Garden Starter Tray

Planting & Growing Guide

AeroGarden®

NOTE:
Do not unwrap Tray *until you are ready to plant your seeds. The plastic cover retains moisture that is critical for easy planting and fast germination.*

Welcome

Thank you for your purchase of our *Garden Starter Tray*, created for AeroGardeners like you who love to garden all year-round, indoors and out. In this Guide we teach you what you need to get a jump on the outdoor gardening season by starting seeds indoors in your AeroGarden®.

The AeroGarden creates optimal conditions for seed germination, fast initial growth and healthy root development, without the frosty mornings or hot, dry afternoons that can make starting seeds outdoors such a risky venture.

I sincerely hope you enjoy your *Garden Starter Tray* and all of the healthy harvests that your garden will grow.

Best Regards,

Michael Bissonnette

Michael Bissonnette
Founder and CEO
AeroGrow International, Inc.

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Introduction

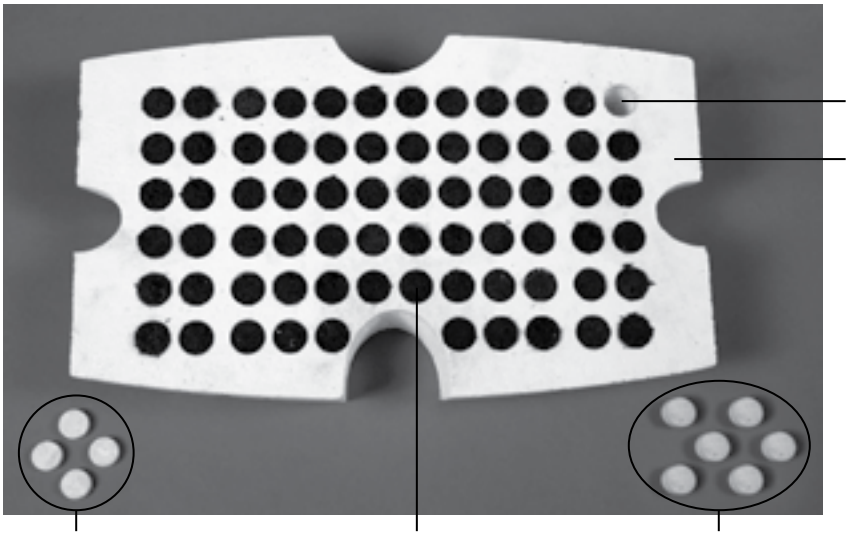
The *Garden Starter Tray* enables you to use your AeroGarden to start seedlings for transplanting into your outdoor garden. In just a small amount of space, with minimal care, you can now start up to 70 seedlings and get a jump-start on the gardening season.

While the AeroGarden and *Garden Starter Tray* provide the ideal environment for germination and growing seedlings, there are many decisions you need to make that will impact your results. This Guide will assist you in deciding what to grow, when to start your seeds, how to seed the *Garden Starter Tray* and how to care for and transplant your seedlings to an outdoor soil garden or containers. We recommend that you read this entire Guide before starting your seeds.

Garden Starter Tray *Basics*

The *Garden Starter Tray* has supplies for starting up to 70 seedlings–that's enough space to start a summer vegetable garden for your family or an entire butterfly garden for your yard.

What's Inside



Small Nutrient Tablets (4)

Biodegradable, pre-moistened *BioCell* with *Dibble* (70)

Large Nutrient Tablets (6)

> ! *Do not unwrap* Tray *until you are ready to plant your seeds. The plastic cover retains moisture that is critical for easy planting and fast germination.*

Additional Supplies

In addition to what is included in your *Garden Starter Tray*, there are a few additional items that you will need.

AeroGarden with *Deck* removed

Seeds

Watering Can

Planning Your Garden–Seed Selection

Possibly the most difficult step in using the *Garden Starter Tray* is deciding what to grow. There are thousands of choices of seeds. The following guidelines will help you plan, plant and grow a thriving outdoor garden. Take the time up front to plan your garden and you'll reap the rewards of beautiful plants and bountiful harvests.

Sample Gardens

To simplify the planning process, we've provided some plant lists for theme gardens that you can start in your *Tray*. Feel free to modify the plant lists, combine them to grow plants from several lists at the same time, use them for inspiration or disregard them completely and plant a garden of your own design.

Spring Vegetables	Summer Vegetables	Butterfly Garden	Children's Garden	Kitchen Herb Garden	Cutting Garden
Lettuces	Beans	Alyssum	Beans	Basil	Zinnias
Spinach	Tomatoes	Cosmos	Pumpkins	Oregano	Black-Eyed Susans
Scallions	Bell Peppers	Nasturtiums	Watermelons	Thyme	Dianthus
Beets	Chilies	Petunias	Cucumbers	Cilantro	Snapdragons
Radishes	Cantaloupe	Verbenas	Crazy Carrots*	Mint	Phlox
Swiss Chard	Cucumbers	Candytufts	Marigolds	Sage	Rudbeckias
Broccoli	Eggplants	Phlox	Nasturtiums	Parsley	Calendulas
Brussels Sprouts	Zucchinis	Zinnias		Savory	Campanulas
Cabbages				Dill	Foxglove
Cauliflower				Sorrel	Coreopsis

**Carrot seedlings transplanted from the Garden Starter Tray into our outdoor test garden grew into some wild and twisted shapes. Children (and grown-ups) had great fun harvesting, naming and eating them. If you are up for some garden surprises, sow some carrot seeds in your Garden Starter Tray. To see some pictures of our one-of-a-kind Crazy Carrots, please see Troubleshooting on page 30 of this Guide.*

Purchasing Seeds

Once you decide what to grow, you'll need to purchase seeds. Local gardening, hardware or grocery stores are a good source of seeds. Be sure to choose only seed packets dated for the current season as seeds loose their viability over time.

For a larger selection of varieties, hard-to-find plants or heirloom seeds, mail order catalogs are a wonderful source. The table below lists some recommended seed suppliers.

Seed Companies	Web Address	Description
Burpee	www.burpee.com	Family owned since 1876. One of the most progressive seed companies in the U.S.
D. Landreth Seeds	www.landrethseeds.com	Started in 1784–the oldest seed house in the U.S. Lots of specialty seeds.
Johnny's Selected Seeds	www.johnnyseeds.com	Full service seed producer–superior products, research and online descriptions.
Kitazawa Seed Co.	www.kitazawaseed.com	Specializes in Asian vegetable seeds.
Richters Herb	www.richters.com	Canadian supplier specializing in herbs.
Grimes Seeds	www.grimesseeds.com	Full service seed supplier–flowers, herbs and vegetables.
Park Seed	www.parkseed.com	Providing vegetable & perennial seeds since 1868.
Thompson & Morgan	www.thompson-morgan.com	Flower seeds galore! Also herb and vegetable seeds.
Seed Savers Exchange	www.seedsavers.org	Non-profit organization specializing in rare and heirloom seeds.
The Cook's Garden	www.cooksgarden.com	Seeds and recipes for gardeners who love to cook.

Your Seed Planting Schedule

Timing is a key element in gardening. If you transplant seedlings outside too early, you run the risk of losing your crops to cold weather. Transplant too late, and cool weather crops may wither in the heat or summer crops may not have enough time to ripen before fall arrives.

Determining when to plant seeds in your *Tray* so that they are ready at the right time depends on a few factors: the last frost date for your area, what you want to plant and how quickly each seed type germinates and grows into a seedling ready to transplant.

Last Frost Date

The last frost date is, on average, the last day in the spring that you might have a frost that can damage tender plants. In other words, it is the earliest date you can expect the weather to be frost free. It is a useful date to know when starting seeds indoors.

The table on the facing page lists average last frost dates for metropolitan areas in the United States. Keep in mind, that these dates are **averages**. Some years the last frost will be later and other years it will be earlier. If you live in an area with varied topography, the last frost date for the closest city may not be applicable to you. A great resource for specific information for your area is a local master gardener, someone at a garden supply store or a local Cooperative Extension Agent (see the following website for contact information: http://www.csrees.usda.gov/Extension/). Other useful websites are http://www.victoryseeds.com/frost/, http://usagardener.com/breaking_ground/frost_dates_usa.php, and http://www.humeseeds.com/frost1.htm.

Average Last Frost Dates for U.S. Cities

State	City	Last Frost Date
Alabama	Mobile	February 27
Alaska	Juneau	May 7
Arizona	Phoenix	February 5
Arizona	Pine Bluff	March 19
Arizona	Tucson	February 28
California	Eureka	January 30
California	Los Angeles	February 7
California	Sacramento	February 14
California	San Francisco	January 24
Colorado	Denver	May 7
Colorado	Grand Junction	June 7
Connecticut	Hartford	April 25
Delaware	Wilmington	April 13
Florida	Tampa	January 28
Georgia	Athens	March 28
Georgia	Savannah	March 10
Idaho	Boise	May 7
Idaho	Idaho Falls	June 7
Illinois	Chicago	April 22
Illinois	Springfield	April 17
Indiana	Indianapolis	April 22
Indiana	South Bend	May 7
Iowa	Atlantic	May 7
Iowa	Cedar Rapids	April 29
Iowa	Des Moines	May 7
Kansas	Topeka	April 21
Kansas	Wichita	May 7
Kentucky	Lexington	April 17
Louisiana	Monroe	March 9
Louisiana	New Orleans	February 20
Maine	Bar Harbor	May 7
Maine	Portland	May 7
Maryland	Annapolis	April 7
Maryland	Baltimore	March 26
Massachusetts	Boston	May 7
Massachusetts	Hyannis	May 7
Massachusetts	Worcester	April 27
Michigan	Lansing	May 7
Michigan	Marquette	May 7
Michigan	Traverse City	June 7
Minnesota	Duluth	May 7
Minnesota	St. Paul/Minneapolis	May 7
Minnesota	Willmar	May 7
Mississippi	Biloxi	March 7
Mississippi	Columbus	March 27
Mississippi	Vicksburg	March 13
Missouri	Jefferson City	May 7
Missouri	St. Louis	April 7
Montana	Fort Peck	May 7
Montana	Helena	May 7
Nebraska	Blair	April 27
Nebraska	North Platte	May 7
Nevada	Las Vegas	March 7
New Hampshire	Concord	June 7
New Hampshire	Hanover	May 7
New Jersey	Atlantic City	May 7
New Jersey	Newark	April 4
New Mexico	Albuquerque	May 7
New Mexico	Carlsbad	March 29
New Mexico	Los Alamos	May 7
New York	Albany	May 7
New York	New York City	April 7
New York	Syracuse	April 28
North Carolina	Fayetteville	April 2
North Carolina	Greensboro	April 7
North Dakota	Bismarck	May 7
North Dakota	Grand Forks	June 7
Ohio	Cincinnati	April 7
Ohio	Toledo	May 7
Oklahoma	Lawton	April 1
Oklahoma	Pendleton	April 15
Oklahoma	Tulsa	March 30
Oregon	Corvallis	May 7
Oregon	Eugene	May 7
Oregon	Portland	April 7
Pennsylvania	Harrisburg	May 7
Pennsylvania	Philadelphia	April 7
Pennsylvania	Williamsport	May 7
Rhode Island	Kingston	May 7
South Carolina	Charleston	March 11
South Carolina	Columbia	April 4
South Dakota	Rapid City	May 7
Tennessee	Memphis	March 23
Tennessee	Nashville	April 5
Texas	Austin	March 7
Texas	Dallas/Fort Worth	April 7
Texas	San Antonio	March 7
Utah	Cedar City	June 7
Utah	Salt Lake City	May 7
Vermont	Burlington	May 7
Virginia	Norfolk	March 23
Virginia	Richmond	April 10
Washington	Seattle	March 24
Washington	Spokane	May 7
West Virginia	Elkins	June 7
West Virginia	Parkersburg	May 7
Wisconsin	Green Bay	May 7
Wisconsin	Janesville	April 28
Wyoming	Jackson	July 7
Wyoming	Laramie	June 7

