



# Lawrence Garden Handbook

The Lawrence Garden is a 1/3-acre community garden managed by the Lawrence Committee and open to all Lawrence residents interested in cultivating vegetables and flowers for personal consumption.

The garden coordinator can be reached at [lawrencegarden@princeton.edu](mailto:lawrencegarden@princeton.edu)

The following sections explain the rules of operation of the garden and provide basic gardening tips for beginners.



## registration

Any Lawrence resident is eligible to receive a plot. The registration process begins in April with an info session held by the garden coordinator and a public notice delivered during a Lawrence Committee meeting.

Interested gardeners must fill a registration form, agree to abide by the rules contained in this handbook, and pay a \$20 fee. Half of the payment (\$10) is refunded at the end of the season if the plot is properly cleaned at the Fall clean-up.

The plots are assigned during the kick-off meeting by the garden coordinator, who will attempt to satisfy all gardeners' requests and make an optimal use of the space. Returning gardeners have priority in keeping the same plots from previous years.



## calendar

The garden opens one week after the graduate housing draw results are published and closes the week after Halloween. In practice, most of the work occurs between the last frost date (early- to mid-May) and the start of the academic year in September. Some key events are the following:

- Info session and registration (April)
- Garden kick-off and plot assignment (April or May)
- Community events (June - August)
- Fall clean-up (October)
- Closure (November)

Please check the Lawrence website for the exact dates for the current year.



## listserv

The *lawrence-garden listserv* is a moderated electronic mailing list used by the coordinator to distribute occasional messages to registered gardeners.

Gardeners may also send messages relevant to all (e.g. offers of surplus seeds/vegetables, requests for help with watering during absences). To post a message, write to [lawrence-garden@princeton.edu](mailto:lawrence-garden@princeton.edu) (note the hyphen).

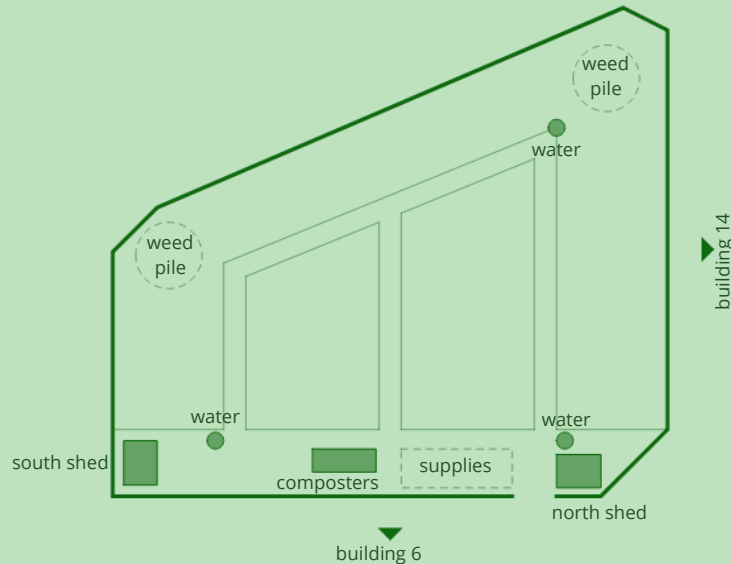
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## map

The garden is a fenced-off area located the behind buildings 6 and on the left of building 14, with the main door facing building 6. The combination lock code can be requested from the garden coordinator.

The north shed is for shared tools only. The south shed is used by the garden coordinator to store maintenance equipment and supplies, but can also be used to store individually-owned equipment, subject to permission by the garden coordinator. There are three water spigots with hoses, two barrel composters, and two weed piles (see diagram below). The communal area next to the composters is used for storing common supplies (i.e. compost & mulch).



## tools & supplies

The following tools are provided for everyone to use:

- Wheelbarrow
- Spades
- Shovels
- Hoes
- Rakes
- Trowels
- Forks
- Weeders
- Knives
- Pruners
- Shears
- Loopers
- Watering cans
- Gloves
- Kids toy tools

A limited amount of the following is available on a first-come, first-served basis:

- Tomato cages
- Stakes
- Chicken wire
- Compost
- Mulch
- Wood chips
- Organic pesticide
- Organic fungicide
- Organic fertilizer

If any tool needs to be repaired or replaced, please contact the garden coordinator.

Plants and seeds are not provided. You can buy seeds from a number of online retailers: Johnny's Selected, High Mowing, Baker Creek, Burpee, Seed Savers, Seeds of Change, and many more. Sources for seedlings and plants include Lowe's and Home Depot (accessible by TigerTransit), Ace Hardware at the Princeton Shopping Center, Peterson's on Rt 206, Perna's on Washington Rd, and Madden's on Rt. 27.

