

How To Germinate Seeds On Paper Towels – A Total Guide

One of the fastest methods you can do to quickly sprout seeds is to germinate them on a paper towel. I do this every year for vegetables as it is the fastest way to sprout seeds with minimal effort, as they germinate very quickly. It is also easy to transplant them to dirt after they sprout, as long as you do so gently.



In this guide I will show you why and how to grow seeds on a paper towel, and how to transfer/transplant them after germination, as well as what seeds you can germinate on a paper towel. I will then show you how to transplant those germinated seeds into containers.

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Benefits of germinating seeds on a paper towel instead of soil

Knowing your seed is viable

Germinating seeds on a paper towel will tell you if your seeds are viable, as in general they germinate within 1-5 days. University research has shown that germinating seeds on a paper towel will accurately predict viability of the packet or lot. [\[1\]](#)



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A quicker start to your plants

You can transfer sprouted seeds to containers with potting soil, giving you a head start on the growing season.

No wasted time on non-viable seed

Sometimes the vegetable seed we buy is bad, not viable, or just too old as seeds lose viability with time. If we plant seed that is not viable in pots, by the time we find out it is bad we will have lost weeks waiting for it to sprout. This wasted time could mean a much shorter harvest of the crop.

By germinating seed on a paper towel, we can find out much faster if our seed is ok.

Seed companies do it!

Have you ever noticed how some seed packs have the percent viability listed on them? Well, the way most seed companies test the percent viability is doing so by germinating them in a paper towel! That's right – germinating seeds on a paper towel is just about the most efficient method to sprout seeds. It is so efficient even industry does it. [\[2\]](#)

Okay – let's see what we need to do in order to start seeds on a paper towel

Materials

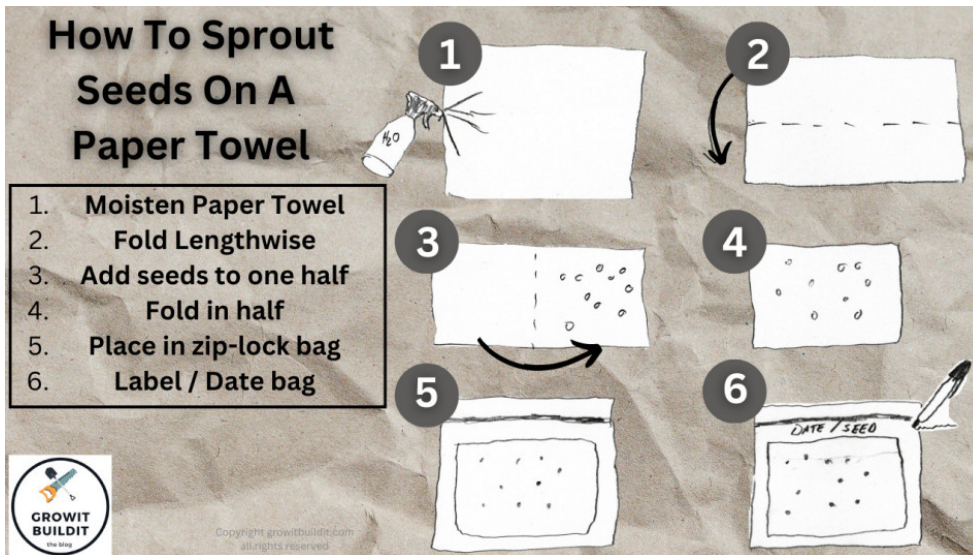
We need to gather the following materials for germinating seeds on a paper towel:

- Clean paper towels or coffee filters
- A clean worksurface or plate
- Plastic bag or container (sealable, like ziplock bag or tuppaware)
- A coffee cup or glass for presoaking seeds (optional, depending on species)
- A warm location such as a window sill, top of a refrigerator or even a water heater

Once the seeds sprout roots on the paper towel, you should act quickly to transplant them to a container with soil. So, while you wait for your seeds to germinate you should prepare containers with moist potting soil. Fill the containers leaving a 1/2" gap to the top. In general, I like 4" square or round containers (10 cm).