Sources: Old Farmer's Almanac *and*
http://www.victoryseeds.com/frost/

Rate of Growth

You will find that seeds started in the *Garden Starter Tray* germinate and grow much faster than you may have experienced with other seed starting systems. That said, not all plants germinate and grow at the same rate. For example, tomatoes and peppers need about 6 weeks until the seedlings are ready for transplanting. In comparison, beans and cucumbers grow much more quickly and need only 2 weeks of growth in the *Garden Starter Tray* until they are ready to transplant. This information is sometimes provided on the back of seed packages, but as with much gardening, the best guidance is from experience: your own, or a trusted expert at a gardening store or your local cooperative extension service. Use this information with the last frost date to calculate the earliest date to start seeds.

When to Transplant

Some plants can withstand frost, others require frost free days and certain soil temperatures to thrive. For example, beets, lettuce and some flower seedlings can all be transplanted several weeks before the last frost. Summer crops, such as cucumbers, tomatoes, melons and beans, should only be transplanted after the last frost date. Your seed package is the best source of "when to plant" information. **Keep in mind, you do not need to seed the entire *Tray* at one time.** Instead, you can stagger when you seed your *Tray*. For example, you can seed some of the *BioCells* with spring crops that can withstand a frost, transplant the seedlings outside and then seed the remaining *BioCells* with summer veggies or flowers that need warmer outside weather to thrive.

Putting It All Together: Creating a Staggered *Planting Schedule*

Following are two examples of how to create a staggered planting schedule. Use the *Planting Schedule* on pages 39-40 of this Guide to calculate and keep track of seed starting dates for each plant type. In each example, a sample *Planting Schedule* is provided. A month-to-month calendar also comes in handy when setting up your planting schedule.

Example 1: Planting schedule for summer vegetables to transplant after the last frost (i.e. non-frost tolerant plants).

Suppose you live in Lansing, Michigan and want to grow tomato, pepper and cucumber seedlings, which are ***not*** frost tolerant. The last frost date for this area is May 7 (from table on page 8). Tomato and pepper seeds need about 6 weeks to grow before hardening off (more on this on pages 25 in the "Moving Seedlings to Your Outdoor Garden" section).

Using a calendar to count backwards **6 weeks** from the last frost date (May 7), gives you a seed starting date of March 26 for tomatoes and peppers. The cucumbers need only 2 weeks to grow, so counting backwards **2 weeks** from the last frost date (May 7), gives you a seed starting date of April 23 or 4 weeks after starting your tomato and pepper seeds. All seedlings will be ready to harden by May 7. An example of a completed *Planting Schedule* (shown below) includes all this information.

Planting Schedule

Last Frost Date: *May 7*

Plants	Weeks to Grow	Earliest Seed Starting Date	Ready to Harden Off	Transplant Date	Notes
Tomatoes	*6 weeks*	*March 26*	*May 7*	*May 17*	
Peppers	*6 weeks*	*March 26*	*May 7*	*May 17*	
Cucumbers	*2 weeks*	*April 23*	*May 7*	*May 17*	*Seed 4 weeks after tomatoes & peppers.*

Sample Planting Schedule *for seeding non-frost tolerant plants. See pages 39-40 for blank* Planting Schedules.

Example 2: Planting schedule for a combination of frost tolerant and non-frost tolerant plants.

Continuing with the example from Lansing, Michigan above (where the last frost date is May 7), suppose you want to also start seedlings for frost tolerant plants such as lettuce, beets, chard and scallions, as well as for non-frost tolerant plants such as tomatoes, peppers and cucumbers.

Scallions, beets, and chard seeds need about **2 weeks** to grow until the seedlings are ready for hardening off. The lettuce seeds grow more quickly and can be planted a week after the scallions, beets and chard seeds. In addition, these plants can all tolerate a frost and can usually be planted in the ground **6 weeks** before the last frost date. You'll need another **1½ weeks** to harden off the lettuce, scallions, beets and chard plants before transplanting outside (more on this later on pages 25 of this Guide). Using a calendar to count backwards **9½ weeks** (2 weeks + 6 weeks + 1½ weeks) gives you a seed starting date of February 28. An example of a completed *Planting Schedule* (shown below) includes all this information.

Planting Schedule

Last Frost Date: *May 7*

Frost Tolerant Plants	Weeks to Grow	Earliest Seed Starting Date	Ready to Harden Off	Transplant Date	Notes
Scallions	*2 weeks*	*February 28*	*March 14*	*March 24*	
Beets	*2 weeks*	*February 28*	*March 14*	*March 24*	
Chard	*2 weeks*	*February 28*	*March 14*	*March 24*	
Lettuce	*1 week*	*March 7*	*March 14*	*March 24*	*Seed 1 week after scallions, beets & chard.*
Non-Frost Tolerant Plants					
Tomatoes	*6 weeks*	*March 26*	*May 7*	*May 17*	*Start seedlings after transplanting spring crops outside.*
Peppers	*6 weeks*	*March 26*	*May 7*	*May 17*	
Cucumbers	*2 weeks*	*April 23*	*May 7*	*May 17*	*Seed 4 weeks after tomatoes & peppers.*

Sample Planting Schedule *for seeding frost tolerant and non-frost tolerant plants. See pages 39-40 for blank* Planting Schedules.

Your *Garden Starter Tray*

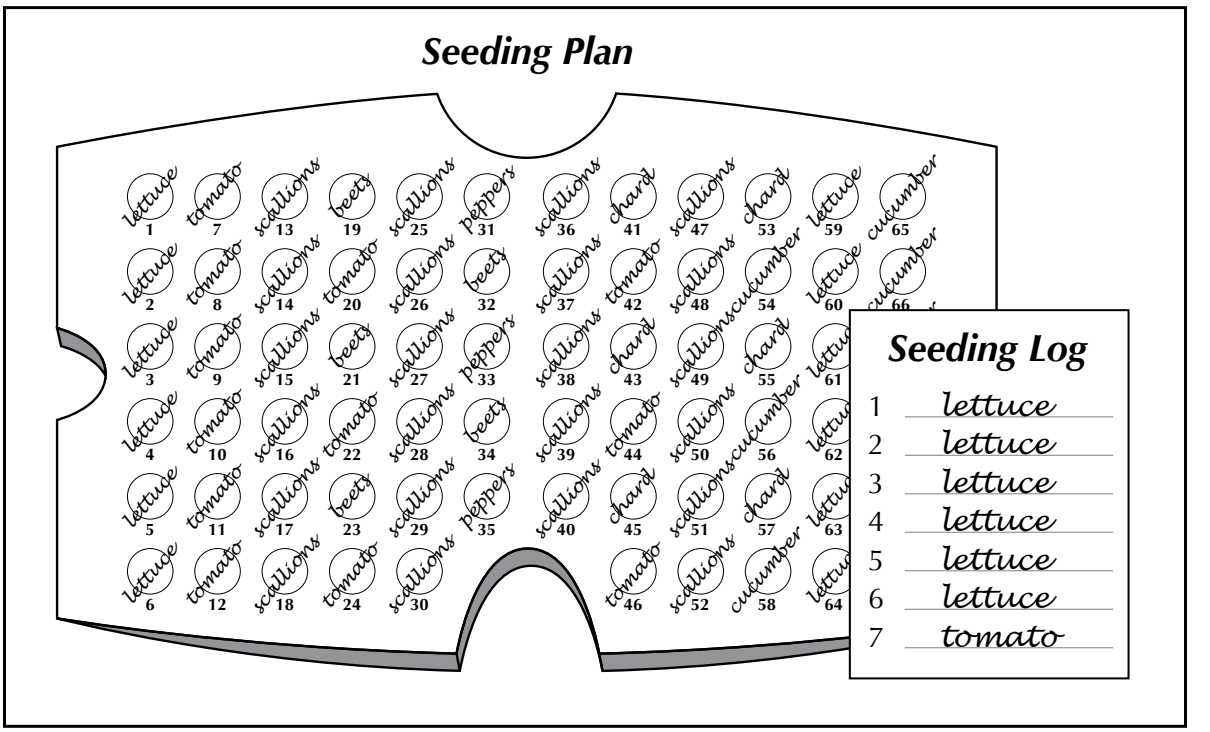
Once you have decided which seeds to plant and when they need to be started, the next step is to plan out where in the *Tray* to plant the seeds, how many seeds to plant in each *BioCell* and how deep to plant the seeds. We recommend that you use the *Seeding Plan* and/or *Seeding Log* in the back of this Guide (sample shown below) to keep track of your choices. This little bit of planning will save you time and prevent confusion later when you are ready to seed your *Tray* and also at transplanting time. (Cherry tomato and Beefsteak tomato seedlings are hard to tell apart!)

