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Seed Treatment: New Farming Techniques

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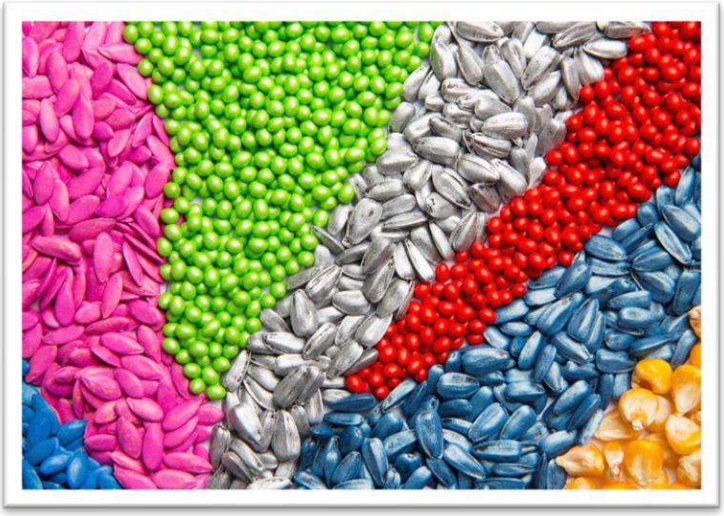
Seed treatment is a process in which seeds are treated by biological and chemical methods to keep them free from diseases and diseases. This may includes solar treatment, hot water treatment, bacterial culture, fungicide etc. If the farmers are not able to achieve the target of production even after systematic sowing in the fields, then one of the main reasons is the disease of seeds. There are many diseases that occur in the crop due to seeds. For example, diseases like seed rot, plant rot etc.



Seed Treatment

Seeds should be treated well before sowing in the fields. Seeds can be treated in three ways, physical, chemical and biological. In physical treatment, measures like drying the seeds in the sun and cleaning them with hot water are adopted, then in chemical remedies, the seeds are treated with the help of various chemicals. At present, seed treatment by organic method is the cheapest and most popular. Agricultural scientists believe that it is very important to increase awareness among farmers about the use of treated seeds and healthy seeds. With this help, the productivity of the crop can increase significantly. Here are some common seed treatment methods:

Coating or Encrusting

Seeds can be coated with various materials such as polymers, nutrients, fungicides, and insecticides. This coating provides protection against diseases and pests and may also include substances that promote early plant growth.

Dressing

Seed dressing involves applying fungicides or insecticides to the surface of the seed. This method helps protect the seed and emerging seedlings from soil-borne diseases and pests.

Inoculation

Inoculants, usually containing beneficial bacteria or mycorrhizal fungi, can be applied to seeds. These microorganisms form symbiotic relationships with plants, enhancing nutrient uptake and promoting plant growth.

Pelleting

Pelleting involves coating seeds with a mixture of materials, such as clay, fertilizers, and pesticides, to create larger and more uniform seeds. This process facilitates planting and can enhance seed performance.

Priming

Seed priming is a pre-sowing treatment that involves controlled hydration and dehydration of seeds to initiate the early stages of germination. Primed seeds often germinate faster and more uniformly than non-primed seeds.

Chemical Treatments

Seeds may be treated with chemicals to control or prevent diseases caused by fungi, bacteria, or viruses. These treatments can include fungicides, bactericides, and virucides.

Biological Treatments

Some seed treatments involve the use of beneficial microorganisms, such as mycorrhizal fungi or rhizobium bacteria, to enhance plant growth and nutrient uptake.

Organic Seed Treatment

Seed treatment by organic fungicide like Trichoderma virdi and cow urine in pulse crops, for control of diseases like root rot, plant rot etc which ultimately increase crop production to 15 to 20% with bio-fertilizer culture.

FIR Method

- Fungicide
- Insecticide
- Rhizobium

Seed treatment with biofungicide chemical: Trichoderma 3-5g/kg 1 kg of seeds

Seed treatment with fungicide chemical: Carbendazim, Mancozeb, Benomil, Captan, Thiram 2-3 g/kg 1 kg of seeds

Seed treatment with insecticide: chlorpyriphos 25ml/kg of seeds, imidacloprid or thiamethoxam 3 g/ml 1 kg of seeds

Seed treatment from bacteria

- N= Rhizobium, Azotobacter, Azospirillum
- P = Phosphotic (PSB)
- K = Potassic bacteria 5-7 g/mol 1 kg of seeds

Caution

- ❖ Never put seeds in the sun after treatment dry the treated seed. Use a shady place.
- ❖ Sowing of culture-treated seeds should be done soon.
- ❖ Must wear Gloves in hands and face masks, glasses

Bijamrit

Materials

1. Cow dung 5 kg
2. cow urine - 5 liters
3. Lime 50 gm
4. Water 20 litres
5. 100 kg wheat seed
6. 50 gm soil

Seed Treatment prescriptions

Bijamrut is used for seed purification. Seed treatment means preparing seeds to protect them from seed borne or soil-borne diseases. Many diseases spread through seeds from which it is very important to save the crop.

Treatment of pathogenic diseases is possible only by seed treatment. But even today most farmers sow untreated seeds in the field. Seed treatment also increases the germination capacity of seeds. Seed treatment helps in early and good quantity of seeds. The roots grow at a rapid pace and the soil does not cause the outbreak of diseases on the crops.

Production Procedure

Take 20 liters of water in a vessel and mix cow urine in it. Then mix cow dung, lime and soil of the tree bed and mix the mixture well. Keep this mixture in shade for 24 hours. Then spread 100 kg of seeds on the floor or polythene sheet and sprinkle seeds on it. After spraying, the seeds are thoroughly mixed by hand. So that a layer of bijamrut climbs all the seeds.

Utility

Seed treatment should be done 24 hours before sowing. Dry the seeds in the raid after using the beejamrit. After that, sow the seeds in next morning. This treatment proves useful in the prevention of seed borne diseases.

Conclusion

Seed treatment is a common practice in modern agriculture as it can contribute to higher crop yields, better stand establishment, and increased resistance to pests and diseases. The choice of seed treatment depends on factors such as the type of crop, environmental conditions, and the specific challenges faced in a particular agricultural setting. Additionally, it's important to follow recommended application rates and guidelines to ensure effective and safe seed treatment practices.

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