In special cases, a cordless electric string trimmer ("weed-wacker") can be requested from the garden coordinator for use in individual plots.



## **garden rules**

### **access**

- Keep the garden gates closed at all times.
- Scramble the combination lock when locking the gates.
- Visiting the garden at night is not recommended (as there is no lighting).

### **conduct**

- Walk only on wood-chipped paths (do not cross through plots).
- Pets must be leashed and remain in communal areas.
- Smoking and drinking alcohol are prohibited in the garden.

### **tools**

- Clean and return shared tools to the shed after use.
- Store the wheelbarrow upside-down.

### **sheds**

- The north shed (by the main gate) is for shared tools and supplies only.
- Individually-owned equipment may be stored in the south shed with permission from the garden coordinator.

### **water**

- Coil up the hoses carefully, avoiding twists and kinks.
- Turn off the water at the spigot and then at the nozzle (to relieve pressure).
- Store watering cans in the shed or hanged on the fence using wire hooks.

### **weeds**

- Keep the plot and boundaries clean through constant removal of weeds.
- Herbicides (i.e. weed killers) of any type are not allowed.
- Produce should not be left to drop and rot on the plots.

### **pests**

- Notify the garden coordinator of any pests found in your plot, or poison ivy found anywhere in the garden.
- Non-organic pesticides and fungicides are strictly prohibited.

### **garbage**

- Weed piles are for weeds and woody stalks only. Rotten and unwanted fruits can be disposed in the composters.
- Non-biodegradable garbage should be taken over to the dumpsters.

### **absences**

- Plots are expected to be clean and productive for the entire season.
- Make provisions for the maintenance of your plot during absences.
- Plots left unattended for more than three weeks may be cleared.

### **restricted plants**

- Not allowed: marijuana, tobacco, poisonous plants, trees, large shrubs, vines, cacti, mushrooms.
- Invasive plants (e.g. mint, catnip, comfrey) are allowed only in pots.
- Be thoughtful when planting corn, sunflower, and other tall plants so as not to shade other plots.



## composting

There are two brown/black compost tumblers in the garden. Each composter has two compartments with separate doors. Composting materials should be added to the side marked with a sign "ADD". Then, the handle should be turned several times to rotate the bin. The finished compost will be available in a pile in the communal area.

### Do compost:

- Fruit and vegetable trimmings
- Overripe fruits and vegetables
- Coffee grounds and tea leaves
- Citrus rinds and crushed eggshells
- Dead flowers and leaves, small plant trimmings

### Do not compost:

- Dog and cat waste
- Fish, meat, dairy, poultry
- Computer paper, glossy and coated paper (i.e. vegetable sticky labels)



## pests

Some of the most troublesome pests for Lawrence gardeners are:

- *Bean beetles* (look like yellow ladybugs, attack beans)
- *Cucumber beetles* (yellow striped, attack cucumbers, melons, squash)
- *Squash bugs* (grey, attack squash and melons)
- *Nematodes* (tiny grey worms, attack root crops like carrots and radishes)
- *Flea beetles* (small black beetles, attack eggplants)
- *Cabbage worms* (green worms, attack cabbage, broccoli, cauliflower)
- *Squash vine borers* (black/orange, attack zucchini and squash)



Check your plants frequently, especially on the underside of leaves (where larvae live). Pay special attention if leaves are turning yellow or the plants appear to be wilting. Pick off and destroy any bad bugs or eggs.

Try planting strong-smelling plants next to vulnerable crops as a pest deterrent: *onion*, *marigold*, *nasturtium*, and *calendula* are recommended. If you have a serious infestation, you can try an **organic** pesticide. Please remember that non-organic pesticides, fungicides and herbicides are strictly prohibited in the garden. Apply insecticide directly to the insect, rather than just sort of casting it about. Do not overuse; even organic chemicals may be damaging to native insects and can become toxic in high doses.



*Poison ivy* is also very common in the garden, particularly near the fence. It is a three-leaf plant that causes contact dermatitis by simply touching the plants (leaves, stem, and roots) and contaminated objects (tools, clothes). Always wear protective clothing (gloves, long sleeves, boots) and clean all tools after use.



## animals

Our garden is frequently visited by *groundhogs* and *rabbits*. The perimeter fence does very little to stop penetrations as baby rabbits are small enough to walk through and groundhogs can dig holes underneath. Although these animals may look cute, they like to eat flowers, root crops (i.e. carrots), and immature fruits, wiping out an entire crop in one or two days. Mice, raccoons, and squirrels are much less frequent.