Tray *Layout*

The *BioCells* are all the same size and receive the same amount of light, warmth and moisture. Following are a few guidelines that will help you decide where to plant each seed type.

Use the *Seeding Plan* in the back of this Guide (on pages 41-44) to work out and record your plan (sample shown below).

(*Tray* Layout continued on next page.)



Sample Seeding Plan *for frost tolerant and non-frost tolerant plants from Example 2 on facing page. Use the* Seeding Log *if you need additional room to write. See pages 41-45 for blank* Seeding Log *and* Seeding Plans.

***Tray* Layout (continued)**

- Use the outer *BioCells* for seedlings with large, spreading leaves (such as beans, cucumbers and okra) to prevent them from shading other seedlings in your *Tray*.
- For a staggered seeding of plants with the same planting out date (e.g. all frost tolerant plants or all non-frost tolerant plants) use the inner *BioCells* for the slow growing seeds (which get seeded first) and the outer *BioCells* for the fast growing seeds. This allows you to plant the fast growing seeds without reaching over and potentially damaging the seedlings that are already growing.
- For a staggered planting of seeds with different planting out dates (such as the lettuce, beet, scallion, chard, tomato, pepper and cucumber example on page 11 of this Guide), consider using every other *BioCell* for the planting of frost tolerant plants. Again, this will ensure that the leaves from the larger non-frost tolerant seedlings get enough light.

Number of Seeds

As with an outdoor garden, it is important to plant extra seeds in each *BioCell* to ensure germination success. A good rule of thumb is to sow only a few extra seeds for large seeds and fruiting plants. Increase the amount of seeds as the seed size gets smaller and for plants that grow in bunches, such as chives. For small seeds, typically 6 seeds does the trick. The table below provides recommendations of how many seeds to plant in each *BioCell*.

Recommended Number of Seeds per *BioCell* and *Dibble* Size

Seed Size	Small	Medium	Large
Example	lettuce, scallions, chives, basil	beets, chard, tomatoes, peppers, eggplant	beans, cucumbers, melon
Number of Seeds per *BioCell*	6	4	2
Recommended *Dibble* Size	Universal *Dibble* 1/4″ wide and 3/8″ deep (already in each *BioCell*)	Universal *Dibble* 1/4″ wide and 3/8″ deep (already in each *BioCell*)	Enlarge *Dibble* to just larger than the size of the seed (see facing page)

Seeding Depth

The planting depth of seeds in the AeroGarden will not necessarily be the same as recommended on seed packages from suppliers. Each *BioCell* has a small, tapered hole near the center called a *Dibble*. The *Dibble* is 1/4″ wide and 3/8″ deep and is adequate for most small and medium sized seeds. For larger seeds, the *Dibble* may need to be enlarged. We recommend using the *Seeding Plan* or *Log* to keep track of which *Dibbles* need to be enlarged. Please refer to the table on the facing page for some guidelines on planting depths.

Changing *Dibble* Size

Enlarging the *Dibble* size is quick and easy, requiring only tweezers.

- Open tweezers to desired width of *Dibble* opening.

- Insert open tweezers into existing *Dibble* to desired depth, then close tweezers.

- Pull up on closed tweezers to remove part of the *BioCell*.
- Repeat above steps until the *Dibble* is the desired size.
- Be sure to make **all** *Dibble* adjustments before seeding the *Tray*. (It is difficult to change *Dibble* sizes once the *Tray* is placed in the AeroGarden and the seeds are growing.)

HELPFUL HINT: *If the* Dibble *is too large, you can simply remove a little bit of the growing medium from a different part of the* BioCell *(or from a different* BioCell*) and fill in the area.*

Seeding Your *Garden Starter Tray*

It is important to seed your *BioCells* and get the *Tray* into your AeroGarden on the same day. Otherwise, the seeds will start germinating without the benefit of moisture, warmth and light provided by your AeroGarden.

Place Seeds in BioCell

To avoid confusion, work with only one seed type at a time.

1. Empty contents of 1 seed packet onto a piece of paper or clean work surface. (Do this carefully, as some seeds are round and may try to roll away!) For larger seeds, you may be able to just reach into the seed packet to get seeds.

2. Count out the number of seeds needed for one *BioCell*. For example, take 4 seeds if you are planting beets. (Use the table on page 13 of this Guide to help you decide the number of seeds to plant in each *BioCell*.)

3. Drop seeds into the *Dibble* with your fingers or tweezers.

4. Mark your *Seeding Plan* to indicate which *BioCells* are planted.

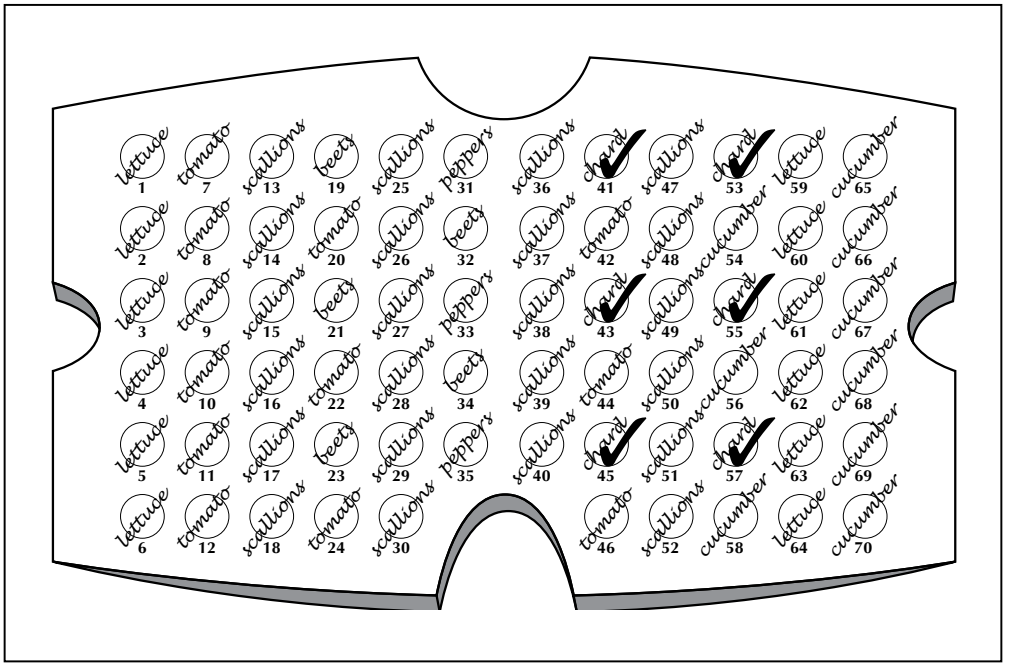
5. Repeat steps until all *BioCells* for that seed type are planted.

6. Return unused seeds to packet.

HELPFUL HINTS:

To avoid losing track of where you are on the Seeding Plan*:*

- *Plant all of one seed type at a time.*
- *Start planting seeds on one side of the* Tray *and work your way across (rather than jumping around).*
- *Remember to check off each* BioCell *on the* Seeding Plan *as you get it planted. (This way if the phone rings or you get distracted, you'll know where you stopped!)*
- *If you accidentally put in an extra seed or two, don't worry. There is still plenty of room for seeds to germinate and plants to grow.*



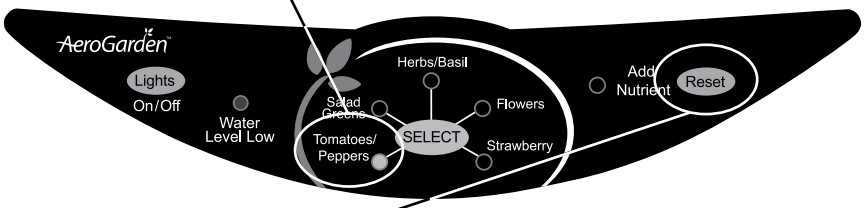
Sample Seeding Plan *with planted* BioCells *marked. See pages 41-45 for blank* Seeding Log *and* Seeding Plans.

Place *Tray* in AeroGarden

Setting Up Your AeroGarden

1. Remove the *Grow Surface* from the *Bowl* and set aside. The *Grow Surface* (and the attached *Pump Stand* and *Pump*) is not needed with the *Garden Starter Tray*.
2. Lower the *Lamp Hood* to the lowest position.
3. Place *Bowl* onto the *Base*.
4. Add water up to "Fill to Here" inside the *Bowl*.
5. Plug in your AeroGarden.
6. Press the "Select" button to set your AeroGarden to "Tomatoes/Peppers."

Smart Garden Control Panel



7. Press and Hold the "Reset" button for 6 seconds. When the "Add Nutrient" light begins to blink, release the "Reset" button. *NOTE: In some cases, you may see other lights blink as well. This is nothing to worry about.*

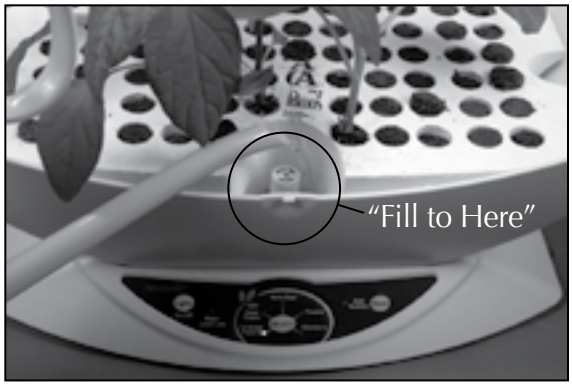
> **!**
> - *Use room-temperature water. Very hot or very cold water will hurt your plants.*
> - *We recommend using municipal tap, bottled or purified water. Well or softened water SHOULD NOT be used because the extra minerals in these sources may be harmful to aeroponically grown plants.*

8 To place the planted *Tray* into the AeroGarden:

- Carefully lift *Tray* from your work surface. Keep tray steady to avoid spilling seeds out of the *BioCells*.
- Gently lower *Tray* into *Bowl* so that the large semi-circle cutout for the "Fill to Here" mark is in the front and the grooves on the bottom fit over the cross beams inside the *Bowl*.

