

Between-paper method

This method is most appropriate for species with medium and large seeds between 2 mm and 1 cm in diameter, including many cereals, grain legumes and vegetables. Seeds are germinated between two layers of moist paper towel. Where possible, the towels should meet the specifications described above (e.g., non-toxic paper towelling from Seedburo Equipment Co., regular and heavy weight germination paper from Hoffman Manufacturing, Inc. and Grade 3663 seed testing paper from Whatman Plc.).

1. Cut the paper to a convenient size to hold one replicate of the seeds.
2. Label the paper at one end with the accession number, replicate number and the testing date. Use a pencil or permanent marker for labelling.
3. Moisten the paper with water.
4. Arrange the seeds in rows at regular intervals—about 4 cm from the top edge, leaving a 3–4 cm gap on the sides. Ideally, the distance between seeds should be at least three to five times the seed diameter.
5. Cover the seeds with another sheet of moist paper towel.
6. Roll the paper loosely from opposite the label end.
7. Use a paper clip or rubber band to hold the rolled papers and prevent them from falling apart.
8. Keep the rolls upright in a deep-bottom plastic tray.
9. Add a sufficient quantity of water to the tray (covering the bottom 3 cm of rolls).
10. Place the tray in an incubator or germinator maintained at the recommended temperature and run the test for the recommended period (see guidelines for testing germination of the most common crop species).
11. Keep the towels moist by spraying with water (use spray bottles) if necessary, especially when temperatures are high (25°–30°C).
12. Count the germinated seeds by unrolling the paper carefully to avoid tearing it or damaging the roots of young seedlings.
13. If some seeds have not germinated and appear to be dormant, treat with an appropriate technique to stimulate germination (see guidelines for testing germination of the most common crop species). Continue the test until all seeds have germinated or until no further germination has occurred after two consecutive counts.
14. Make a note of the seeds that did not germinate but are firm and sound at the end of first count, and those that failed to germinate and are presumed dead at the end of the germination test.