful. Spinach should not be replanted in June or July, as it will bolt. Spinach can be replanted in early August for a fall harvest if your recipients like spinach. I have tried to do multiple spread-out plantings of lettuce. I think if you separate the plantings by 2 weeks, and then 3 weeks, you can get at least three good harvests of lettuce. If you can start with two sets of transplants and then move to two sowings of seed lettuce, I think this is a good plan. Eventually if it is a typical hot summer, lettuce will tend to bolt and become bitter. Once lettuce starts to form a cone, it is likely becoming too bitter to harvest and give away.

Swiss chard and beets can be replanted regularly. Swiss chard will allow a harvest and regrow, as was previously discussed. If



Figure 36. Picnic table and bags laid out on the ground to fill with food. Beets, lettuce, and garlic scapes seem to be the items of the day.

you want small leaves for a salad, you can always replant Swiss chard until about mid-July.

Carrots can be planted again up until early July. The issue with planting carrots in late June or early July will be moisture and germination. Because it is hotter than earlier in the year, it may be more difficult to get good germination.

As you can see from Table 2, most of our cabbages are given out in mid- to late-July and early August. If you would like to have cabbages to deliver in September, you would need to do a second round of planting. Our issue is that most of the sources where we buy transplants close down after Memorial Day. So if you want to do your own plant starts in a green house and transplant them, you can. We don't have that capacity.

Beets, kale, and lettuce can be replanted in mid-July up to the end of July. The difficulty is making sure the seeds stay sufficiently moist to germinate.

Cover Cropping

It is always better to have something growing in a bed than to leave it empty. The growing plants exude nutrients and food for microorganisms. The growing plants shade out weeds. So it is helpful to plant a cover crop. Any growing plant can be a cover crop, but the best ones to plant will fit your goals. It is advisable to plant a cover crop that will winter kill so that it won't get ahead of you in the spring. Winter rye is an excellent cover crop for farmers who can kill it with an herbicide prior to working the soil. They get biomass in the spring. But, if you are organic and have to kill it, it is a lot of work. Crops like oats, peas, and crimson clover will winter kill, and all you have to do is turn the soil in the spring. They will break down prior to vegetable planting.

Ready to Plant: Stage 4—Late Planting

Collard Greens

One of my favorite vegetables is collard greens. These should be planted after a bed of baby kale is harvested. This crop germinates well, and the plants will get up to 3 feet tall. They taste better after a heavy frost, as they tend to lose bitterness and add sweetness after a frost. You can harvest collards until temperatures drop into the midteens. We have been able to harvest collards until early December in the past. This is a nice plant to ask volunteers to continue to harvest after your deliveries have been completed. Collards are a vegetable that may be better as a leftover. They are full of really healthy chemical compounds (folate, vitamin K) ... great stuff!

Favorite Collard Green Recipe

John's Favorite Collard Greens

Serving Size: 3-4

Ingredients

- 1 large bunch of collard greens
- 2 garlic cloves, finely chopped
- 2-3 strips bacon, chopped (optional)
- 3 tablespoons olive oil
- 1 large onion, finely chopped
- 1 cup chicken or vegetable stock
- 1 teaspoon red pepper flakes (if you like things a bit spicy)
- 1 tablespoon fresh ground pepper
- Salt, to taste

Directions

1. Soak collard greens in a large pot of salted water. Rinse 2-3 times.
2. Cut out the bottom of the center stem of the leaf and discard.
3. Stack the leaves one on top of the other on a cutting board and cut into 1/2-inch-wide strips.
4. Vegetarian approach: Heat a large skillet or a pot with tall sides over medium heat, add oil and onion, and cook until the onion has softened and is somewhat translucent.

5. Add garlic. Stir regularly until garlic is tan colored, about 4-5 minutes.
6. Add collard strips, salt, pepper, and red pepper. Stir every minute or so.
7. Add stock. Cook on low heat for at least 30 minutes.
8. Taste the “pot liquor” (the stock) for seasoning after about 10 minutes, and make any subtle adjustments.
9. If you enjoy meat, at step 4, instead of adding oil, render 2–3 strips of chopped bacon first.
10. Remove the cooked bacon and cook onion in the bacon drippings. Continue to follow the rest of the recipe. If you prefer chicken stock, add that instead of vegetable stock.
11. Serve and enjoy!