NOTE: To prevent algae growth, cover any ***empty*** BioCell Openings. *(There is no need to cover unplanted* BioCells.*) A bottlecap, a cut-out piece of plastic from a container lid or aluminum foil all work well.*

Add Water



When additional water is needed:

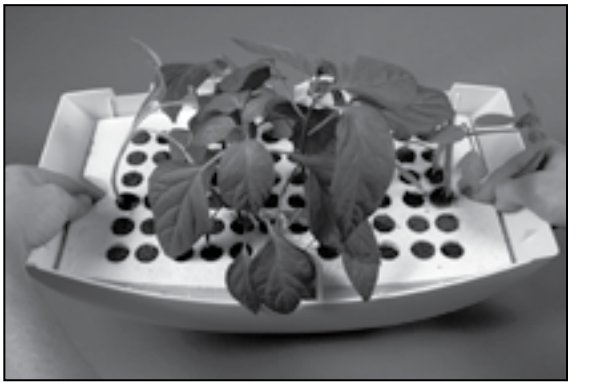
- The "Water Level Low" light on the *Control Panel* will blink. Using a spouted container, pour water through the opening in the front of the *Tray* to raise the level up to "Fill to Here" inside the *Bowl*.
- It is okay to add water to "Fill to Here" before the "Water Level Low" light blinks.

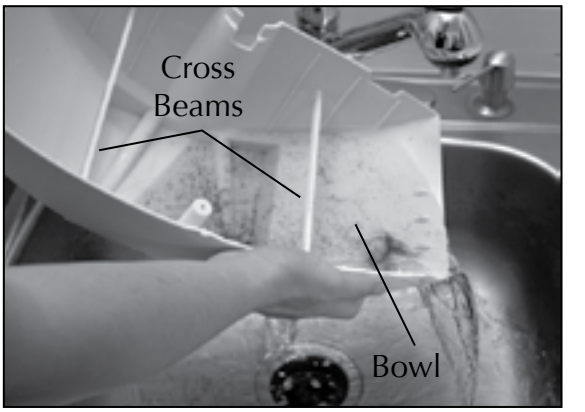
Add Nutrients

For the first 2 weeks of growth, seedlings will derive all the needed nutrients from the nutrient-rich *BioCell*. After 2 weeks, you will need to add nutrient tablets.

Every two weeks, both the "Add Nutrient" and "Water Level Low" lights will blink on and off. At that time:

1. Unplug your AeroGarden.
2. Carefully remove the *Bowl* from the *Base* and bring it to a sink.
3. Remove the *Tray* from the *Bowl* and place on a counter that can get wet.
4. Empty contents of *Bowl* into sink and rinse the *Bowl*. (Use water only.)
5. Fill the *Bowl* with room-temperature water up to "Fill to Here" and set *Bowl* on counter.
6. Place *Tray* back on *Bowl* arranging roots over *Cross Beams*.
7. Carefully replace *Bowl* onto *Base* and plug in AeroGarden.
8. **First Feeding–two weeks after seeding**
   Add 2 nutrient tablets from the "Starting Nutrients" bag, reseal the bag and press the "Reset" button.
9. **All Other Feedings**
   Add 2 nutrient tablets from the "Growing Nutrients" bag, reseal the bag and press the "Reset" button.





Thin Plants

We recommended earlier in this Guide that you plant multiple seeds in each *BioCell*. Often times this results in more than one plant growing in a *BioCell*. When this occurs:

- Check each *BioCell* for multiple plants once the seedlings are about 2″ tall.
- Using scissors, gently snip the smallest plants at the base of the stem, leaving **ONE** healthy plant in each *BioCell*.
- Thinning seedlings ensures that the remaining plant in each *BioCell* has room to grow and gets enough nutrients, water and light to remain healthy.
- There is no need to thin plants that grow in clumps, such as chives.

NOTE: If you are thinning edible greens, toss them into a salad or sandwich, rather than throwing them away or composting. These microgreens are tasty!

! *Be sure to cut, not pull, the extra seedlings to avoid damaging the roots of the strongest plant in each* BioCell.

Planning Your Outdoor Vegetable Garden

A good time to plan for and prepare your outdoor vegetable garden is while your seedlings are growing in the *Tray*.

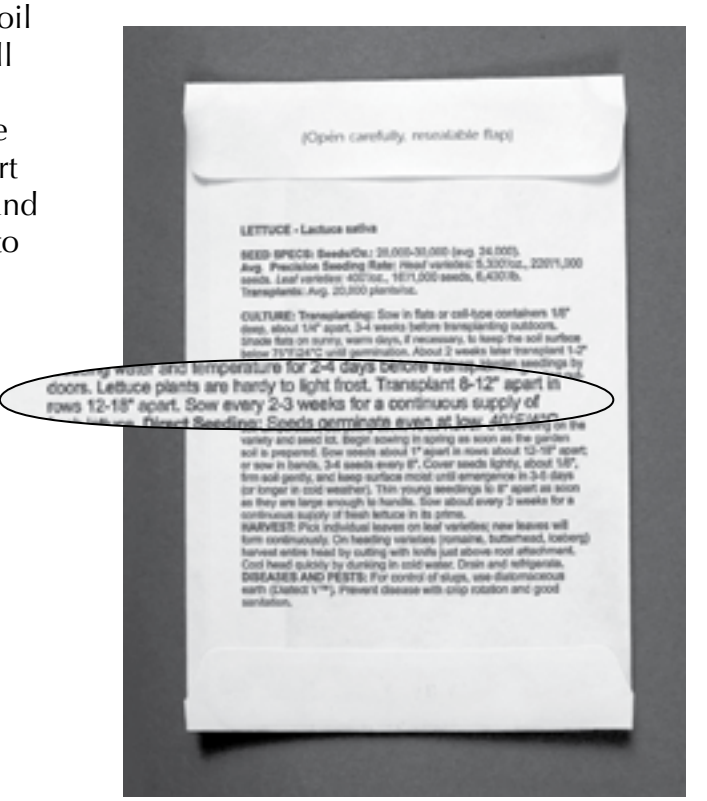
Prepare Your Soil

For your seedlings to thrive, they'll need to be transplanted into soil that is amended with organic matter so that it has good drainage, can retain water, is aerated and has an ample supply of nutrients.

Make sure your soil is not too wet before you begin working it or transplanting your seedlings outdoors. To check for moisture, pick up a small handful of soil and sqeeze it into a ball. If the soil clumps together, then your soil is still too wet to work. Let it dry out some more before you try working it. If the ball of soil can be easily broken apart by pressing it between your thumb and index finger, then your soil is ready to be worked.

Plant Size

Seedlings are small–mature plants can be quite large. Consider how much space the mature plant requires and make sure you have room in your garden. The backs of seed packages typically list the minimum space requirements between plants and rows. Keep in mind that raised beds, intensive and container gardening methods allow you to space plants closer.



Garden Plans

It is helpful to know where you want to place each plant in your outdoor garden before you begin transplanting. This makes transplanting go quickly, which means there is less stress on your young seedlings. Three different ways for laying out your garden are described below. No matter which method you use, there are a few basic rules that you'll want to heed:

- If possible, orient the long axis of your garden in an east-west direction, to maximize the amount of sun each plant receives.
- Plant short plants on the south end of your garden, and taller ones on the north end to avoid shading.
- Refer to seed packages for recommended plant and row spacing, as well as light, water, and fertilizer requirements.

Traditional Row Garden

In a traditional row garden, plants are placed in rows with a path between rows that is wide enough to easily walk through. These gardens take up more space than the intensive gardening method described next and require some extra work to keep the paths between rows free of weeds.

Intensive Garden

Intensive gardening is a method of laying out your garden that makes the best use of space–allowing you to place plants closer together than with a traditional row garden. It is easy to implement. Divide your garden into a series of squares, each 1-foot by 1-foot (an area of 1 square foot.) The number of plants placed in each square depends on the size of the plant. For example, one square foot could grow a single tomato plant or 4 lettuce plants. With intensive gardening, there is no need for rows (which typically take up a lot of garden space.) Instead, each vegetable is planted at the recommended plant spacing, saving space and reducing water use.

Two excellent references for more information on intensive gardening methods are: *Square Foot Gardening* by Mel Bartholomew and *Cubed-Foot Gardening: Growing Vegetables in Raised, Intensive Beds* by Christopher O. Bird.

Container Garden

A great way to grow fresh vegetables when you have a small outdoor space or even no yard at all is to use containers. Containers can be placed on a window sill, patio, balcony or roof top. Just about any container will work for growing vegetables or flowers.

Whatever you use, you'll want to make sure the container has:

- A few holes in the bottom for drainage.
- Good peat-based potting soil.
- Space for the roots to grow and the plant to spread.
- A trellis or adjacent fence for plants that grow on vines or need support (such as cucumbers or tomatoes.)
- Enough water. Water everyday, and perhaps even twice a day during hot, dry spells.
- Supplemental fertilization after about 6 weeks of plant growth.

Two useful resources for getting started with container gardening are *All About Container Gardening* by Ortho and *How to Grow Organic Vegetables in Containers…Anywhere!* by Eileen Logan. These books include guidelines on what size pots are needed for different vegetables and flowers, as well as fertilizer formulations and schedules.

Moving Seedlings to Your Outdoor Garden

Once your soil is prepared and your seedlings are grown, it is time to harden off and transplant your seedlings to your outdoor garden. If you are new to gardening, please take a moment to read this entire section and the next one ("Caring For Your Seedlings") before beginning the transition of your delicate seedlings to the outdoors.

Hardening Off

Hardening off seedlings eases their transition from the AeroGarden into the outdoors, where they will be exposed to full sunlight, temperature variations and wind. It entails slowly increasing the amount of time your seedlings spend outside while still in the comfort of the AeroGarden. Allow about 1½ weeks for hardening off. (See *Sample Hardening Off Schedule*, right.)

