

## Materials Used in Organic Farming

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Organic farming is a systems approach that consists of more than simply the substitution of natural inputs for ones that are synthetically produced. Organic production practices must maintain or improve the natural resources of an operation, including the soil and water quality. A number of positive management practices are required for soil fertility management and crop protection. Synthetic substances are generally prohibited, with exceptions that appear on the *National List*. Natural substances are allowed unless they appear as prohibited on the *National List*. This requirement applies to all substances, not just to active ingredients. Synthetic inert ingredients are permitted only in pesticides, and must be classified as minimum risk (EPA List 4). The NOP Rule also prohibits without exception genetically modified organisms, ionizing radiation, and sewage sludge. A crop cannot be sold as organic for a minimum of three years following the application of a prohibited substance.

### *Materials Used by Organic Farmers*

The results of a national survey of over 1,000 organic farmers conducted by the Organic Farming Research Foundation (OFRF) supported that organic farmers follow the principle that organic farming is a management system by applying inputs to supplement cultural practices. Most organic farmers rely on a combination of cover crops and compost to provide the fertility and soil conditioning needs. Uncomposted manure and compost tea are used by a much smaller number of organic farms.

Supplementation with mineral sources of calcium is also a common practice, used frequently or occasionally by most organic farmers. In areas where pH is high and sulfur is low, gypsum (calcium sulfate) is commonly used. Soils that have low pH are generally treated with limestone (calcium carbonate). Animal by-products such as fish emulsion, fishmeal, blood meal, bone meal, or meat meal are other common soil amendments. The majority of organic farmers also use kelp and mineral amendments either on occasion or frequently.

Organic farmers rely primarily on cultural strategies, such as crop rotations, beneficial habitat, and classically bred resistant varieties to manage pests, diseases, and weeds. *Bacillus thuringiensis* (Bt) is reported as the most commonly used insecticide, followed by insecticidal soap. These pesticides are the only ones used by more than half of all farmers responding. Sulfur and copper are the most commonly used fungicides, used by 40% and 34% of responding farms respectively. Less than 10% of the farmers surveyed by OFRF said that they used botanical insecticides regularly, with over half saying that they never used them at all.

While organic livestock producers use minerals and vitamins as feed additives, most rely on cultural practices to maintain animal health. Most veterinary medicines are prohibited. Animals treated as a rule must be diverted to conventional channels.

### *Compliance Issues*

When making recommendations to organic farmers, it is important to be sure that the input recommended is allowed. Certification agencies are charged with the responsibility of verifying that brand name products used by farmers meet the requirements of the National List. They must review both the active and non-active ingredients for compliance. Many certifiers use the services of the Organic Materials Review Institute (OMRI), a non-profit initially established as an offshoot of two western certification programs to provide this service of product review. Those that use OMRI services also often provide some in-house review of products as well, but in all cases a certified farmer must be sure that any products used on the farm are approved by his/her certification agency for use in organic production. The Washington State Department of Agriculture (WSDA) also publishes a list of brand name products reviewed according to NOP requirements.

The farmer has the responsibility to inform the certification agent, and the certification agent is the one who decides in most cases whether or not the use of a given input complies with organic standards. Inputs will often need to be in the farm plan before they can be used on an organic farm. The OMRI and WSDA lists are provided for guidance.

Farmers and agricultural professionals are reminded that any material used on an organic farm must be reviewed and approved by the certifier of that farm for that use and application. Any decisions made must be cross-referenced to the NOP Rule, and are ultimately subject to interpretation by the NOP and the Federal government.

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