Garlic

Garlic is probably my favorite vegetable from planting to eating. It fits my model of economics — you plant one clove and you get four or five back. Seems fair! In most years, I can find a beautiful Saturday with temperatures in the 60s to plant garlic. We plant garlic anytime from the middle to the end of October.

If you are starting out, you need to buy seed that is disease free from a reputable source. Call your county Extension educator to find the best garlic seed source. There are many different garlic varieties with different taste profiles. My favorite garlic variety and the

one that we have grown consistently for more than a decade is called German extra hardy. Some people prefer Russian red or others. I like the German extra hardy for a number of reasons: the cloves are large so there is less peeling involved, it stores well, and we get excellent germination. Some garlic can get diseases, and you want to remain free of such problems. Good crop rotation is essential. This is discussed further below. We reserve 20% of our garlic harvest from one year to be the seed for the next. In the harvesting process, we save middle- to large-size bulbs that are from really healthy plants. We store the seed on upside-down plastic vegetable flats in a cool dry area after harvest until planting time (Figure 36).

If you harvest in late July, and you have stored your garlic for 2 months, cut off the stalk and just keep the heads on the flats. Your seed should be well stored and healthy.

You will also need to have something to mulch your garlic beds. I recommend barley straw. If there is barley seed in it, it will usually germinate after you have planted your garlic, and it will winter kill.

You will want to have your to-be garlic beds ready to plant. I have typically tried to select four large beds at the beginning of the year that have not been in an allium crop (leek,



Figure 37. Storing garlic for seed on upside-down plastic vegetable flats in a cool dry garage space.



Figure 38. Early-emerging garlic in a well-mulched bed.

garlic, onion, shallot) for at least 2 years (3 or more would be ideal). In the spring, I like to plant those beds to a nitrogen-fixing crop such as crimson clover or peas and oats. I will kill the crimson clover/cover crop bed in late September and turn under the biomass. Then, in early October we prepare the beds with some compost. On the day before planting, I take the stored bulbs and separate them into individual cloves and place them in a bucket. We rake the tops of the beds to kill any germinating weeds, and then mark the rows with our 8-inch row marker. Then with a trowel I dig a hole 3–4 inches deep and place the clove with the swollen end or butt end down and with the pointed end up in the planting hole. When I hold the clove by the tip and push the clove into the soil, I like the palm of my hand to be flat to the bed surface and the top of the clove to be 2 inches below the bed surface. I give each clove about a 6-inch plant spacing. Once completed, break apart your barley bales and place a 4 inch thick layer of straw over the entire bed. Planting goals include making sure the bulb does not emerge from the soil until spring, the bulbs don't get frost-heaved out of the soil, and planting healthy seed. If a clove looks off, soft, or smells funny, do not use it.

The following spring, the garlic plant will be the first plant to emerge. Make sure the garlic

can get through the straw. We generally get excellent germination. So if you see skips, dig down and find out if emergence is affected by the straw mulch. We have been known to miss a spot or sometimes an entire row, so careful methodical planting is worthwhile. Figure 37 shows appropriate plant spacing and effective mulching. Once the plants emerge from the straw, it is time to do the first feeding with fish emulsion. This will occur usually by late April or early May.

You will want to feed the plants again in late-May, and one last time in late-June. This is the time that the bulb begins to bulk up. So don't forget to feed in late-June.

Scape management is one more interesting consideration. Many people love the garlic flower and stalk called the scape. Around early to mid-June, the plant will develop and push out its flower. The flower stalk comes out in a pigtail curly way and at this time it is fairly soft (Figure 38). Over time it will straighten and get stiff (less edible). I like to snap off the scape at the top of the plant very early after emergence.

There are many options to use scapes. You can sauté them with eggs, make pesto, or substitute them for garlic in recipes if you have consumed all your garlic from previous years. See recipes above for possible uses.



Figure 39. A bag full of garlic scapes.



Figure 40. Garlic at harvest time.

Probably more importantly, if you remove the scape early, the plant will devote more energy to the bulb and yields will improve by 20–30%, according to research done in Guelph, Canada. So you have something interesting to give to food recipients and the garlic bulb yield is improved. I say that is a win-win.