To harden off your seedlings:

- Remove the *Bowl* (with *Tray* and seedlings) from the *Base* and bring it outside.
- Return the *Bowl* to the *Base* when you bring it back indoors.
- Keep the *Bowl* filled with water to "Fill to Here."
- Remember to add nutrient tablets when the indicator light turns on.
- Bring the *Bowl* inside if the weather turns bad or the temperature is below 45° F. Add a day to the hardening off schedule for any weather-related missed days.

Sample Hardening Off Schedule

Day 1:	Put *Bowl* outside in a shady, protected area (i.e. no wind), for 2 hours between midmorning and early afternoon
Day 2:	As above, but outside for 4 hours
Day 3:	As above, but outside for 6 hours–start nudging the *Bowl* towards sun to provide partial sun
Day 4:	As above, but outside for 8 hours and a little more sun
Day 5:	As above for 4 hours and then full sun for 4 hours
Day 6:	Partial sun 2 hours full sun for 6 hours
Day 7:	Full sun 8 hours
Day 8:	Full sun 10 hours
Day 9:	Full sun–outside 12 hours
Day 10:	Outside all day and night
Day 11:	Transplant

When to Plant

Although a clear warm day may be a nice time to be in the garden, it is **NOT** what you want when it is time to transplant your seedlings into your outdoor garden. A perfect day for transplanting is one that is damp, drizzly and cool. If such a day does not come your way, then transplant seedlings near the end of the day, when the sun is low and the heat of the day has gone by. It is okay to keep your seedlings in the Tray and AeroGarden for a little extra time if you want to wait a few days for the weather to cooperate or just for convenience. Just be sure to add nutrients (see page 20) if the "Add Nutrients" light is on.

Water Garden

The day before you plant (preferably after the hottest part of the day has passed), water your outdoor garden or container. The moisture in the soil will help ease the shock to your newly transplanted seedlings. If you miss the night-before watering, you can water early in the morning of the day you plan to plant. Just allow plenty of time for the water to drain before you begin transplanting. Transplanting in saturated soil is not a good idea. You'll end up compacting the soil.

Supplies to have on hand for transplanting are:

- A filled watering can ready to use. (A bucket of water with a cup for scooping also works well.)
- A narrow trowel.
- Your garden plan showing where each seedling will go.
- Your *Tray* of hardened-off seedlings.

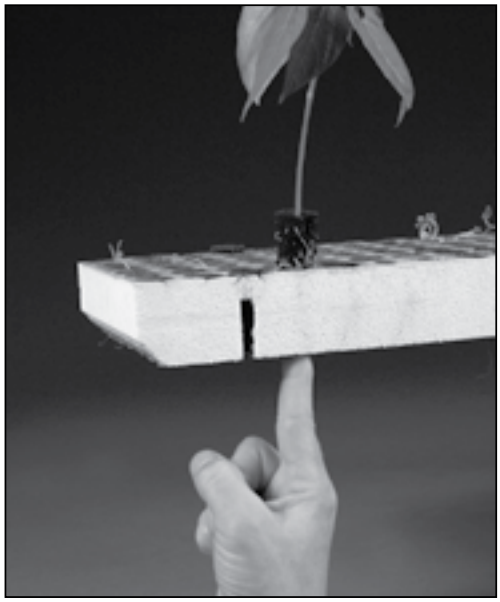
To transplant seedlings, take the entire *Bowl* and *Tray* outside. There are 4 basic steps that you'll repeat with each seedling until the entire *Tray* is planted:

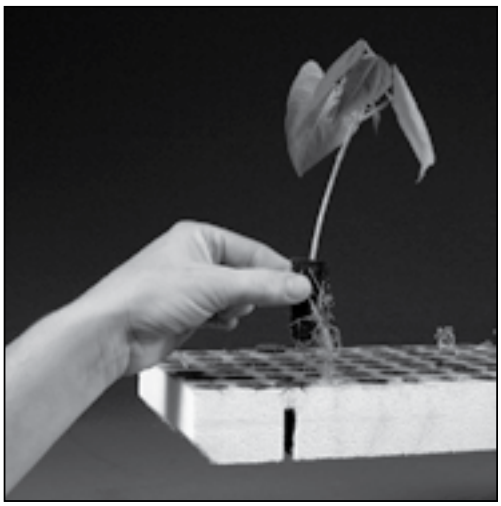
1) Remove seedling from *Tray;*

2) Dig hole;

3) Place seedling in hole and fill; and

4) Water seedling.





1 Remove Seedling from *Tray*

- Lift *Tray* out of *Bowl*.
- With your finger, gently push up on the bottom of the *BioCell*.
- As seedling emerges from the *Tray*, hold the *BioCell* (not the stem or leaves).
- Return *Tray* to *Bowl*.

2 Dig Hole

To make a hole for the seedling:

- Insert trowel into soil at the marked location to a depth of about 3 inches.
- Pull trowel handle toward you to create an opening in the soil (keep trowel in place).

3 Place Seedling in Hole and Fill

- With trowel still in soil, put *BioCell* in hole so that the top of the *BioCell* is about ½ inch below the level of the soil.
- Hold the *BioCell* in place and pull out the trowel.
- Gently fill in around the *BioCell* with soil, up to the top of the *BioCell*.
- Lightly press down soil to remove large air pockets. At the same time, make a shallow, bowl-shaped, depression around the base of the seedling. This depression will help direct water towards your plant, rather than towards parts of the garden with no plants.

4 Water Seedling

Water each seedling at its base by pouring water in the depression immediately after transplanting. (Do not pour water on top of your delicate seedling!) Initially, provide about 1 to 2 cups of water to each seedling.

Repeat these 4 steps until all the seedlings in your *Tray* are planted. Then go back and give each seedling another cup or two of water.

Caring For Young Seedlings

Your seedlings will do best if they have some tender care and attention after transplanting.

Daily Watering

Your seedlings need water every day. It is best to water when the sun is low, either in the early morning or evening. Water each plant at the base, rather than dousing the fragile stems and leaves with water from above (such as with a sprinkler). If you do not want to water each plant individually, then use a soaker hose or drip irrigation system. Provide enough water so that the soil is moist to a depth of 3 inches. As your plants grow, you can start top watering rather than continue with the time-consuming watering of individual plants.

Frost

Despite the best planning, a damaging frost may come your way. Keep an eye to the weather for any reports of frosts (temperatures below 32° F) and be prepared to cover young plants if necessary. Some easily found household items that make good covers are yogurt containers, cardboard boxes, milk jugs, flower pots or baskets. Just remember to put a rock (or other weight) on top of plastic containers to stop them from blowing away. It is a good idea to place a small rock over the hole in a flower pot, to provide the best protection from a hard frost. Be sure to remove covers when the weather warms up or your plants may bake in the sun.

What to Expect

It takes about one to two weeks for your seedlings to adjust to the change in environment. After that, your seedlings will start to grow again. Follow the directions on your seed packages for fertilizing and caring for your plants. Soon you'll have wonderful harvests.

HAPPY GARDENING!

Appendices

Troubleshooting

My seeds are not germinating. What can I do?

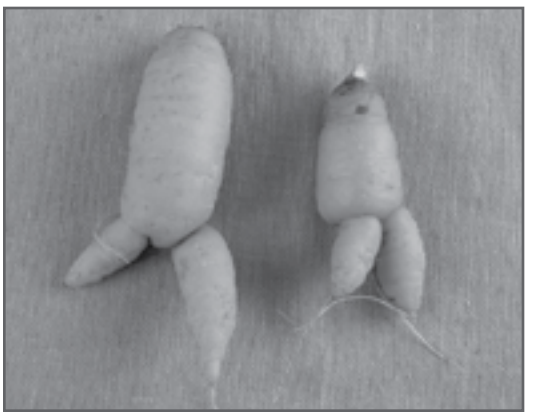
If the seeds in your *Garden Starter Tray* do not germinate, the first thing to check is the expiration date on the seed package. The viability of seeds decreases significantly with age. Also verify that your seeds were stored properly. Excessive humidity and/or heat can ruin a seed.

A hard outer coat on a seed may also hinder germination. Try gently rubbing the outer coat of these types of seeds with sandpaper or a file before placing them in a *BioCell*.

Finally, make sure you "over-seed" your *BioCells*. Even the best seeds do not germinate 100% of the time. Always plant more than one seed to ensure a successful growing experience. (See page 13 for more details on how many seeds to plant in each *BioCell*.

Why are my fully grown carrots such strange shapes?

The change in conditions between the *BioCell* and garden soil triggers some bizarre growth patterns in carrots. Enjoy the surprise of these unique shapes. Kids love to harvest these Crazy Carrots and eat them too!



Two examples of what your Crazy Carrots might look like.

What do I do if one of my seedlings dies?

Occasionally you might find that one of the seedlings in your *Tray* does not thrive. If a plant dies, remove the entire *BioCell* from the AeroGarden. Cover the empty *BioCell Opening* to prevent algae from growing in the *Bowl*. Choose a material that will stand up to a moist environment such as aluminum foil or a plastic lid from a milk jug.

Troubleshooting

Can the *BioCell* be reused?

If your seeds did not germinate, you should be able to re-use your *BioCell(s)*.

Gently remove the *BioCell* by pushing it up from the bottom of the *Tray*. Remove non-germinated seeds and clean off any residue that may be on the *BioCell*. Store in a sealed plastic bag or reseed right away.

What do I do when one of my *Grow Bulbs* burns out?

Replacement bulbs can be ordered from our website at: **www.aerogrow.com**. You should replace your *Grow Bulbs* after 6 months of use.

What should I do if my *Grow Bulbs* aren't working?

Make sure the *Grow Bulbs* are firmly inserted into the sockets in the *Lamp Hood*. Also check that the *Lamp Cord* is plugged into the *Lamp Hood*.

How long does the backup battery last?

If your AeroGarden has a backup battery located in the underside of the *Base*, it will work for 6 months after activation. To replace it, use any CR2032 3-volt lithium battery.

(Newer AeroGardens no longer rely on batteries to power the backup system.)

What do I do if I want to move my AeroGarden to another location?