The best protection is to install a chicken wire fence around your crops, at least 3 feet tall and 6 inches into the ground. Plastic fences don't work as these animals can chew them. There is a limited amount of chicken wire available to use on a first-come, first-served basis.



## planting recommendations

Previous Lawrence gardeners recommend the following plants as the easiest and most successful to grow:

- *Nightshades*, such as tomatoes, tomatillos, peppers, eggplants, and potatoes, do extremely well in our soil and climate.
- *Leafy vegetables*, such as lettuce, spinach, Swiss chard, kale, bok choy, and any kind of salad greens. Almost all leafy greens are cool-weather crops, best planted in early to mid-spring.
- *Peas and beans*. Peas are a wonderful spring crop — just rig up a trellis for them to climb, and they'll grow fast. Try sweet peas for their beautiful flowers, or sugar snap peas to eat straight off the vine.
- *Onions and garlic*. Anything in the onion family is brainless and problem-free, and might help deter pests on other crops grown close by. Garlic bulbs can be planted in the spring or the fall.
- *Root vegetables*, including radishes, carrots, beets, and parsnips. These are very easy to grow. For carrots, however, it is especially important to prepare the soil for good drainage, both to encourage the carrots to grow straight and long and to discourage nematode worms.
- *Cucurbits*, such as squash, zucchini, pumpkins, melons, and cucumbers, all love the heat and humidity here. However, these plants are frequently attacked by pests. If you can get through a season without being wiped out by bugs, you can get good crops. Zucchini and summer squash are the easiest of these plants to grow, though they will likely be destroyed midseason by vine borers.
- *Cabbage crops*, including broccoli, cauliflower, cabbage, and brussels sprouts, are more difficult to grow. They have a long growing season and must be started indoors in very early spring. Even then, they sometimes don't mature before it gets too hot for them to thrive.
- *Corn* is probably not a good crop to grow here. It grows very well, but it requires a lot of water, a lot of sun and a lot of space for a relatively small yield.
- *Perennial fruits*, such as strawberries, raspberries, and rhubarb have long crop periods, so try them only if you plan to be here more than a year or two.

All herbs are virtually maintenance-free and grow beautifully in our garden.

Rosemary, thyme, lavender, mint, sage, and oregano are best purchased as plants at a garden center —they are difficult to start from seed. Some of these (mint, catnip, comfrey) are very invasive, and therefore are only allowed in non-decomposable containers. Basil, parsley, cilantro, dill, and chamomile are easy to grow from seed.

Please note that not all plants grow well together. See the following chart for a list of compatible and antagonistic species.

<b>Plant</b>	<b>Good companion</b>	<b>Bad companion</b>
<i>Beans</i>	Corn, sunflowers, cucumber, strawberries, cabbage	Onion, garlic, peppers, leeks
<i>Beets</i>	Beans, onions, garlic, lettuce, cabbage	
<i>Broccoli, cauliflower</i>	Aromatic herbs (dill, sage, rosemary), beets, garlic, onions, spinach, Swiss chard	Tomatoes, peppers, squash, strawberry
<i>Carrots</i>	Lettuce, chives, leeks, rosemary, sage, peas	Strawberries, cabbage, dill
<i>Corn</i>	Sunflowers, beans, peas, pumpkin, squash, cucumber, melons	Cabbage, tomato, celery
<i>Onions</i>	Carrots, beets, strawberries, tomatoes, lettuce	Peas, beans, parsley, leeks
<i>Peas</i>	Lavender, carrots, turnip, radish, cucumber, beans, spinach	Onion, garlic, leeks
<i>Peppers</i>	Tomatoes, geranium, basil, carrot, onion	Beans, kale, cabbage, cauliflower, broccoli
<i>Potatoes</i>	Coriander, marigold, beans, cabbage	Pumpkin, cucumber, squash, melons, sunflower, tomatoes
<i>Spinach</i>	Strawberries, beans, peas	
<i>Squash</i>	Lettuce, melon, peas, peppers	Broccoli, cauliflower
<i>Tomatoes</i>	Basil, oregano, parsley, onions	Potatoes, cabbage, corn, dill, broccoli

Sage and thyme are beneficial to the garden in general. Marigolds are known to act as pest deterrent.

