PRACTICE ABSTRACT 10

Rhizobium inoculation for snap bean seed production

Legumes benefit from a symbiosis with naturally occurring soil-borne bacteria, which fix nitrogen present in the air for plants to use. To stimulate this bacteria-plant interaction, legume seeds can be inoculated with commercially available solutions of nitrogen-fixing bacteria such as Rhizobium. In snap beans, the application of a solution of Rhizobium leguminosarum increased the above ground plant dry weight as well as the seed production.
Several products containing such bacteria are allowed in organic agriculture in different EU countries and available on the FiBL list of inputs (https://www.inputs.eu/input-search.html).

We tested RhizoFix® RF-60, Feldsaaten Freudenberger on snap beans. The product is ready to use, and should be applied right before sowing.

Application steps:
1. Shake the bottle well
2. Pour or spray the contents evenly onto the amount of seed to be treated
3. Mix the treated seeds well
4. Sow treated seeds promptly

Seeds need to be mixed well after inoculation for a homogeneous effect on the plants. This can also be done with the help of a pump atomizer. Store the inoculant and the treated seeds in a cool place, away from direct sunlight and sow as soon as possible. Be careful when using seed drills: dressing residues can damage nodule bacteria. Do not overdose, otherwise clumping can occur.

How to inoculate small amounts of seed batches?
Doses for inoculation of small seed batches are very low. For preparation, use simple syringes and spray attachments.

Rhizobium solution in a spray flask and snap bean seeds before inoculation (Solenn Pérennec, OBS)

Before application of the product, test how much of the liquid remains in the plastic hose of the spray flask. Add the remaining volume to the calculated volume needed to finally apply the right amount of the product. For application, add the product with the syringe to the spray flask and spray the liquid on the seeds. Mix gently so that the liquid covers all seeds.

If you want to benefit from Rhizobia application to improve your crop and seed production and in order to know which formulation works best for your plants, check our other Practice Abstract on testing Rhizobium inoculation on snap beans (BRESOV Practice Abstract 11).

PRACTICE ABSTRACT 10

Rhizobium inoculation for snap bean seed production

THE AUTHORS

Amelie Detterbeck is an agronomist with a strong interest in seed sciences, holding a doctoral degree in plant physiology. After her studies she joined Euroseeds, the voice of the European seed sector, as a researcher for the BRESOV project.

Solenn Pérennec is an agricultural engineer specialising in plant protection. After 12 years as an advisor to vegetable growers, she joined OBS, a seed creation and production company, as head of open field and protected crops. In the framework of the BRESOV project, she conducted several trials on beans and cabbage.

Amelie Detterbeck
ameliedetterbeck@euroseeds.eu

Solenn Pérennec
solenn.perennec@obs.bzh

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, introduce nitrogen and improve organic soil quality.

Do you want to stay up to date about our BRESOV activities?

www.bresov.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 774244.