

All About the Coliseum indoor garden



height = 7 feet 4 inches



This gardener is shown to scale.



Diameter = 6 feet

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What is the Coliseum?

It is a durable indoor garden system designed to capture more light energy and provide a better spectrum of light in a cost-effective manner. It will help you grow 300 or more plants in a small area. On a per plant basis it is cheaper to buy than traditional flat gardens when the cost of lighting equipment is included. It will save indoor gardeners electricity and space on an ongoing basis.

Of all Westside Technology garden systems, the Coliseum will give you the highest yields in the shortest amount of time. A Coliseum using a 70/30% perlite/vermiculite mix or other suitable media in the root space will enable you to grow an efficient, highly productive garden.

Dimensions:

each module	height: 40.5"	each reservoir	height: 7"
	length: 66"		length: 70.5"
	width: 31"		width: 35"

Two different system configurations to consider:

#1. Media filled, Top Feed, Once Through Configuration

#2. Aeroponic configuration

Total number of plant sites

1 module	1 module + 1 reservoir	25, 40 or 75
2 modules	2 modules + 2 reservoirs	50, 80 or 150
4 modules	4 modules + 2 reservoirs	99, 160 or 300

Every Coliseum includes one of the following kits.

The **Complete Parts Kit** includes: 1 cycle timer, 1 water pump, 1 nutrient feed manifold to connect up to four modules to only 1 pump, 1 inline water filter, mesh baskets, drain fittings, and nutrients.

The **Basic Parts Kit** includes: 1 nutrient feed manifold, 1 inline water filter, mesh baskets, drain fittings and nutrients.

Air movement

A seabreeze Cool Sweep® air fan with oscillating deflector fins or other fan is recommended to provide good air movement and air exchange around the plants. Place your fan at the bottom of the system pointing up. Fans are not included.

Minimum pump pressure required

The minimum is 9 pounds per square inch. The pump included in the complete kit will produce at least 13 p.s.i.

Bloom stage timing

When it is your plant variety's first time being grown in the Coliseum, begin flowering when plants reach a height of approximately 6 inches tall. You could then adjust that height in future crops of the same variety until you reach the perfect mature height.

Lighting

Suggested lighting for 2 modules side-by-side (total height of 41 inches) is one 400 Watt metal halide and one 400 Watt high pressure sodium (HPS) lamp, or one 400 Watt metal halide with one 600 Watt HPS, or one 1000 Watt HPS lamp.

For 4 modules (82 inches high) we suggest:

Two 400 W HPS's with two 400 W metal halides, or
two 600 W HPSs with two 400 W metal halides, or
at the most, four 600 W HPS's

Tips from the inventor of the Coliseum

1. It is recommended that the Coliseum be filled with a medium that can hold a lot of air and water, such as a blend of 70 percent perlite with 30 percent vermiculite, peat, or coco fiber. I also recommend to most indoor gardeners to top feed, once through.

2. All Aeroponic systems demand close attention to factors such as ambient room temperature. Inexperienced growers should first gain the necessary experience. If the Coliseum will be used aeroponically we suggest a maximum room temperature of 75 degrees Fahrenheit (24 degrees Celsius). Water temperature should be kept between 60 and 72 degrees Fahrenheit. The pump should be turned on for 15 to 30 seconds every 1 to 5 minutes.
3. All re-circulating systems demand close attention to pH and nutrient levels. If you recirculate your nutrient in the Coliseum then we suggest replacing the nutrient solution at least once per week.
4. During every nutrient change after draining out the waste solution we suggest that the system be run continuously for one hour with a mild solution of hydrogen peroxide (2 mL of 35% hydrogen peroxide per gallon [4 L] of fresh water). This will clean the misters, prevent salt build-ups, and disinfect the inside of the system.
5. We recommend you check your pump filters regularly to ensure they are clean.
6. If the water pressure is below 10 pounds per square inch then we recommend checking the spinners inside the Coliseum to ensure they are working properly.

In a Coliseum made with only 99 plant sites, each site is 15 inches from the next closest one. A plant has about 18 inches before it runs into the plant site vertically above it. You can grow nice 24-inch plants in each site without them impeding each other's growth.



15-inch spacing side-to-side.
18-inch vertical center spacing.
4 modules like this would have
99 plant sites.



Plant sites in the lower module have 5-inch
center spacing from side to side but the
same vertical spacing. Four modules
like this one would have 300 plant sites.

The 99 plant Coliseum is a 300 plant site Coliseum with every third hole drilled out. For the same effect, it is very easy to use the 300 plant Coliseums and only use ever third hole. Plug the empty holes with the plastic covers that are included in the Coliseum box. This is one of the nice things about the Coliseum – each crop it is easy to change the number of plants you grow and the spacing between the sites.