Process to germinate / sprout seeds on a paper towel

The following step by step guide will show you exactly what to do to germinate seeds on a paper towel. I do this every Spring, as it saves me lots of time to sprout all the veggie seeds I need for my garden.



Before doing anything – make sure you have clean hands, and a clean work surface!



1 – Moisten the paper towel with a spray bottle or by running water from a sink. Squeeze the paper towel so that it is wrung out. You should be able to gently squeeze it in your hand and only have a drop or two fall out. University research has demonstrated multiple times how important it is to not over-wet the towel. [\[2\]](#)[\[3\]](#)

Over-wetting the towel has been shown to lower germination percentages. It can also raise the chances of getting mold.



2 – Fold the paper towel in half.



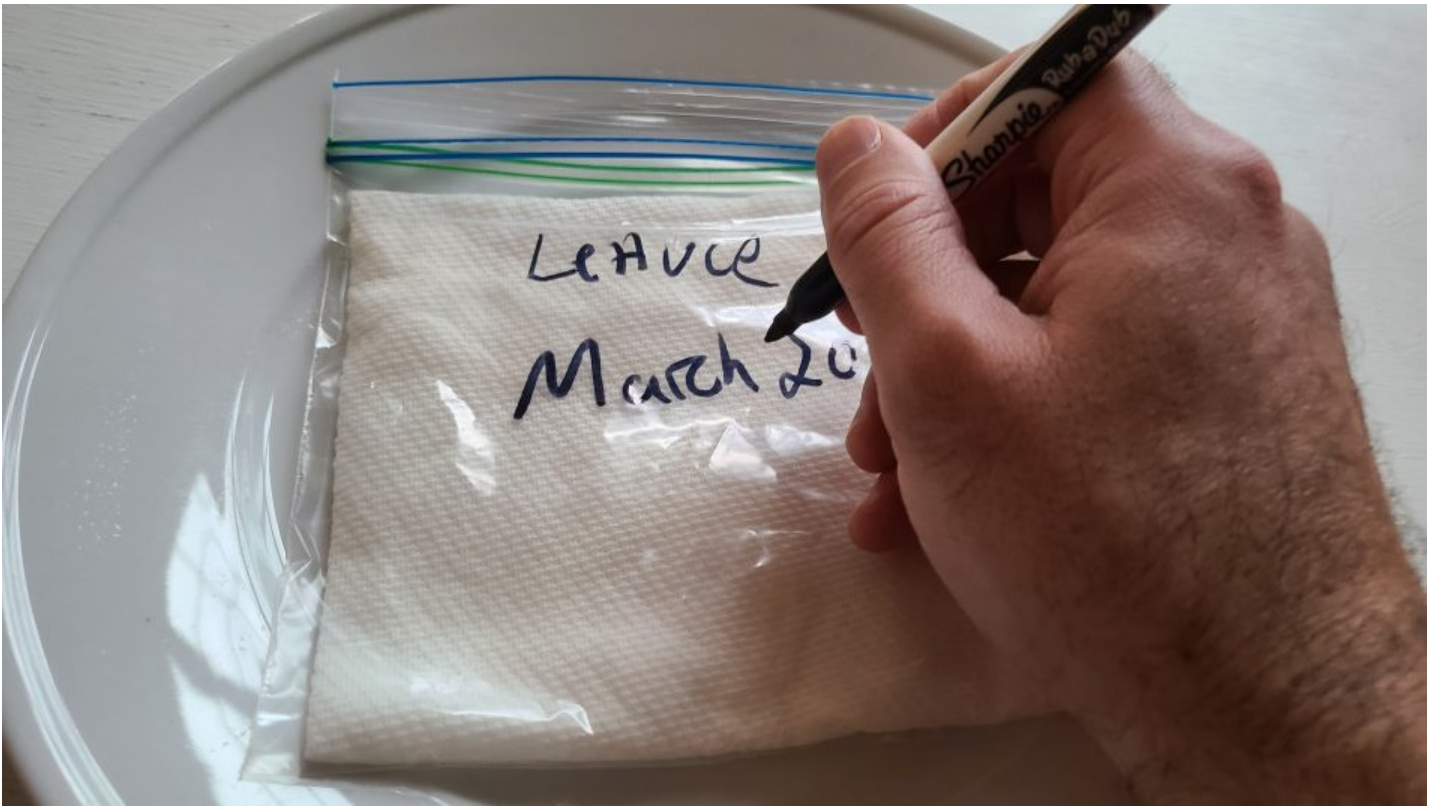
3 – Place your seeds on the towel. You should use twice as many seeds as plants you want. So, if you want to have 4 plants, you should place at least 8 seeds on the paper towel. (Lettuce seeds shown)



