

# Organic Package of Practices for French Beans



**Aphids**



**Blister Beetle**



**Anthraxnose**



**Common mosaic**



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## Package of Practices for Organic French Beans

S.No.	Organic Activity	Details
1	<b>Selection and Preparation of Land</b>	Sandy to heavy clay soils with a pH range of 5.5-6 with more than 1% of organic carbon is best suited for beans cultivation. It is required to conduct a soil test once a year to check the levels of pH, organic carbon, macronutrients (NPK), micronutrients and microbial load in the field. If the organic carbon content is less than 1%, apply 25-30 tons/ha of FYM to the main field and plough the field 2-3 times to mix the manure thoroughly. Adequate buffer zone must be provided between certified organic fields and non-organic fields at a distance of about 7 meters from non-organic fields to prevent drift of prohibited materials on to certified organic fields.
2	<b>Sowing Season and Time</b>	Beans can be grown during all the three seasons in different parts of the country, Zaid, Kharif and Rabi. The best time for sowing in Rabi season is Mid Oct-Nov and for Kharif is June-July. The summer crop can be sown from Feb-early March.
3	<b>Variety Selection</b>	Seed selection is an important step in organic beans production. Seeds should be carefully selected from certified organic farms or from farmers' own field which is raised organically. The seeds (which are not treated with chemicals) from local high yielding varieties can also be used in the absence of organically produced seeds. Select disease resistant and locally demand varieties. There are both short and long duration varieties. The commonly grown varieties are: YCD 1, Ooty 1, Arka Komal, Premier Arka Anoop, Arka Subidha, Indam 2, etc.
4	<b>Seed Rate and Seed Spacing</b>	Seed rate varies with seed size: Bold seeded variety- 120-140 kg/ha and small seeded variety- 80-100 kg/ha. Beans are generally sown in rows 30 cms apart. The [plant to plant spacing is 12 cms. For obtaining good yield, it's plant population should be 2.5-3 lakhs/ha. 10 cm is the optimum depth of sowing.
5	<b>Seed Treatment</b>	Treat the seeds with Trichoderma @ 4 g/kg of seed for 24 hours before sowing to control fungal diseases. If the crop is raised for the first time, seeds should be treated with Rhizobium culture @ 600 g/ha using rice gruel as binder. Dry the treated seeds in shade for 15 – 30 minutes before sowing. In hills, sow the seeds in lines or in beds. In plains, sow the seeds in the sides of the ridges.
6	<b>Soil Fertility Management</b>	Grow cover crops 2 months before planting Beans. Legume cover crops should be avoided before beans because many are closely related to beans and share pests. Maize and cereal grains are excellent rotation crops and the residues of the crop are ploughed under as green manure. This is beneficial because they capture nitrogen that otherwise might be leached from the soils Apply well decomposed and enriched compost/ farm yard manure @ 20 t/ha at the time of land preparation. Enrichment of Compost: Apply biofertilizers, Azospirillum, Phosphobacteria and Rhizobium @ 1 kg each in one Ton of FYM and keep it covered by hay or palm leaves for 2 weeks. Sprinkle water regularly and rake up the heap every 10 days. After two weeks, mix this preparation with balance quantity of compost/ FYM (19Tons) and apply the entire 20 MT at the time of land preparation.

		Apply 250 kg of Neem cake with 8% oil. For Phosphate nutrition, use rock phosphate or bone meal (both contain about 20%P) in combination with Phosphate solubilizing bacteria. For Potash nutrient, wood ash or sheep manure can be used. Apply Panchagavya at least 3 times to supplement nutrients and for growth promotion.
7	<b>Irrigation and water requirement</b>	Irrigation should be given immediately after sowing, third day and thereafter once a week. A water deficiency resulting from a lack of soil moisture or excessive transpiration can lead to deformed or pithy snap bean pods.
8	<b>Cultural practices and weed management</b>	Weeding should be done at 20 - 25 days and 40 - 45 days after sowing. The crop should be earthed up after each weeding. For creeping varieties, fix sticks with 5-6' height near each hill and allow the plants to climb.
9	<b>CROP PROTECTION</b>	Crop rotation prevents build up of diseases and nematodes and suppresses weeds. It helps in breaking pest cycle.
(a)	<b>Insect mgmt.</b> <b>Bihar hairy Caterpillar</b> <b>Blister Beetle</b> <b>Bean bug</b> <b>Aphids</b>	<b>Common control measures</b> Spray 4% Neem seed powder solution ( Take 4 kg Neem seed powder and mix it with 10 litres of water and keep overnight. Next day morning, filter it and mix with 100 litres of water and spray.(Or) Spray neem oil 3 %.(Neem oil from expellers). Spraying of 10% garlic - chilli - ginger extract* on 45th, 60th and 75th day after planting is also recommended as an alternative.
b)	<b>Disease management</b> <b>Anthracnose</b> <b>Leaf Spot</b> <b>Common mosaic</b> <b>Collar and Stem Rot</b>	Common control measures Select disease free seeds. Destroy affected plants. Control the vectors to control diseases. Appropriate time of sowing and harvesting should be practiced. Foliar spray of 3% Panchagavya at 10 days interval from 1st month after planting will help reduce these disease. Spraying of Trichoderma viride and Pseudomonas fluoresces @ 10gm/lit of water may also be practiced to control these diseases.
10	<b>Harvesting and storage</b>	Pods will be ready for harvest within a period of 2 to 3 weeks after flowering is completed. In case of bush beans, 50-60 days after planting while pole beans are harvested 70-80 days after planting. Store the fruits in a shaded area or a room with good ventilation.
11	<b>Yield</b>	The average yield of French bean is 8 - 10 t/ha green pods in 90 - 100 days.  *Preparation of Chilli – Garlic – Ginger Extract: 2.5 kg garlic 1.25 kg ginger and 1.25 kg green chillies are required to prepare the extract for controlling pests in one hectare of land. Make paste of each ingredient separately and mix them in about 20 litres of water and stir thoroughly. Filter the extract. For every tank of sprayer, take one litre of this extract and mix with water to fill the tank. It is advisable to use this preparation on the same day of preparation. If something is left out, this balance quantity should be used within 3 days.