Go right ahead! Your AeroGarden has a built-in backup system that lets you unplug it without losing any of the settings.

To move your AeroGarden, remove the *Bowl* from the *Base* and be sure to pick it up by holding the *Lamp Arm* with one hand and sliding your other hand under the bottom of the *Base*.

My seedlings do not look healthy. What can I do?

If you are concerned about the health of your seedlings, please go through the following:

- Keep the lights as close to your seedlings as possible, without the leaves touching the *Grow Bulbs*.
- Follow the thinning instructions in this guide (page 21).
- Don't use softened or unfiltered well water.

How do I take care of my garden when I go out of town?

Add water to raise the level up to "Fill to Here." A newly planted *Tray* may not need care for up to 2 weeks.

You may want to set your lights to go on at night for added home security while you are away. See "Set Your Light Timer" on pages 33-34 for instructions.

Questions and Answers – Lights

Do I need to turn the AeroGarden lights on and off manually?

No. Your AeroGarden includes a built-in timer that turns your lights on and off at specific intervals. These intervals are designed to maximize the growth of your seedlings. The timing system started as soon as you plugged in your AeroGarden. Every day it will automatically turn your lights on for 16 hours beginning at that time.

Can I change the time of day the lights go off?

Yes. To change the time your lights go off, follow the simple steps in "Set Your Light Timer" in the next section of this Guide.

Does it matter what time of day the lights go off?

No. It makes no difference to the plants when your lights go on and off. Some people like to have the lights turn off when they go to bed and come on in the morning when they wake up. Others prefer to use the AeroGarden as a nightlight.

Even if you place your AeroGarden in a sunny location, you can still set the lights to go on at any time. The natural light shining through a window is weak compared to the intense light provided by the *Grow Bulbs*.

Can I change the number of hours the lights are on and off?

Only by selecting a different plant type on the Smart Garden Control Panel. The "Tomatoes/Peppers" setting will keep your lights on for 16 hours and off for 8 hours, which is an ideal light cycle for germination and growth of seedlings for most seed types.

Can I temporarily turn off my lights?

Absolutely. Just push the "Lights" button and then immediately release to manually turn the lights off (or back on). This will not change any of the settings for your AeroGarden and your lights will turn on (or off) at the next regularly programmed time. Occasional use of this feature will not harm or slow the growth of your seedlings.

Set Your Light Timer

Your Built-In Light Timer

When you select the Tomatoes/Peppers setting, your AeroGarden has lights and a built-in timer that automatically provide your plants with about 16 hours of "sunlight" and about 8 hours of "night," which is optimal for the healthy growth of your seedlings.

As long as your seedlings get this amount of light, it does not matter when the lights are turned off. You may find it convenient to have the lights go on in the morning and off at night to match your own wake and sleep schedule.

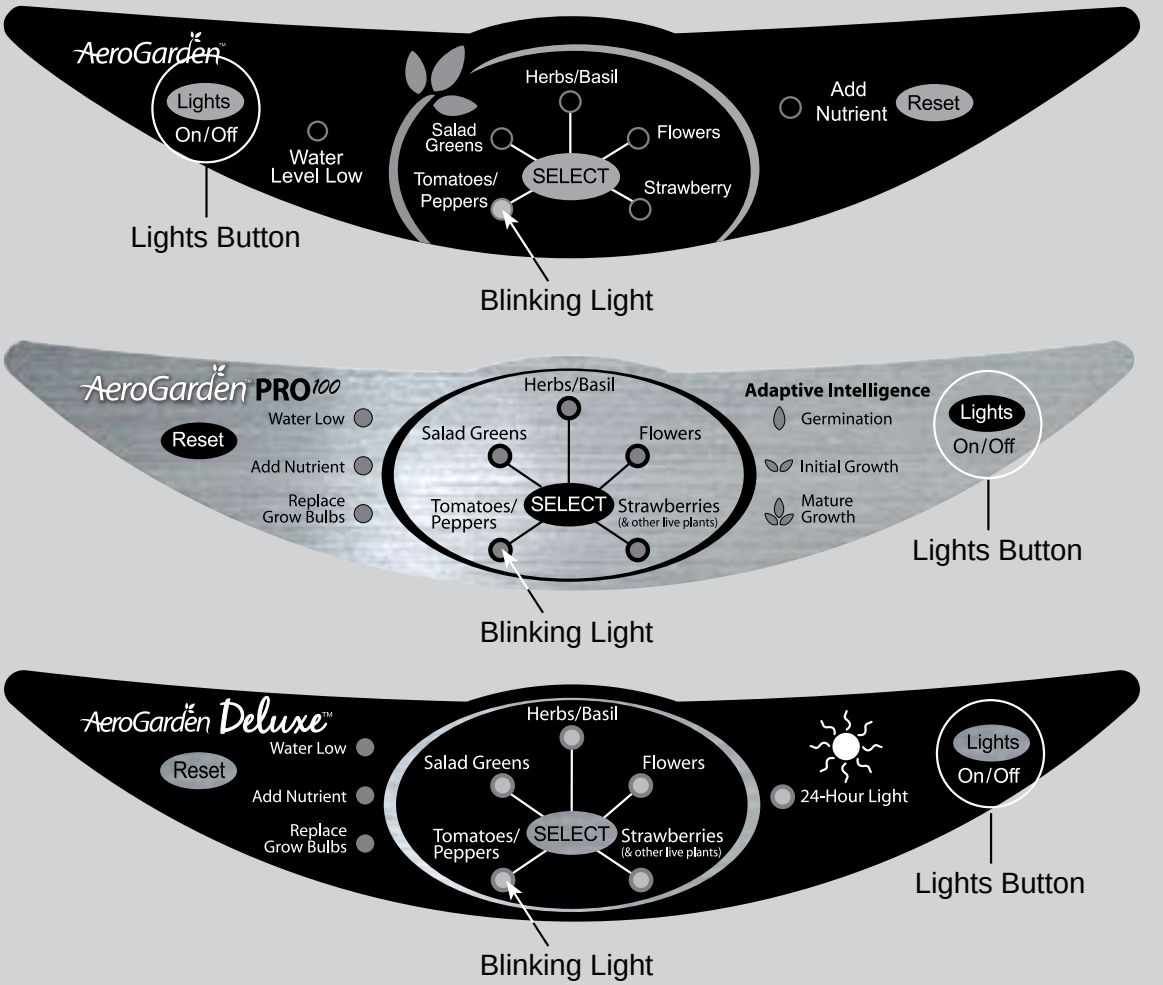
NOTE: If reflection from your AeroGarden lights is visible from your bedroom, you may want to set the lights to go off about the time you usually go to bed, so as not to disturb your sleep.

5 Simple Steps...

In order to make this as simple as possible you only need to set the time you want the lights of your AeroGarden to go off (Off Time) and your built-in light timer automatically sets the On Time... nothing more for you to do.

Do the following to set the time you want your lights to go off:

1. Decide what time of day you want the lights to go *OFF*.
2. *AT THAT TIME* check that the lights are on. If they are off, quickly press the *Lights* button and immediately release.
3. Press and hold the *Lights* button **until** the green light next to "Tomatoes/Peppers" starts blinking–about 5 seconds.
4. Release the button.
5. When the blinking stops *(about 9 seconds)*, the lights will go off. Your lights are now set to go off at this time every day.



Now, each day, your AeroGarden lights will automatically:

- Turn off at the time you set using the steps on the previous page
- Remain off for 8 hours
- Turn on for 16 hours

You can reset your timer as often as you want.

NOTE: In case of power failure, your AeroGarden has a backup system that stores your light and nutrient timers and plant selection settings. When the power is restored, your AeroGarden will go back to the Off-On cycle you have set.

Questions and Answers – Nutrients

What is in the nutrient tablets?

AeroGarden nutrient tablets consist mainly of mineral salts. These provide the 13 micro- and macro-nutrients that all plants require, in just the right proportions for your seedlings. The tablets also contain:

- Seaweed for a boost of 65 micro-nutrients and trace elements
- A buffer so you can use tap water for your plants
- A binder to hold the tablet together

Are the nutrients organic?

The AeroGarden nutrient tablets are organic, according to current AAPFCO (American Association of Plant Food Control Officials) standards.

Can I use leftover nutrient tablets from an AeroGarden *Seed Kit (such as Salad Greens or Gourmet Herb)* with my *Garden Starter*?

No. The nutrient tablets are specially formulated for the *Garden Starter Tray*. Using nutrient tablets from an AeroGarden *Seed Kit* may harm your seedlings and result in less than optimal growth.

Reminders About Your AeroGarden Setup

Please use the Quick Start Guide included in your original AeroGarden box for more detailed setup instructions. If you no longer have your Quick Start Guide, you can find a copy of it on our website at www.aerogrow.com.

Setting up Your Garden

1. Is the *Lamp Arm* firmly inserted into the *Base*?
2. Are the *Grow Bulbs* firmly inserted into the sockets in the *Lamp Hood*?
3. Is the Lamp Cord plugged into the *Lamp Hood*?
4. Is the *Bowl* securely placed in the *Base*?
5. Is there water in your *Bowl* up to "Fill To Here"?
6. Is your *Lamp Hood* at the lowest level?

Planting Your Garden

7. Did you remove the *Grow Surface* (and pump) from the AeroGarden?
8. Did you plug in your AeroGarden?
   - Are the *Grow Bulbs* on?
9. Is the *Garden Starter Tray* firmly inserted into your *Bowl*?

Starting Your Garden

10. Did you select "Tomatoes/Peppers"?

Cleaning Your AeroGarden

1. Clean the *Bowl*.

   Use a soft cloth or sponge to thoroughly wipe the *Bowl*. A mild soap may be used if desired, but rinse thoroughly.

2. Sanitize your *Bowl*.

   - Fill *Bowl* 3/4 full with water.
   - Add 1 cup of chlorine bleach or disinfectant cleaner.
   - Use a scrub brush to gently clean inside of *Bowl*.
   - Empty bleach water from *Bowl*.
   - Rinse *Bowl* thoroughly with tap water.