4 – Fold the paper towel in half the other way, so that the seeds are in between four layers of moist paper towel.



5 – Place the paper towel into a zip-lock bag, plastic container, and seal them

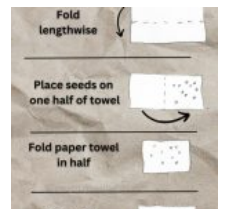


6 – Label the bag with the date and seed type

7 – Place the bag in a dark location that stays warm. The ideal temperature range for some species has been found to be 77-85F (25-30C). [3][4][5] In general I like to keep them above 70F but less than 85F. Some commonly used locations are the back of a refrigerator, or near a head register. You can even use a water heater if the surface as long as it is just warm to touch.

Laying a towel over the bags near the warm surface can also help retain heat. The goal is to keep it warm, but not hot.

8 – Check the seeds every day. You want to inspect for the towel germination, drying out, or mold. If the paper towel is drying out, mist it with a spray bottle to rewet it. If you notice mold, you should discard the towel and start over. Looking for a handy infographic on how to germinate seeds on a paper towel? Click on the image.



Click on image for pdf

How long until my seeds germinate?

The time it takes your seeds to sprout will depend on the species, how moist they are, and the temperature of your paper towel. As a general rule though, you should have seeds sprout in 1-5 days.



I can usually germinate most squash seeds (like these Spaghetti Squash seeds) in less than 48 hours

Troubleshooting seeds that don't germinate on a paper towel

There are generally three reasons why seeds don't germinate on a paper towel:

1. The paper towel is too dry
2. The seed is too old and not viable
3. The temperature is too cold

Each of these potential causes can be corrected by making sure the towel stays moist, keeping it in a warm location, and making sure you use viable seed.

How soon should you plant sprouted seeds?

Seeds that germinate on a paper towel should be planted soon into pots. Not doing so may result in the root becoming attached to the paper towel, which could result in damage or death of the seed when removed. So, always check your seeds every day to avoid this, and have your pots ready to go!

How to transplant sprouted seeds from towel to dirt

Within a day of your seeds sprouting you should plant them in pots or containers. At this stage it is quite easy to transfer seeds from the paper towel to a pot with moist potting soil.

1- Prepare your container. Fill a container with moist potting soil, leaving a 1/2" gap at the top (12 mm).

2 – Transfer the seed to the soil. For larger seeds you can use your fingers and gently pick them up. For smaller seeds you may need to use a utensil of some kind such as tweezers, a popsicle stick, or plastic spoon. If you place the popsicle stick next to the seed and press down on the paper towel, then guide the sprouted seed onto the stick or spoon.



Transferring a tomato seed to soil.

3 – Make a hole in the potting soil. Using a pencil or pen, press a small hole slightly deeper than your sprouted seed.

4 – Plant your seed. Gently place the seed root down in the hole. We want to minimize the amount of times we handle the seed, so if it fall into the hole with the root on it's side, it should be fine. If the root is up, see if you can gentle turn it using a pencil or something similar.

