

How to do a Germination Test

A germination test is useful if you have old seeds that you want to grow, but you're not sure if they're still viable. Seeds stay dormant until they encounter the right conditions for growing. Seeds will grow in warm, wet conditions and stay dormant in cool, dry conditions. If a seed is viable, that means it's still alive, just waiting for the proper conditions to send out a root.

Dormant seeds can stay viable for a long time, but they can also die if stored in the wrong conditions for too long. Luckily, it's easy to test seeds to see if they will still grow. I'm going to explain two methods of doing this.

#1 Water test



A quick way of testing seeds is to drop them in water and see what they do. If they sink, they're probably viable. If they float, they're dead. ☹️ This test works best for large seeds, and might not be reliable for very small seeds like carrots or lettuce.

All of my beans sank, so they're alive!

#2 Paper towel test

A more time consuming (but also more fun) way of testing seeds is by germinating them in a paper towel. This is pretty simple.

You'll need these materials:



Start by labeling your Ziploc bag with the name of the seed variety you're testing and the date that you started. This is very important to make sure one variety doesn't get mixed up or mistaken for another.

I recommend testing 10 seeds. This will make it easy to determine your germination rate. If 8 of

your seeds germinate, that would mean an 80% germination rate.

Next, fold the paper towel. It doesn't really matter how you fold it, as long as there's enough room for all the seeds with space in between each of them. (My beans were wet from the water test.)



Spread out your seeds and fold up the paper towel so that it will fit in the Ziploc bag. I put my seeds in the center, then folded in each edge.



Next, put the paper towel in the Ziploc bag and use your spray bottle to spray until the towel is damp, but not too wet. I probably sprayed this one too much, but that's okay. Too much water can encourage mold growth. Mold can kill your seeds before they have a chance to germinate. Some advice says to seal the Ziploc bag, but I left mine open. The seeds dry out faster, but it makes it less likely that mold will grow. Just make sure to spray your seeds every 24 hours.



After a few days, you can start checking to see if the seeds have germinated. Just take the paper towel out, careful open it up, and have a look!



These bean seeds started to germinate after a few days. You can tell when a seed has germinated because the seed coat (outer lining of the seed) opens up and a root emerges. The water and warmth within the plastic bag matched the conditions your seeds were looking for, and they decided it was time to start growing.



What if your seeds haven't germinated after a few days? Different seeds take different lengths of time to germinate. If your seeds came in a packet, look on the packet for germination time, or if not you can find the same information online. Most seeds will germinate after 2 weeks, and probably much sooner than that. Keep your germination test going until all seeds have germinated, or for the specific germination time of your specific seeds.

Large seeds, like beans, can be planted after germination. It's pretty simple to prepare a pot for a bean seed with a small root, like the one above, and plant it just like a regular seed. However, if the seeds are small, like tomato seeds, or if the root gets too long, it can be hard to transplant. If the roots start to turn brown, then it's probably too late.

Vocabulary

Viable: living, able to germinate

Germination: the process of growing from a seed; when the first root emerges from a seed

Helpful sources

<https://rockinwhomestead.com/reliable-seed-germination-tests/>