3. Towel dry the *Bowl* before setting it back on the *Base*.

4. Your AeroGarden is now ready for another *Garden Starter Tray*. To prepare your AeroGarden for one of our *Seed Kits* with *Seed Pods*, simply replace the *Grow Surface* (and pump) back into your *Bowl*.

5. If you have an AeroGarden with a backup battery and you plan on storing your garden before replanting, remove the backup battery from the underside of the *Base*. If you need to replace the backup battery, use any CR2032 3-volt lithium battery.

   (Newer AeroGardens no longer rely on batteries to power the backup system.)

You can reuse your *Tray* by purchasing a *Garden Starter Tray Refill Pack*, which includes 70 pre-moistened *BioCells* with universal *Dibbles* and 10 additional nutrient tablets. This *Refill Pack* is available at our website, www.aerogrow.com, or by calling Customer Service at 1-800-476-9669.

> ! *Use only water and mild soap when cleaning your AeroGarden (except when Sanitizing–Step 2). Do not use abrasive cleaners or run through the dishwasher.*

To clean your Tray *before reusing:*

- Rinse the *Seed Starter Tray* in water to remove plant or *BioCell* debris. A small scrub brush or old toothbrush is helpful for this task.

Sanitize Seed Starter Tray:

- Fill a sink or 5 gallon bucket with water.
- Add chlorine bleach to make a ½ percent solution (¼ cup bleach per 5 gallons of water).
- Dip *Tray* into solution for 2 minutes giving it an occasional swish or scrub. (If the entire *Tray* does not fit into bucket/sink, turn it around to ensure that you sanitize all parts of it.)
- Rinse *Tray* under cold running water for about 2 minutes.

Place BioCells *in* Tray *(Do this when you are ready to plant seeds.)*

- Remove pre-moistened *BioCell* from bag.
- Place *BioCell* into *Tray* so that the *Dibble* is on top. (*BioCell* is tapered, with the lower section narrower than *Dibbled* top.)

Your *Garden Starter Tray* is now ready for seeding. If you are not going to seed it right away, store it in an airtight bag to keep the *BioCells* moist.

NOTE: Don't worry about discoloration of the Tray. *As long as the* Tray *is sanitized, staining will not effect the growth of your next planting.*

Please refer to "Putting It All Together" on page 9 of this Guide for information on using the *Planting Schedule*.

Planting Schedule

Last Frost Date:

Plants	Weeks to Grow	Earliest Seed Starting Date	Ready to Harden Off	Transplant Date	Notes

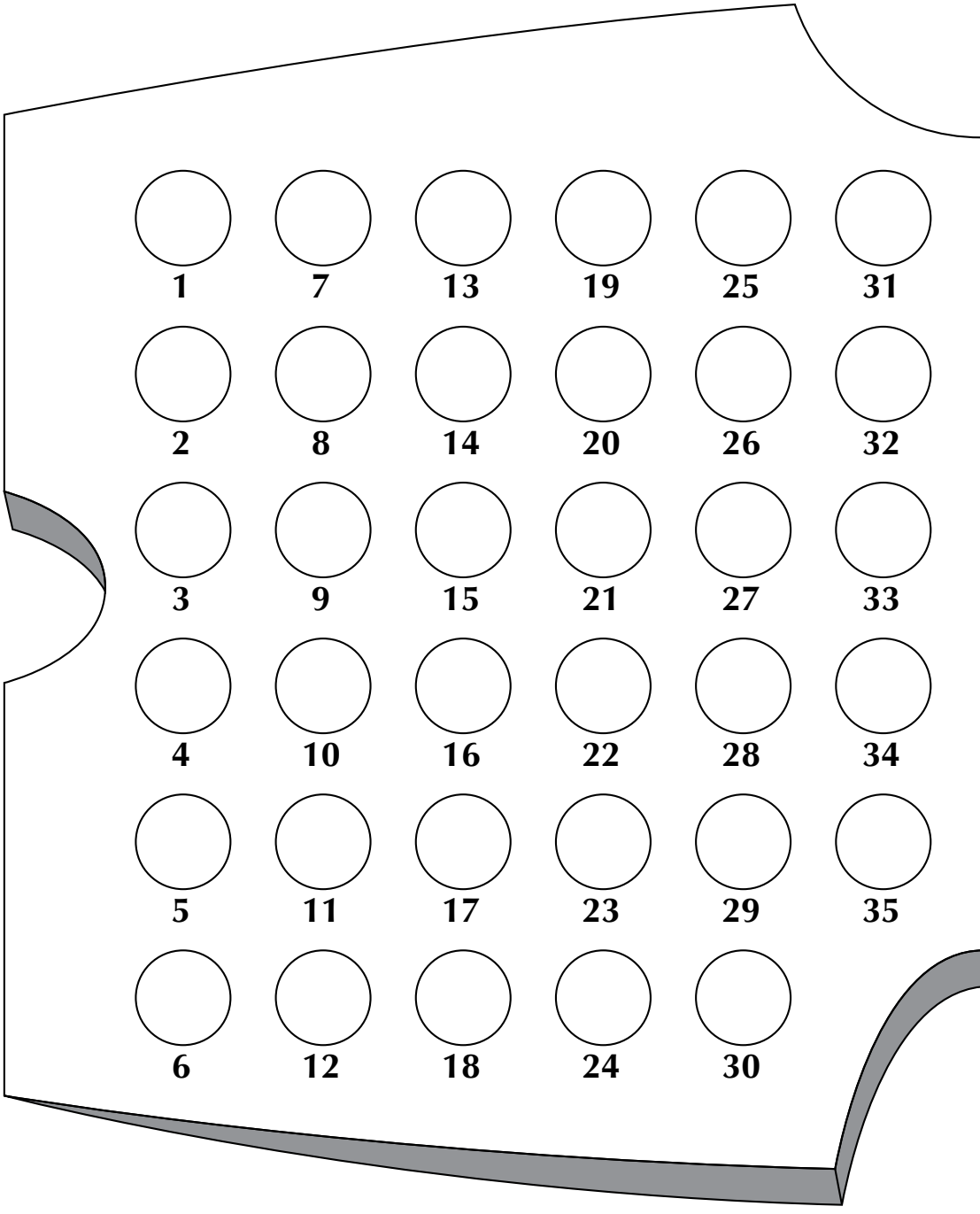
Planting Schedule

Last Frost Date:

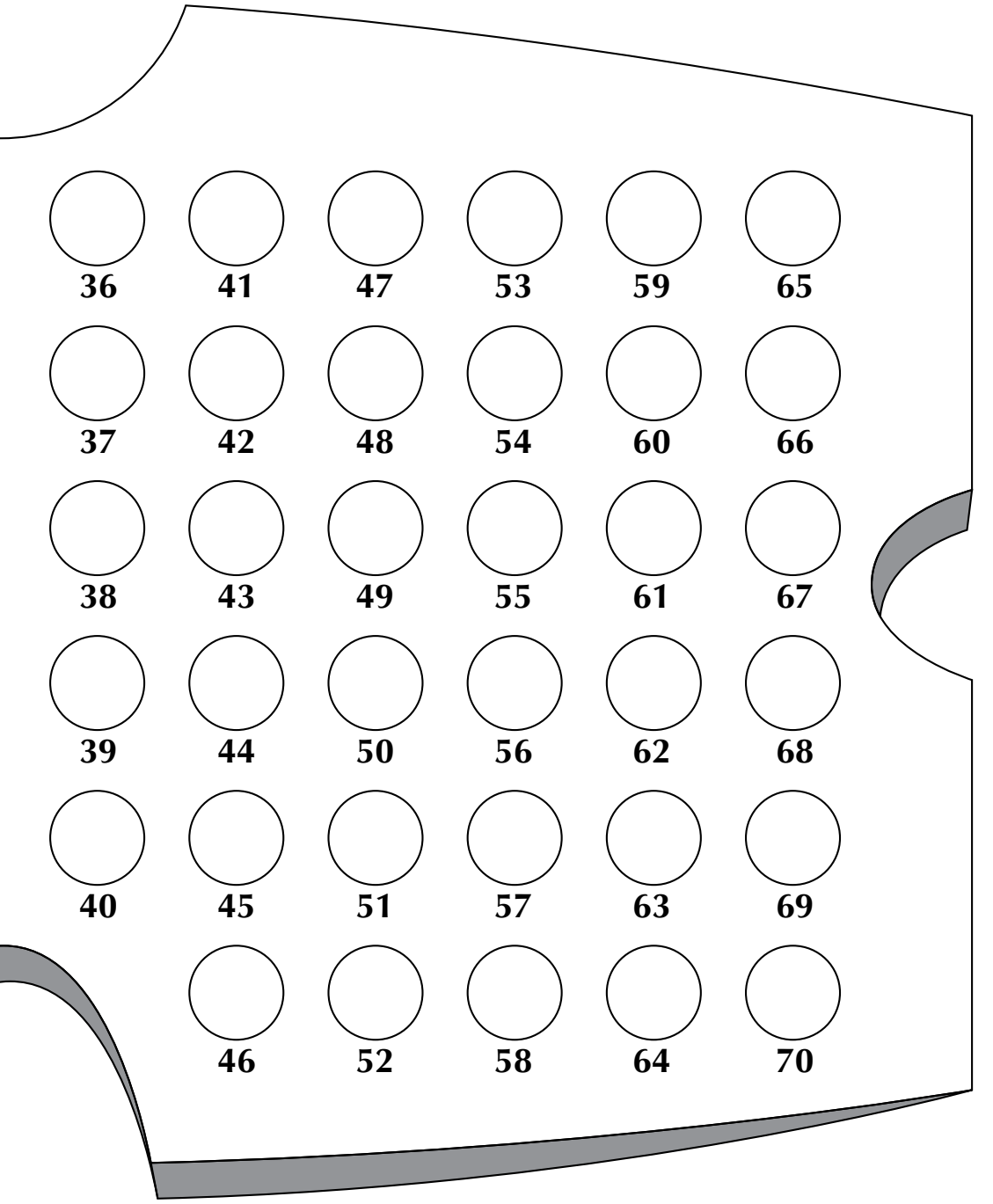
Plants	Weeks to Grow	Earliest Seed Starting Date	Ready to Harden Off	Transplant Date	Notes

Seeding Plan

Use this blank *Tray* layout to record your seeding plan. Please refer to the "Your *Garden Starter Tray*" section of this Guide on page 12 for



additional information on using the *Seeding Log*. If you need additional space to write, use the numbered *Seeding Log* on page 45.