Flowers will not only add beautiful colors to the garden, but they will also attract bees required for pollination. Some varieties that work well from seed are sunflowers, zinnias, cosmos, marigold, nasturtium, valerian, malva, heliotrope, poppies, salvias, phlox, sweet peas, calendula, cyglossum (Chinese forget-me-not), and many more. This is also a fabulous climate and soil for roses, although constant monitoring against fungal diseases (like black spot and mildews) is needed.



## plot size

Choosing the plot size depends on the type of plants to grow, planting layout, and how much time you are willing to devote to gardening.

To estimate the space requirements of the species you want to grow, consult plant spacing charts (usually found online or on the back of the seed packets). Some gardening websites also have free online planting calculators. Consider one or two additional feet around your plot and between crops for walking.

Our garden is divided into plots of approximately 12 feet long by 3-foot increments in width. Most first-time gardeners start with a small plot of 3 by 12 feet, enough for a couple of tomato plants, a large plant (e.g. zucchini or cucumber), and some herbs or flowers. In general, a plot of this size should require around 1-2 hours per week of work.



## soil improvement

Although it is a bit heavy and clay-ey, our soil is quite good nutritionally and many Lawrence gardeners have had success with many vegetable crops without any soil amendments. However, some easy soil improvement techniques that are likely to help are:

- Mixing soil with leaf mold or sand to improve drainage
- Building raised beds (especially for carrots, parsnips and beets)
- Using alkaline additives such as limestone to improve the slightly acidic pH of our soil
- Amending the soil with compost before planting, especially for heavy feeders like tomatoes and peppers
- Mulching your plot with leaf mold, straw, or licorice
- Spreading wood chips or newspaper to block the growth of weeds



## watering

How much water the plants need depends on many factors (i.e. temperature, humidity, rain fall, soil type, etc.). Use a trowel or your fingers to test the moisture of the soil two inches below the surface: if it is dry, then it needs to be watered. It is generally best to give plants a thorough watering (~30 min) twice a week rather than a little water every day. This way the water soaks down deep and encourages your plants to grow deep roots, thereby becoming more drought resistant. Also, early morning is the best time of the day to water, since low sun and high humidity allow more water to be absorbed into the soil before evaporation. A thick layer of mulch will reduce the need for frequent watering by conserving soil moisture.

Plants can also get over-saturated and die from too much water. This can be a problem particularly in low-lying areas of the garden when we have a long rainy spell. The clay-ey soil here makes this problem worse because it doesn't drain well. To avoid these issues, add sand or organic material to the soil to improve drainage or build raised beds.

## Credits

This handbook was prepared by Mauricio Loyola (garden coordinator 2018-19), based on the material compiled by previous coordinators: Sam Richter (2017-18), Sarah James (2016), A.J. Riggs (2015), Alison Chaney (2012-14), Jakub Szefer (2011), Maja Klosinska (2010), Katie Stolfus-Dueck (2009), Rod Groff (2002), Tisa Wenger (2001), Emily Moorefield (1999), Alex Hausner (1996), Gordon Dahl (1995).

Portions of this handbook were inspired by the Lakeside Garden Handbook written by Kyle J. Oskvig (available at the Lakeside Committee Website: <https://lakesidecommittee.princeton.edu/wp-content/uploads/sites/315/2018/04/Lakeside-Community-Garden-Handbook-for-2018.pdf>)

The garden map was drawn by Carol Ponce.

The Lawrence Garden logo was approved by the University's Office of Communications on 09/15/2018.

### *Gardening tips sources:*

- Johnson et al. 1996. *Community Gardens in the Garden State: A How-to Handbook*. Community Action Program Executive Directors Association (CAPEDA) and Isles, Inc.
- Hayes et al. 1996. *From the Ground Up: A Calendar for Organic Gardeners in Central New Jersey*. Whole Earth Center

### *Companion planting chart sources:*

- <https://www.windowbox.com/resources-links/companion-planting-chart-for-vegetables>
- <http://www.savvyhousekeeping.com/wp-content/uploads/2013/06/Companion-Planting-FTFA.jpg>

### *Pests images sources:*

- Mexican bean beetles: [https://en.wikipedia.org/wiki/Mexican\\_bean\\_beetle](https://en.wikipedia.org/wiki/Mexican_bean_beetle)
- Cucumber beetles: <http://labs.russell.wisc.edu/vegento/pests/cucumber-beetles/>
- Squash bugs: <https://extension.umd.edu/hgic/topics/squash-bug-vegetables>
- Flea beetles: <https://www.buglogical.com/flea-beetles/>
- Cabbage worms: <https://www.almanac.com/pest/cabbage-worms>
- Squash vine borers: <http://labs.russell.wisc.edu/vegento/pests/squash-vine-borer/>