

Procedure for inspection and verification for genetically modified organisms:

The deliberate use or negligent introduction of genetically engineered organisms (GMOs) or their derivatives (traced back one step in biological chain) to organic farming systems or products is prohibited, including animals, seed, propagation material, pollen and farm inputs such as fertilizers, soil conditioners, crop protection and processing materials.

- SNRMS certified producers are required to take every precaution to ensure that genetically modified materials do not contaminate their organic crops.
- Ensuring all inputs purchased are not derived from genetic modification techniques, and maintains documentation that verifies this. This includes seed, inoculants, and any purchased inputs.
- If livestock is raised, ensure all feeds, supplements, and vaccines are not derived from genetic modification, and maintain documentation that verifies this.
- The *Non-GMO Affidavit* shall be used to verify the non-GMO status of all seed planted on SNRMS certified farms. This affidavit is the preferred method to verify non-GMO status of seed planted. If a producer uses seed saved from their own crops, audit trail documentation must be maintained which verifies the source of the seed (field grown on), and the storage of the seed, to ensure maintenance of organic integrity.
- If neighbours' plant genetically modified crops in adjoining fields, operator may wish to adjust his rotation to plant a different crop family in the organic field, or delay planting so that the crops shall not pollinate at the same time.
- If any harvest equipment is used on genetically modified crops, organic farmers must be diligent in the cleaning of equipment prior to use on organic crops. Cleaning should include opening all doors and traps and thoroughly vacuuming or blowing with forced air all areas of the equipment. After the equipment is cleaned, it should be purged with organic product (not buffer crops). Any purged crop should be disposed of as conventional. If used for feed for conventional livestock, etc., it must be documented in the audit trail.
- If operator have grown genetically modified crops prior to converting to organic production, and have stored these crops on farm, ensure all storage areas are well cleaned, and any seed or seed residue is removed from the storage unit prior to storing organic crop.
- In India only Cotton Crop is GMO at present, also there are other crops in research.

Inspection Procedure:

Based on risk assessment the inspector shall implement a system to inspect and verify that genetically engineered (GE) organisms and their products or derivatives are not used in certified organic production and or/processing as required by the standards.

- For genetically engineered (GE) product use and contamination risk areas, the inspector shall adopt the following procedures:
 - ✓ Review of supplier's statements verifying that the product is not genetically engineered.
 - ✓ Analytical testing to defined limits.
- Documentation and evaluation of suppliers' GE control systems:
 - ✓ Update list of such products available in the market and keep operator informed about the list of such products with their common names.

- ✓ Inspector should check seeds and planting material used by operator by verifying Seed purchase records, and or seed packets.
- ✓ Brought in inputs for farm production as well as animal production should be checked for non-GMO source.
- ✓ The ingredients used in processed products should be free from genetically engineered source.
- ✓ Inspector should confirm that the operator has retained signed statements from all suppliers verifying that no genetically engineered products were supplied.
- ✓ Other procedure(s) as per the ground reality.

In order to comply with the GMO-free product, it is very likely that residue & genetic testing will be required to conduct on samples of inputs and/ or end products.

Procedure for Analysis, Genetic and Residue Testing:

- Inspector has to indicate & take sample of such cases based on risk.
- Sampling kits to be carried by inspector.
- Random sampling of soil, plant, water, seeds, planting material, and produce shall be taken for analysis if the use of substances prohibited by the standards is suspected with proper coding.
- Random sample shall represent the farm and the process.
- Samples to be sent to identify lab within stipulated period Laboratory should be accredited by ISO 17025.
- Issue Instructions to Labs for analysis parameters and against sample contaminations. Interpret analysis reports.
- Operator will be responsible for paying the laboratory charges for any kind of testing.
- SNRMS does not require mandatory GMO testing for verification of organic production. Testing is only performed when there is a specific cause for concern, such as suspected negligence or fraud that may have resulted in GMO presence in organic products or production systems. Contamination by GMOs may alter the organic status of an operation even if circumstances are beyond the control of the operator.

General Principles for GMO testing:

Strip Test Method: Strip Tests, which analyse the protein expressed by the DNA, can have an important place in the production system. They are the only rapid, on-site method for GMO screening.

PCR test Method: Polymerase chain reaction test method, which analyses the DNA directly, is conducted in a laboratory. PCR is recognized as being more sensitive and reliable than any other GMO test method.

List of Commercially released GEO's (Ref: IFOAM):

(A) Processing:

- **Seeds:** Canola, Corn, Cotton, Flax, Papaya, Soybean, Sugar beets, Tomato.
- **Planting Stock:** Banana. Potato, Strawberries.
- **Herbicides:** Corn Gluten.

- **Insecticides:** Bacillus thuringensis. Vegetable Spray (canola, cotton, soya, cotton seed)
- **Fertilizers:** Rhizobia inoculants, Soya, Canola, Cotton seed meal, Food processing waste.

(B) Conventional Ingredients in products labelled Made with organic Ingredients:

- **Ingredient from conventional products:** Corn Starch, Soya Lecithin, Vegetable oils, Dairy products.
- **Minor Ingredients:** Dextrose, Maltodextrin, Xanthum gum, Enzymes, Yeast Cultures.
- **Processing Aids:** Citric acid, Hemicelluloses, Lipase, and Triacylglycerol.
- In India, only cotton is allowed for commercial production.