

LEHR Garden Operation and Maintenance

Introduction



Congratulations on your recent acquisition of a LEHR Garden! A LEHR Garden is different from any other gardening method out there and needs some specific care to continue to run optimally. The good news is that this care is relatively easy and just involves following a few simple rules.

A LEHR Garden is a sustainable, productive, low-water, low-effort method of gardening. It was created by combining around 12 different techniques for food production, soil creation, and environmental repair. A LEHR Garden waters itself, manages its own fertility, manages its own pests and diseases, and creates its own soil. While a LEHR Garden was designed to be fairly simple, there are some important things you have to understand to make a LEHR Garden work at its best. Before we get into how to operate one, let me explain a few basic concepts.

The first is the name. LEHR is an acronym for Linking Ecosystem & Hardware for Regeneration. Let's tackle each of those words separately.

An ecosystem is a group of living organisms living in a way that benefits all of the organisms. It relies primarily on there being enough nutrients in the system and a strong biodiversity. To make this work, we are going to focus on those two things. We want as complete an ecosystem as possible.

The hardware in this case is the structure and the equipment that makes up the garden. The hardware is in no way intended to replace the ecosystem function like it does in so many other garden systems. The hardware in a LEHR Garden is intended to replace human labor while supporting and enhancing the functionality of the ecosystem.

These two aspects are linked together to function optimally as a whole.

The end goal is regenerative agriculture, which is primarily characterized by the creation of healthy soil and habitat for local (even urban) wildlife.

A LEHR Garden is a machine that will operate more or less autonomously, provided it is set up right. The tricky part is "tuning" the machine so that it works optimally. This operation manual will help you understand how to keep your LEHR Garden tuned for optimum performance. I will talk about the various systems here and how to keep them working optimally.

Soil

The soil in a LEHR Garden is very alive. The materials that the soil is made from will provide a food source for the soil organisms. Eventually, the soil will break down to the point where the water doesn't flow through as well and there aren't as many food sources for the soil to eat. When this happens, after about a year of growing, we need to remove about half of the soil and mix in fresh wood chips. If a sifter is available, it works best to let the soil dry out and sift out the fine particles and then replace with wood chips or chopped branches, but this isn't necessary if no sifter is available.

Other than this once-a-year task that only takes a few hours, the soil is pretty much care-free. It requires no other maintenance and no fertilizer. The soil that is taken out makes an amazing amendment around trees and other plants in the ground. It can even be spread on lawns.

Compost

Included with the LEHR Garden is an integrated compost bin. This is a great place to put food waste from your kitchen and plant trimmings from your garden. The compost bin is mostly automated and won't need much attention from you. The garden will function better if you add lots of compost as the nutrients from the compost breaking down will be fed directly to your plants and help them grow faster. The compost bin will only need to be emptied about once or twice a year, it is recommended you do this when you redo your garden soil. The finished compost can be added directly to the new soil in the garden bed.

There are lots of rules about what you can and can't put in your compost bin. Many of those don't apply to a LEHR Garden compost.

Do Add:

Food waste (including meat and dairy, though these should be added in small amounts)

Garden trimmings

Anything that was formerly plant or animal

Paper towels and tissues

Cardboard, such as pizza boxes

Don't add:

Anything that won't break down, like plastic

Pet waste

Weeds with seeds attached

Pump Timer

There is a timer that controls the pump that waters the garden. This pump will initially be set up the way you need it, but as the system matures and the seasons change, the timing will need to be changed a bit. As the soil breaks down you will want to water less frequently, say from 4 times a day down to only one or two. Similarly, you will want to water more often in hot weather than in cold weather.



To program the timer's clock, hold down the "clock" button and adjust as needed using the "week," "hour," and "minute" buttons.

To program the timer function, press the "prog" button. This will bring up a menu that shows when the timer cycle "1" turns on. Set the time using the "week," "hour," and "minute" buttons. Then hit "prog" again to get to the time that cycle "1" turns off. Set the time the same way. So for example, if you want the pump to turn on at 6am and off at 6:15, "1 On" should be set at 6am and "1 off" should be set at 6:15 am. Do this for as many of the channels you want to set. To clear the whole timer and start over, push something sharp into the hole with an "R" next to it to reset the timer.

The timer can also be turned on, turned off, and set to automatic. When it is on, it is constantly on. When it's off, it is always off. When it is set to "auto," it will run the program as you have set it. If you want to run the water for a little while, you can turn the garden on for a little while. In the bottom right there is a button labeled "ON/AUTO/OFF." This is a toggle switch and an indicator at the bottom of the screen will show you which setting you are currently in. As you push the button, it will cycle through settings, so make sure you end up with the one you want on. If you wish to turn the pump on and let it run for a bit, I strongly recommend you toggle it to "on" and then hit the button again to return it to "auto." The power will remain on to the pump, but if you forget about it, it will turn itself back off the next it hits and "off" command on the timer.

Spray Timer



The garden comes with a sprayer. For most of the life span of your LEHR Garden, this will not be used. The spray bar is strictly there to help seeds get started and to help keep the upper levels of the garden moist after fresh woodchips have been added. To program the timer, you cycle through the various commands, setting the clock, start time, duration, and what days you want it to run. I recommend twice a day for

about 2 minutes. Then you just set the dial to "Auto." Once your seedlings are mature enough to have their roots down in the water that is flowing through, typically being about 2" tall, set the timer to "Off" as you won't need this.

Planting Your Garden

Any time you have a free space, you can put a new plant in it. The main consideration is to make sure you are planting something that is seasonally appropriate. Consult your local planting calendar. A LEHR Garden has very rich soil, so it can handle dense plantings. I prefer to plant densely enough that you can't see the soil when the plants are mature. Also, it is strongly recommended to interplant herbs and flowers among your vegetables and fruits as this will encourage the presence of beneficial insects.

Pests and Diseases

As with any garden, there will be pests that show up. DO NOT SPRAY PESTICIDES. The pesticides will get into the soil and the water and harm the delicate ecosystems that run a LEHR Garden. For larger insects, hand-pick them from the plants. For smaller insects, a quick spray of water will do just fine. The soil in the LEHR Garden helps the plants have a healthy immune system and allow them to withstand most pests and diseases. The presence of small, soft-bodied insects will further attract beneficial insects to your garden. Spraying pesticides will also harm the beneficial insects that will make your garden resistant to pests in the future.