5 – Cover the seeds with moist potting soil. Apply a layer of moist potting soil to the seed to the depth specified on your seed package. Then very gently tamp it with your thumb.

6 – Water. Water the seeds by misting with a spray bottle or watering from the bottom to ensure your potting soil is moist. Don't water with a watering can.



A selection of zucchini, squash, and cucumber seeds a few days after transplanting to containers from paper towels.

What to do if a germinated seed is attached to the paper towel?

If you find that the root of a sprouted seed has attached itself to the paper towel, then we need to modify our method to remove it. Either tear or cut around the area where the root is attached. Then, transfer the seed, root, and towel portion to a container.

Don't be afraid – I have successfully done this numerous times. Just be gentle and try not to disturb the root.

The small portion of paper towel that is still attached to the root will not harm the plant at all, and will decompose over time. White paper towels will not add harmful chemicals, and are [perfectly safe for the garden](#). I've done this numerous times with tomatoes.

Can you plant seeds germinated on a paper towel direct to the garden?

In short, yes you can plant your seeds direct to the garden outside. Simply transfer them the same way as you did to containers. You should only do this if your soil is warming up, as most species don't grow well in cold soil.

What seeds can you sprout on a paper towel

There are numerous species of seed that can be germinated on a paper towel. The limiting factor is size. Extremely small seeds can be difficult to transfer to a container or ground.

25 different vegetable seeds you can germinate on a paper towel

1. Basil
2. Beans
3. Beets
4. Broccoli
5. Broccoli Raab
6. Cabbage
7. Cantaloupe
8. Cauliflower
9. Chile peppers
10. Chives
11. Cilantro
12. Cucumber
13. Lettuce

14. Peas
15. Peppers
16. Pumpkins
17. Radish
18. Snow Peas
19. Spinach
20. Squash (all kinds)
21. Tomatillo
22. Tomatoes
23. Watermelon
24. Winter Squash
25. Zucchini

In addition to vegetables, you can do the same procedure to germinate [Sunflower](#), Zinnia, and other flower seeds on paper towel. Really, anything that doesn't have [cold stratification](#) requirements and isn't too large can be germinated on a paper towel. In fact, keeping [White Oak](#) acorns in a container gently covered with a moist paper towel will get them to sprout.



Peas



Cauliflower



Broccoli



Tomato



Beet seeds



Tomato

Should you soak seeds before paper towel?

There are many seeds that will benefit from a good overnight to full day soak in tap water prior to sprouting on a paper towel. Legumes (Beans) and Squash seeds in particular do well when the outer seed coating is softened. In fact, I can get most squashes to germinate within 24 hours by removing the white husk or soaking overnight prior to sowing.

How to avoid mold on the paper towel

One of the largest problems encountered when germinating seeds on a paper towel is mold. It will likely happen to you at some point, but I can tell you a couple of tips to avoid mold.

1 – Keep a clean and sterile work environment.

Above all else, keep your work surface and towels clean before use. If your hands are washed, work surface is clean/disinfected, and your towel & container are sterile, you will minimize the chances of mold occurring.

2 – Don't over-wet the paper towel.

You want the paper towel moist, but not soggy wet! A moist dark environment is perfect for mold and fungus, and we happen to be putting our seeds directly into it. Too much water can easily lead to rotting or mold/fungi growing.

If your seeds are large, you can always presoak them in a 10% bleach/water solution for a minute or two. Doing so will help ensure that your seeds aren't the source of any dormant mold spores. Just rinse them thoroughly under clean water afterwards. Then, go ahead and try sprouting them on the paper towel.

Now, don't overthink the mold issue – just try to keep your hands, seeds, and work surface clean. Believe it or not sometimes our seed is the problem! In fact, researchers in Brazil used the paper towel germination method to identify seed that may be contaminated with pathogens! [6] They showed that not only was the paper towel method a good proxy for viable seed, but also for diseased seed.