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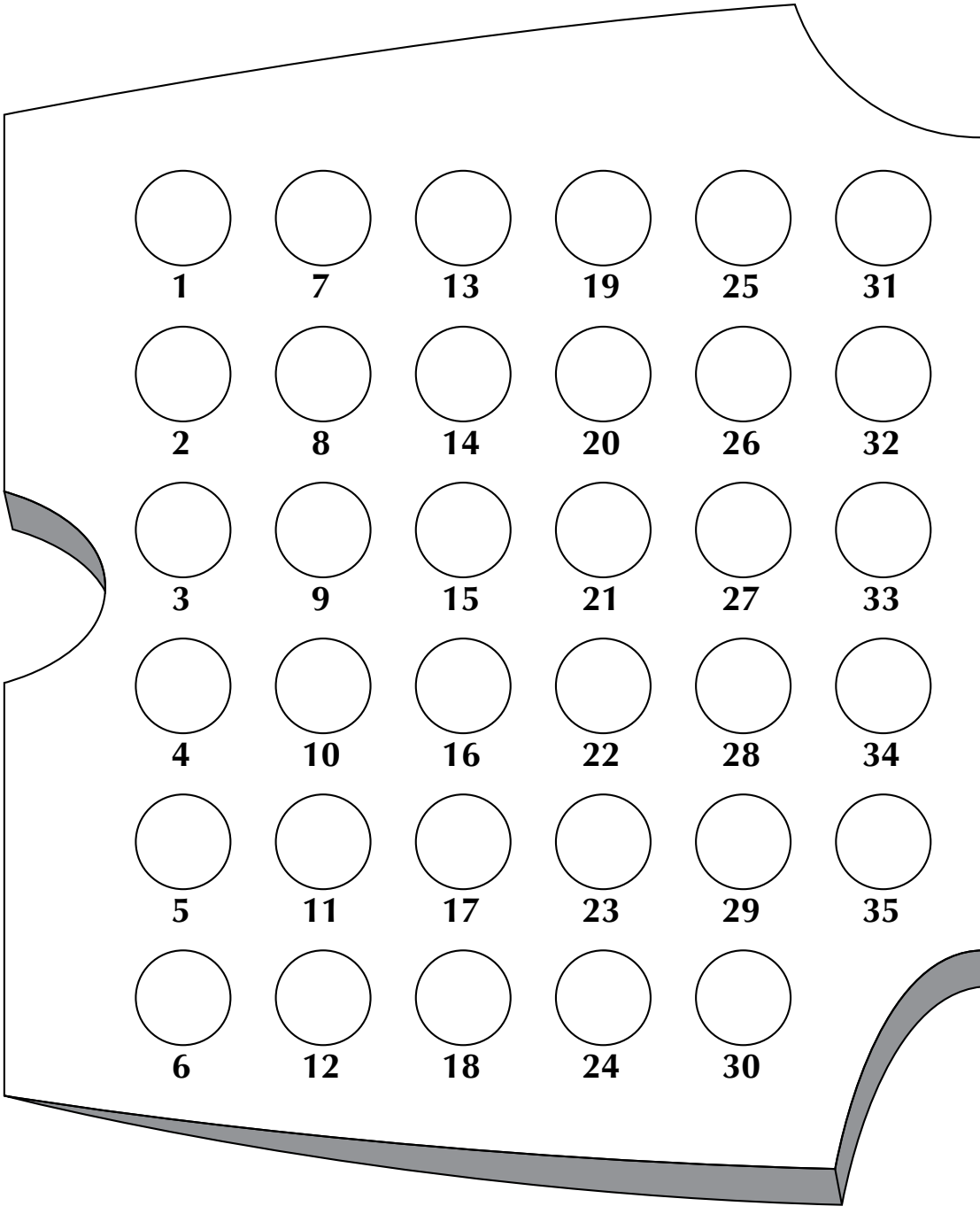

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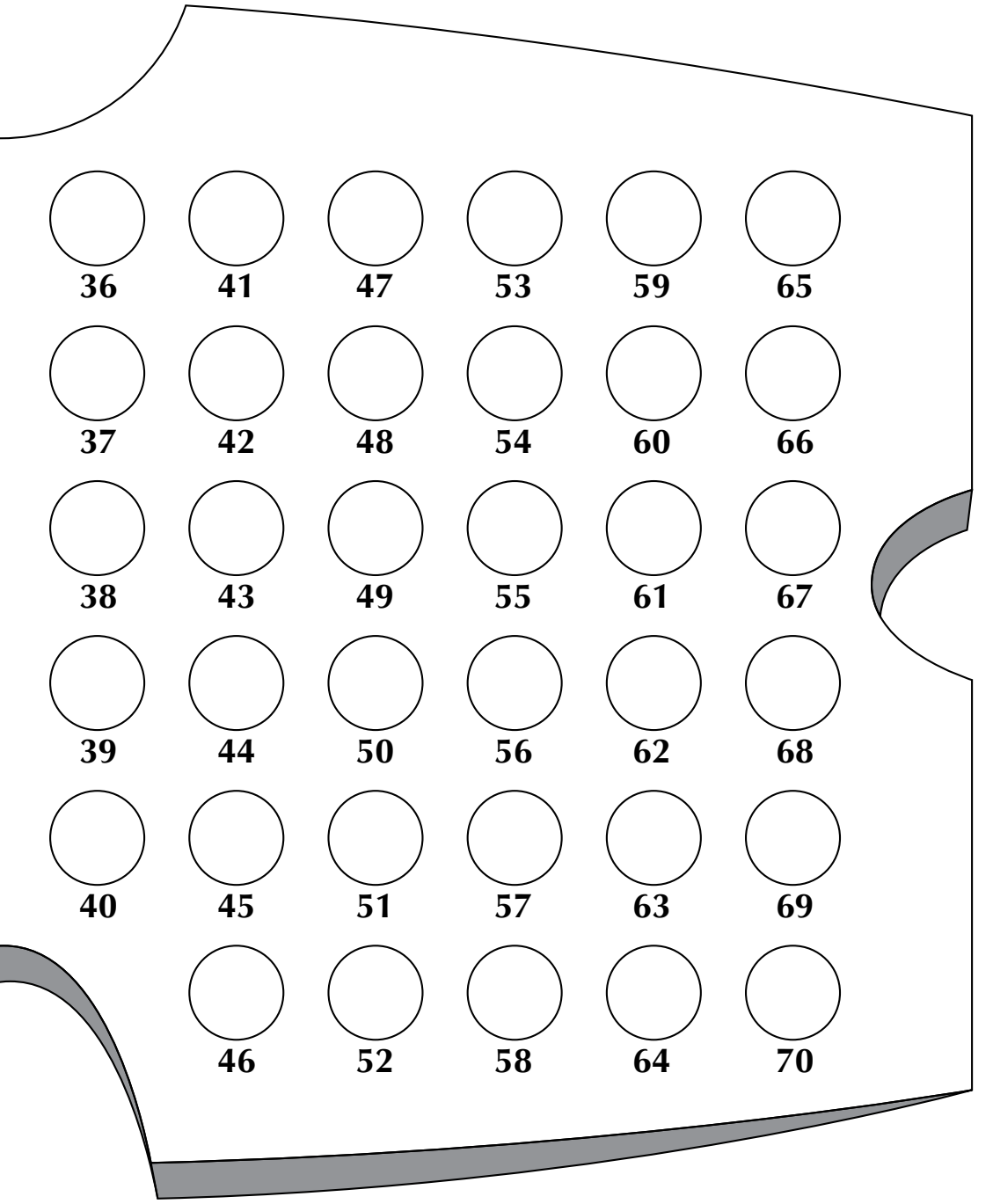

Seeding Log

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AeroGarden™

Garden Starter Tray Limited Warranty

What Is Covered

This warranty covers any defects in materials or workmanship of the *Garden Starter Tray* with the exceptions stated below.

How Long Coverage Lasts

This warranty runs six (6) months from date of original purchase for the original purchaser/user.

What is Not Covered

The warranty shall not apply to problems arising from: normal wear; failure to adhere to included instructions; serial numbered products if the serial number has been removed or defaced; products subject to negligence, accident, improper use, maintenance or storage; products damaged by circumstances beyond AeroGrow International, Inc.'s control; loss or damage to removable parts; or products modified (including, but not limited to, modifications through the use of unauthorized parts or attachments) or repaired by anyone other than AeroGrow International, Inc. or its designee. This warranty does not cover non-germination or unsatisfactory plant growth resulting from customer's selection of materials (including seeds) and/or methods (including planting and tending). This warranty excludes all incidental or consequential damages. This warranty becomes void if the *Garden Starter Tray* is used in a growing system other than the AeroGarden and/or made by any manufacturer other than AeroGrow International, Inc., or if materials not provided or recommended by AeroGrow are applied to the *Garden Starter Tray*.

What AeroGrow Will Do

AeroGrow International, Inc., at its option, will repair any defects in materials or workmanship or will replace these products with ones of similar features and price. AeroGrow International, Inc.'s sole obligation and your exclusive remedy under this warranty shall be limited to such a repair or replacement.

How To Return This Product

If you have questions or concerns with your *Garden Starter Tray*, please **do not return to retailer**. Call Customer Service at 1-800-476-9669 for return authorization and instructions. Unauthorized returns, as well as C.O.D. shipments, will be refused.

Due to continuing improvements, actual product may differ slightly from the product described herein. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other legal rights that vary from state to state. If you have any questions please feel free to contact our customer service representatives at customerservice@aerogrow.com.

AeroGrow International, Inc., P.O. Box 18450, Boulder, CO 80308

www.aerogrow.com

The AeroGarden™

AeroGrow International, Inc.
P.O. Box 18450
Boulder, CO 80308

NEED ADDITIONAL HELP?

Call: 1-800-476-9669
Email: customerservice@aerogrow.com
Visit Our Website: www.aerogrow.com/help