Let's compare 4 vertical systems and a flat system

The basic assumptions for all systems are that plants are to be grown between 12 and 20 inches tall with only 12 inches of light penetration. We will assume there is 12 inches of light penetration for every system;

- Coliseum canopy height 84 inches, Outer radial to plant 26 inches, Inner radial to plant 14 inches. Using basic math calculations we get 73 cubic feet of properly lit canopy.
- Grow Cube canopy height 62 inches, Outer radial to plant 30 to 36 inches, Inner radial to plant 18 to 24 inches. Tray 44 inches by 44 inches. We then get 81 cubic feet of properly lit canopy.
- Cage canopy height 62 inches, Outer radial to plant 18 inches, Inner radial to plant 6 inches. We get 32 cubic feet of properly lit canopy. We can get more cu*ft if we twist the columns outward.
- Omega garden sea of green (SOG) system. Given a 16 inch tall plant with 12 inches of light penetration the Omega gives:
Outer radial to plant (24" - 4") 20 inches, Inner radial to plant (24" - 16") 8 inches, Width 40 inches. We get 24 cubic feet of properly lit canopy.
- Flat SOG system 44 inches wide by 44 inches. We get 13 cubic feet of canopy that is lit too much in the center and under lit on the edges.

The Wattages that are used in each of the systems are 1600 Watts for the Coliseum, 2000 Watts for the Grow Cube, 1000 Watts for the Cage, 1200 Watts for the Omega garden and 1000 Watts for the 4' by 4' tray.

So if we used the SOG system as the norm and used 1.3 lbs per 13 cubic feet, we would expect 0.1 lb per cubic foot, which is a good yield for the flat system. Using the 0.1 lb/ cu*ft for each of the system we would expect a good yield to be:

Coliseum: 7.3 lbs (with 1600 Watts)

Grow Cube: 8.1 lbs (2000 W)

Cage: 3.2 lbs (1000 W)

Omega garden: 2.4 lbs (1200 W)

Flat SOG system: 1.3 lbs (1000 W)

That's the simple math behind why the gardens perform as they do. You can see that many Cage growers are around 0.1 lb per cubic foot or 3.2 lbs.

Why do I like the Coliseum more than the Cage or Grow Cube?

It can be quite difficult to grow a plant in a small amount of medium. Each column offers 12 liters of medium for six plants. That's 2 liters of medium per plant. It is quite

difficult to grow a Cage size plant in 2 liters of medium. This is why column growers generally take three tries to reach the 0.1 lb per cu*ft norm.

The Coliseum offers 3.3 liters of medium per 5 inch diameter plant (300 plants per Coliseum) or 10 liters per 15 inch diameter plant (99 plants per Coliseum). Growers will find the Coliseum a much easier system in which to grow and obtain larger yields. In the Coliseum it is much easier for growers to reach the 0.1 lbs per cu*ft norm (7.3 lbs for a Coliseum). This simple gardening fact – that more medium will help you grow more plant material - explains why I like the Coliseum better than the Cage or Grow Cube.

Frequently Asked Lighting Questions

Question:

One 600 Watt lamp puts out more light than two 400 Watt lamps. I'm looking at 2 600 Watt lamps per Coliseum. Any thoughts?

Answer:

If you were thinking of a Coliseum with four modules, using two 600 W HPS will not give you a very even light coverage for the plant canopy. Three 600 Watt HPS lamps would give you a much more even canopy. In vertical array lighting more lamps will result in a more even, more equal light intensity to the plants. Two 600 Watt HPS's produce 180,000 lumens of HPS light and four 400 Watt HPS's produce 224,000 lumens of HPS light. But the number of lumens is not everything. Light spectrum is also important. That's why I suggest mixing metal halide and HPS lamps. If you want to use the 600 W HPS's then I suggest placing a 400 Watt metal halide Sunmaster Warm Deluxe in between them. That would give you 1600 Watts or 230,000 lumens of mixed spectrum lighting in a four module Coliseum. However, these three lamps will not produce a light coverage that is as even as using four 400 Watt lamps.

I think five 400 Watt lamps would fit in the Coliseum but two 600 Watt HPS's and two 400 Watt Sunmasters would produce a higher lumen output (280,000 lumens) for the same 2000 Watts. The five lamps would definitely give a more even light coverage. I believe a Coliseum with four 250 Watt lamps or five 250 Watt lamps would produce the highest yield/Watt/(unit time) measurement.

Question:

Can you stack four 1000 HPS lights in a Coliseum?