Harvest timing for garlic is fairly important. If you harvest too soon, your garlic will not have had adequate time to bulk. If you harvest too late, it's possible that the garlic head will split and the cloves will separate. It is not a drag to have that happen if you want to eat the garlic quickly, but it can be avoided by knowing the opportune time to harvest. You should count down the number of green leaves from the top of the plant to the bottom. If you have seven green leaves from the top and one or two yellow leaves at the bottom, you are ready to harvest (Figure 39). For us, this happens in the third to fourth week in July. In mid July, start watching leaf senescence from the bottom of the plant.

Try to harvest on a nice dry day, and brush off the soil into the bed. If we are going to deliver it, we snip off the roots and the stalk and give our recipients the head plus a couple inches of stalk.

Select the 20% of seed garlic to store for planting in the fall. The remainder should be stored intact in a cool dry space. Plan to give your recipients a couple of heads a week for several weeks.

What to do with the barley mulch on the surface after harvest (Figure 40). Despite the fact that it has been slowly breaking down over time, the high carbon-to-nitrogen nature of the material means that if you turn it under, it will likely still be there the following year. It could also tie up nitrogen your plants need. I like to remove the straw from the surface and use it to line the alley ways between the garden beds. This may reduce weeds in the pathways.

Putting the Garden to Sleep

I approach putting the garden to sleep with mixed emotions. On one hand, I am usually fairly tired, and I know I have a lot of other work coming. So I most often welcome putting the garden to bed. On the other hand, I know that with October ending, winter is not far behind.

As mentioned before, we try to cover-crop beds that we cannot replant with vegetables and get them harvested for delivery. This is also an excellent time to soil sample your garden. I sample areas that are similar. I generally turn in three samples total from among the 53 beds we produce. Since there are likely differences in the soils across the garden, try to sample from similar areas with each soil sample you collect. Sampling in the fall gives you plenty of time to plan what to do next year. Update your plot map to make sure it reflects accurately what you planted when and where. Pull out any row covers and supports in the beds, and if you have used weights in the field to hold down the row covers, bring those back in. It is a good time to assess the condition of your compost bins. We have a three-bin compost system (Figure 43).

The idea behind this compost system is that you place fresh plant material in the left-most bin. When it has broken down, you move it to the middle bin. After time in the middle bin,



Figure 41. Barley straw residue following harvest.

you move the almost completely broken-down material to the final bin. There is often too much biomass in the harvesting process to fit into the first bin and we find a place to stack that material that is out of the way. You can take the compost from the third bin and put it onto recently harvested beds, move the material from the middle to the third and the first to the second bin, and refill the first bin with any excess vegetation growing in the garden or the stack nearby.

This is a good time to assess the status of your tools and recycle materials that are no longer useful to you. Some say that cleanliness of tools is a mirror of the cleanliness of the person using the tool. I would like to say that I clean and sharpen all of my tools, organize my shed, and tidy everything up before the last garden day or just after it, but I usually consider doing this and that is as far as it gets. But having sharp tools is a great way to start the season.

We also go back and ask for our reusable bags from food recipients. I discard the ones that look tired, and I wash the ones that are healthy but dirty.

Overwinter Storage

The last thing to remember to do is to remove seed from tool storage areas. Anything that can attract rats will attract rats. Rats love

vegetable seeds. Some leftover seed can be used the next year. All seed loses germination capacity over time. But, some seed varieties are worse than others. Much brassica seed can be used in year 2. Most beans, spinach, beets, and chard should not be replanted in year 2. The best plan is to buy fresh seed. Gardening is hard enough that you don't want to waste your time planting a bed that won't germinate.

Conclusions

I hope this guide is useful. Doing the Orono Community Garden project has been the most satisfying program I have been a part of in Extension. The connections made with our recipients, teaching others to garden, working with beautiful caring people, watching some students who have helped go on to farm, and being outside in nature have been incredibly satisfying. I want to thank all the volunteers who have ever been a part of this program. I want to thank the Church of Universal Fellowship and the Orono Health Association for financial support. Mostly I thank my beautiful wife for her tireless help over 15 years.

I hope you will try to make a community giving garden happen in your town.



Figure 42. Three-bin composter at the Orono Community Garden.

Remember that the **University of Maine Cooperative Extension** and many other land-grant universities offer extensive free online Extension resources that can help people address their garden issues. Learning to grow food is a life skill that no one can take away from you. Good luck, and garden well.