

PRACTICE ABSTRACT 1

Bean Seed Treatment: a simple approach without specific laboratory equipment

Organic agriculture uses organic seeds or untreated conventional seeds when no alternative exists. In both ways, seeds can carry diseases and are better treated using a method which

- is acceptable for organic farming,
- has a good success rate at disinfecting the seeds and
- does not significantly reduce the germination rate.

Prior to sowing your beans, this simple method can reduce or even remove seed infections. For this you will need: a container, hot water (55°C), cold water and a thermometer.



If you have several lots to treat at the same time, you can use a cheese cloth or a mousseline cloth to put in your seeds. Just make sure that you have at least 4 volumes of water for 1 volume of seeds. You can also put the seeds in individual glass bottles filled with water at the right temperature and kept in the water bath. You have to insure the water is at 50°C for the whole 10 minutes duration of the treatment.

The re-drying time takes a total of 6 hours at 25°C with an air dryer (1 hour running and ½ hour break and so far) or can be done overnight using a regular home ventilator. Always treat your seeds close to the date of sowing as the wetting might speed up germination and do check your plants for disease symptoms: while this method is usually successful at removing pathogens, it can like all methods sometimes fail.

Part of a bean variety trial of BRESOV, this method was used on all lots including a lot infected with *Xanthomonas*. The seeds were successfully cultivated, beans were harvested and no symptom of *Xanthomonas* was observed. A lot of seed-borne diseases are systemic and might be hidden during cultivation but later reappear in seeds. Therefore, if you use this method to produce seeds, it is necessary to send a sample to a seed-testing laboratory to confirm they are pathogen free.



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THE AUTHOR

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This practice abstract was written with input from Lalajaona Randriamanantsoa, Sativa Rheinau AG.



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THE PROJECT

BRESOV SHAPING THE FUTURE OF ORGANIC BREEDING & FARMING

BRESOV aims to tackle the nutritional challenges of a growing world population and changing climatic conditions by enhancing productivity of different vegetable crops in an organic and sustainable farming infrastructure. BRESOV works on broccoli, snap bean and tomato as those staple vegetable crops have significant roles in meeting our global food and nutritional security goal, and under organic conditions can contribute to storing carbon and introducing nitrogen improving organic soil quality.

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