Answer:

I think four 1000 Watt lights would be too long to fit in the Coliseum. It would be too much light for the Coliseum. You would definitely have to use water cooled lights because even an air cooled shade would emit too much radiant heat. Otherwise the plants would cook. I would not recommend more than 2000 Watts in the Coliseum. You might get away with four 600 Watt lamps.

Question:

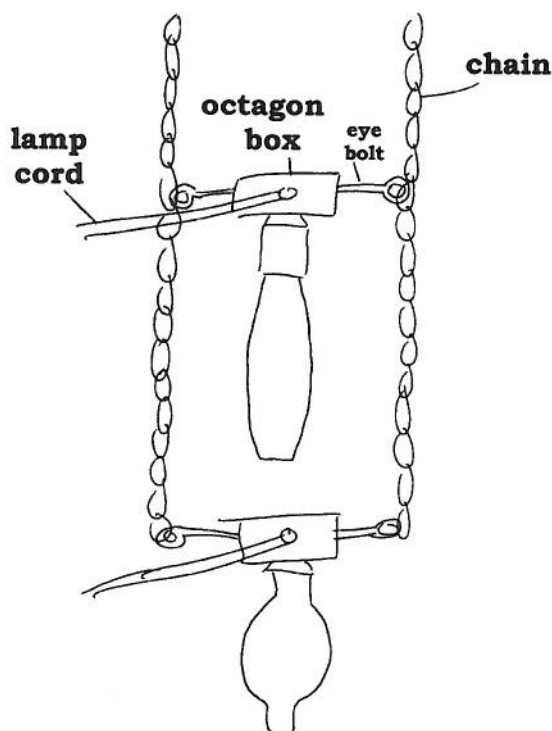
Do you get overshadowing from the lower plants?

Answer:

You definitely could with any plants over 12 to 14 inches tall. But hey - this is good. If, along the outer perimeter, you can get an absolutely solid wall of plant material with very little leaf then, my God! That's all I can say. That's what we want you to do. I would recommend 12 to 16 inch tall plants at full stretch. That's where I think your biggest yield will be. But if you overgrow it some, I might be totally surprised.

General Comments:

The terra cotta color does absorb more heat but the red orange spectrum also initiates flowering faster. The blue created from the MH in the mixed array suppresses the elongation. Remember, my designs do not focus on reflecting light but on actually capturing it the first time. Once the plant canopy fills in the color of the grow system will play a minor roll; the surface being lit will be green with plants.



The lamp cord should enter the octagon box through the side of the octagon box.

Frequently Asked Aeroponic Questions

Question:

I like to grow aeroponically. Why do you recommend filling the Coliseum with a medium such as perlite/vermiculite, perlite/peat, or straight perlite?

Answer:

We recommend the media-filled Coliseum because of simplicity. The media-filled Coliseum is easy to grow in and gives good results. The Aeroponic Coliseum, like all other aeroponic systems, requires constant monitoring to ensure the pump is working and the water supply has a proper pH, EC, and temperature. One disruption in water supply for more than 6 hours can devastate an entire crop. We recommend media-filled systems fed with the top feed once through method in the hot months of the year. When the weather is cooler and the water temperature can be maintained below 20 C or 70 F, using aeroponics will be easier.

Question:

Are you recommending the media-filled version of the Coliseum simply because of the higher maintenance involved in the aero version?

Answer:

We recommend it because it is simpler and easier to use, but also because of the smaller chance of crop failures. I hate to see someone lose a crop in an aeroponic Coliseum because of aeroponic problems and then blame the Coliseum.

Question:

Is it true you will be redesigning the reservoirs so that a person will not be standing on them while inside the unit?

Answer:

Yes, we are in the process of making a newly designed reservoir. The concerns I have heard from my friends are: (a) the reservoir is too large (200 Gallons) leading to too much waste water in an aeroponic system, and (b) one must stand on the reservoir to maintain the plants. Both of these problems will be solved with our next reservoir.

Question:

What's the difference between the media-filled model and the aeroponic model?

Answer:

The media-filled model and the aeroponic model are exactly the same except the aeroponic one includes the custom fit reservoirs. Therefore one can buy a media-filled model now and then buy the newly designed reservoirs later. The system can be run aeroponically without the reservoir but watch out for a slight leaking onto the floor due to water dripping past the mesh baskets.

Both systems have a filter system to keep the sprinklers from clogging. They both use 12 g.p.h. mini sprinklers to create a mist. The 10 p.s.i. created by our standard 1200 g.p.h. Little Giant pump is the minimum pressure needed to run the mini sprinklers well. If you wish, the mini sprinklers can be removed and easily replaced by mini sprayers, or the water holes in the Coliseum can just be left open to create a jet spray system. Mini sprayers will need at least 25 p.s.i. to run well. As you increase the size and pressure of your pump, the mist size will become finer and finer.

