



Early Bird Nursery Paulownia

Indoor Paulownia Germination

This page is devoted to *paulownia seed germination* touching on one of the many ways to start Paulownia from seed. It's by far not the only way. There is nothing new to this technique. It is just borrowed from many other people and modified to suit Paulownia. The fact that you can do it in your home without a lot of money tied up in a greenhouse or beds, and you can raise up to 1,152 small seedlings in a 6 square foot area, makes it nice!! It gets you through the germination problems associated with Paulownia and to the point where the little trees want to grow.

Germination Requirements

****Important Points!****

- Seed require bright lights to germinate! 700 foot candles of energy or more
- Seed must remain moist 100% of the time 24hours/7days/week
- Do not sow the seed at a high density. They need room to grow.
- No fertilizer during the *germination* process (will grow algae)
- Humidity best at 90% to 100%
- Best temperature range is 70 to 85°F
- No weeds, pest, or diseases (use fresh commercial soil-less mixes for soil)



3 week old Paulownia Seedlings flats
Ready to trans-plant to pots

Left image sown perfect; Right image a little too thick
 (makes seedlings weak & spindly)

Materials/Supplies Needed

Not necessary, but helpful items:

All supplies listed below are common items and can be found in your home, local farm supply store, or building supply store. If you want to do an internet search for supplies, you can start at my [link page](#). The listing below is for one flat of seed. A **flat** is common container measuring about 12" x 21" x 2" (which is about 1.6 square feet). Most people use flats for starting vegetables and flowers. Here, we adapt to provide a germination bed for *paulownia*.

- 1 *paulownia* seed pack (1 tablespoon each)
- 1 flat with holes to hold soil less potting mix
- 1 flat without holes to hold water
- 1 - 2 gallons of high grade potting mix (seed started sphagnum mix)
- 1 clear plastic dome to go over the flats
- 1/2 - 1 tablespoon of instant potato flakes (optional, flakes help to sow the seed evenly)
- 8 fluorescent tubes lights (4 feet) or any high intensity light such as high pressure sodium or metal halide
- Potting trays to transfer 3 -4 week old seedlings into. Size is your choice, but 6" x 2" best
- Spray bottle & water to mist from top when necessary
- A container for mixing seed with potato flakes



Blue Lab Combo Meter



GE Light Energy Meter (foot candles)

Step by Step Germination Directions

For 1 Flat

#1

Mix the seed with the instant potato flakes into a mixing container to dilute the seed for even spreading. Flakes only aid in even distribution of seed and are not 100% necessary. Too much flakes can lead to poor results. Here I used a 20 ml measuring

tube to mix the seed. Note there is slightly more seed than flakes by volume.



- #2** Put about 1 1/2 gallons of water into the potting mix (starter sphagnum mix). Be sure all is well soaked.



- #3** Put the moisten potting mix into the flat that has the holes. **Evenly** spread the seed/potato mix on top of the sphagnum. **Leave it on top!** Do not mix into the sphagnum. Light on the seeds is required for *germination!* 700 to 1,000 foot-candles is best. The white showing on top is the potato flakes. It is very hard to see the *Paulownia seed*.



- #4** Fill the hole-less flats with water to a height of 2 to 3 cm and gently place the seeded flats on top of the water filled flats. Place the clear dome over the top of the seeded flat. This will make a miniature green house with an excellent environment for *germination* for the next 2 weeks.



- #5** If using fluorescent lights, place the seeded flat about 10-14 inches under. Here, I have use a metal halide light instead of fluorescent lights. The 700+ foot candles of energy is what is important. The clear dome should remain over the flat 24h/7 day for the next 2 weeks.



- #6** Only water when there is no visible water between the two flats. If no water, pour a small amount between the two flats. Wait for 2 to 3 weeks. Leave the lights on 24 hours each day. Don't let the temperature get below 70° F and not above 85 degrees



- #7** At 3 - 4 weeks, the small seedlings should look like this, ready to transfer to your lager pots.

#8 With a sharp pencil, transfer the small seedlings into the trays of your choice. These trays need to be filled and packed, with wet, high grade sphagnum mix before transferring. Once potted, place back under the your artificial lighting. No domes need any more.



#9 At this point, fertilizer can be used for the first time. Use water soluble at a rate of 700 to 1,000 ppm (parts per million). Any earlier, it would have burned the young roots and promoted algae growth. Water as needed. You only need keep the mix moist. Maybe 0.5 cm of water in the second flat.



#10 After 8 to 12 weeks from sowing, the seedlings will need to be hardened off by placing outside in a protected environment. Here I have place next to a rock wall. This buffers the cool nights, holds the frost off, and keeps the wind off. Just perfect!!!



#11 In 10 to 12 weeks they will be ready to bed plant or field plant or transferred into larger pot. Weed, pest, and fungi control are very important during the following week. I use **Orthene 97** by Amvac and **Infuse** by Bonide for most insect and fungi problems.



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