Question:

In the aeroponic Coliseum, for how long do the reservoirs last when completely filled?

Answer:

When plants are at the stage of maximum water uptake the reservoirs will provide approximately 8 days worth of solution.

Question:

Is the nutrient recycled?

Answer:

Nutrient solution must be recycled in the aeroponic system or else you will waste a tremendous amount. If the Coliseum is filled with medium the top feed once through method is recommended, although recycling the solution is an option.

Question:

After the harvest are aeroponic Coliseums easier to clean than those filled with media?

Answer:

We found it easy to clean a system filled with GGold Hydromix (70% perlite/30% vermiculite). A good shop vac sucked out the wet medium quickly.

I have also tried leaving the medium in the Coliseum and just removing the roots within the mesh baskets. The medium was then flushed with 2 ml/ gallon of 35% hydrogen peroxide and some surfactant (e.g. Sunlight detergent). It was allowed to sit overnight and then flushed with water. A solution with some organic and helpful bacteria was added to the Coliseum. Then plants were inserted for another crop.

General comments:

If you are familiar with aeroponics you should have no problems growing in an aeroponic Coliseum. We often grow with aeroponics in the winter but then switch to using a medium and top feeding once through during the summer.

Recommended Practice for Starting Plants In the Coliseum

For beginners without any prior growing experience the recommended practice is:

1) Start clones in 1.5 inch biostarters or a mix of 50% Sunshine Mix #4 and 50% perlite. (This will make a nice 70-30 perlite-peat mix). Use a 36 plant insert tray. These are the two methods with which beginners will have the most success.

2) Then progress into a Coliseum filled with a 50-50 Sunshine Mix #4 and perlite or 70-30 perlite-peat mix. Make sure you take the plants out of the mesh baskets or 3.5 inch pots before putting them into the Coliseum.

* Three reasons to use the perlite-peat mix are:

- I. It is very forgiving for beginner growers
- II. it has excellent wicking ability, and
- III. you can make pH and EC mistakes without your crop dropping dead.

For more experienced growers, after learning your pH and EC skills, the recommended practice is:

- I. Start clones in 1.5 inch biostarters.
- II. Transplant plants into 3.5 inch pots or mesh baskets filled with a 70-30 perlite-vermiculite mix. Either hand water the plants or use a flood and drain tray until there is a healthy root mass. The flood and drain tray will work well for this stage of plant growth. If you use mesh baskets then put larger pots around them.

3) Then progress into a Coliseum filled with a 70-30 perlite-vermiculite mix. Make sure you take each plant out of its mesh basket or 3.5 inch pot before placing it into the Coliseum. (If there is a healthy set of roots outside the mesh basket, you may leave the plant inside the mesh basket.)

** The advantages of a perlite-vermiculite mix are:

- I. It is easier to clean the Coliseum after harvest time
- II. the medium can be flushed out and cleaned better
- III. it can be reused indefinitely after proper cleaning
- IV. it compacts less than 5 percent
- V. it is perfectly sterile, and
- VI. it contains no hidden pests.

Coliseum Floor Space: With or Without Reservoirs?

Regarding the floor space required, the Coliseum reservoirs will normally not have to be moved away from each other. Most people can do all their work without moving them. The Coliseum modules will normally open up wide enough by sliding apart on top of their respective reservoirs (approximately one foot apart). If you are a very large person then you may not get through that one foot gap and you may have to spread the reservoirs a little. But I have had some 250 pound persons getting through a normal Coliseum gap. People are able to step inside the Coliseum and walk on the reservoir ridges.

Before you do step inside the Coliseum, I would recommend that you turn off the three lowest lights and wait for them to cool down (1 minute for 400's, 3 to 5 minutes for 600's and 1000's).

The biggest challenge is getting inside the Coliseum and maintaining the plants once the plants grow bigger. The lights don't leave you a lot of room. But any stadium grower has the same problem. In designing the Coliseum I disregarded ease of use in favor of higher yields. I thought it was a fair tradeoff for the more advanced growers who would want higher yields.

If you choose not to purchase the Coliseum reservoirs then you can expect some water to collect on the floor. To date I have not been able to seal up 100 percent of the mesh baskets in a Coliseum or Cage, so you always get a small amount of dripping. If you don't mind not having a reservoir to catch that and you are on plastic and can take a mop in there to mop that up, then you are perfectly fine going cheap. If you don't like the dripping then make sure you buy the Coliseum reservoirs. I made the reservoirs so that the dripping would go into the reservoirs. Another option is to obtain a *Coliseum Drain Kit* specifically designed for the bottom of the bottom modules of a coliseum.

Keep Your Pump Alive

In a Coliseum you can grow plants as big as 5 inches wide and 12 inches high before they start impeding adjacent plant sites. I was the designer of the Aero-Pod tray out there. It used two mini-sprinklers per 5 gallon bucket, growing in an aeroponic system. It worked very, very well. A good filter kept most of the problems away. In aeroponics, everything requires your water pump to be alive.

If you think you can get a more reliable pump than the Little Giant Water Wizard, then get one. If your pump dies, you have very little time to actually get in there and save your plants.

You also have to watch your water temperature. Once you start getting above 72 degrees Fahrenheit you are going to run into major problems. Pathogens just love

hydroponic systems above 72 degrees F. If you can, try to have your water temperature at approximately 65 degrees F.

Start with a COMPLETE Nutrient Formula

Stick in your complete nutrient (GH, Canna, or GGold) and a little bit of organic nutrients (I like MetaNaturals). Add an active bacteria to your water and then add some B'Cuzz to the water. This combination does amazing things. Once per week spray with GGold Boost and fulvic acid.

I can't give you a better nutrient program than that. There's a lot of people out there who feed you a lot of lines. This is not a line. This is what I've seen work and that's why I push it. I push it because it works. I can give you countless tests that it works better than most other things on the market. Although I'm not going to slag any product, a good share of them quite often can bring down your yields, especially when you're overdosing with a lot of things. The chief thing is to get a good, COMPLETE nutrient formula to start with. Then you add your cytokinen bases, your amino acid bases, and your fulvic acid along with the complete formula. Also try to create a very good, healthy, active bacteria in your system because it will keep away a lot of problems and create a micro culture in there that your plants just love. If you're worried about your sprinklers clogging (which could happen) then just go with GGold nutrients and the B'Cuzz (neither of these will clog the emitters) and spray the fulvic and Boost.

Just be careful not to add too many other things. What I listed will give you the best yield. Once you start adding things you'll get a worse yield; I can almost guarantee that.

Coliseum Assembly Instructions

- 1) Remove the shrink wrap material from the Coliseum modules.
- 2) Install three drain fittings in the bottom of each module. Make sure the washers are located on the interior side. Tighten the drain fittings.
- 3) For the aeroponic models place the bottom left module and bottom right module on their respective Coliseum reservoirs facing one another. For the media filled models, place both bottom modules on bricks or solid blocks that are 5 to 8 inches tall. Use three or more blocks per bottom module.
- 4) For Coliseums with more than two modules, stack the two top modules on top of the two bottom modules. Simply elevate each top module and insert its three drain fittings through the matching holes in the module underneath. This will provide a solid fitting between modules. If you need even more stability, you can purchase additional drain fittings, take the nuts from them, and attach the nuts to the drain fitting pieces that have gone through the holes.

- 5) Cover with clear packing tape the six 1-inch holes on the upper side of the top modules (two modules, three 1-inch holes on the top of each module).
- 6) Connect the hose located on the side of each module to the manifold piece.
- 7) Connect the manifold piece to the pump.
- 8) If you purchased the Coliseum reservoirs place the water pump in one of the reservoirs and proceed to step 10 of these instructions.
- 9) If you did not purchase a Coliseum reservoir you may collect the waste water by placing a bucket or other container under all 6 drain holes or:
 - 9a) Purchase the Coliseum Drain Kit or the following: 18 or more feet of $\frac{3}{4}$ inch hose, five $\frac{3}{4}$ inch tee's, two $\frac{3}{4}$ inch elbows, seven $\frac{3}{4}$ inch hose clamps, one $\frac{3}{4}$ inch drain fitting and an external reservoir.
 - 9b) If you recirculate the nutrient have a reservoir with a capacity between 30 and 85 gallons. For once through feeding have a reservoir with a capacity of 5 gallons or more.
 - 9c) Drill a hole in your external reservoir. Install the $\frac{3}{4}$ inch drain fitting (not included) in this hole. The external reservoir should be positioned lower than the bottom of the Coliseum.
 - 9d) Connect the tee's in a ring. Have one piece of $\frac{3}{4}$ inch hose going to each of the six drain fitting of the Coliseum. Have one going to the drain fitting on the external reservoir.
- 10) Connect the pump to the timer.
- 11) Test the Coliseum to make sure everything is working properly.
- 12) To help fill the Coliseum with a medium such as perlite use a large funnel. For example, use a 2.5 gallon (10 liter) plastic container with its bottom cut off.

