**Difference between conventional/modern and organic agriculture**

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|  | Particulars | Conventional agri. | Organic agric. |
| 1 | Type of farming | Only crops | Agro-forestry, animal husbandry |
| 2. | Plant nutrients | Chemical fertilizers only | F.Y.M., G.M., compost, rotation, bio-fertilizers |
| 3. | Pest control | Pesticides | Cultural method, crop rotation, biological method |
| 4. | Ecology | Fragile | Stable |
| 5. | Inputs | High productivity and low diversity chemicals are used | High diversity, renewable and biodegrable inputs are used |
| 6. | Use of resources | The rate of extraction exceeds the rate of regeneration, deforestation, overgrazing, pollution of water bodies take place. | The rate of extraction from forests, underground water resources and other renewable resources do not exceed the rate of regeneration |
| 7. | Quality of food | Food material contain toxic residues | Food materials are safe |

**STANDARDS FOR ORGANIC CROP PRODUCTION**

1. **Conversion period**

The time between the start of organic management and certification of crops is known as conversion period.

The whole farm, including livestock should be converted according to the standards over a period of time as per specifications. Diversity in crop production and animal husbandry must be arranged in such a way that all the elements of farming interplay. The standards requirement shall be met during the conversion period. Start of conversion period may be calculated from the date of application. To ensure a clear separation between organic and conventional production, the certification shall inspect the production system.

1. **Choice of crops and varieties**

All seeds and plant material should be certified organic, well adapted to climate and resistant to insects and diseases. When certified organic seed and plant material is not available, chemically untreated conventional seed and plant material may be used. The use of genetically engineered seeds, pollens, transgenic plants or plant material is not allowed. Plant products produce annually can be certified when the national standards requirements have been met for a minimum of twelve months before start of production cycle.

1. **Fertilization policy**

Biodegradable material of microbial, plant or animal origin produced on organic farm should be the basis of fertilization programme. Sufficient quantity of such material should be used to improve or at least to maintain the soil fertility. Manures containing human excreta are not allowed for use if the produce is for human consumption. Mineral fertilizers are permitted in supplementary role to carbon based materials. Such fertilizers can be applied in their natural composition and should not be rendered more soluble by chemical treatment.

1. **Soil and water conservation**

Soil and water conservation should be handled in a sustainable manner. Relevant measures should be taken up to prevent erosion, salinization of soil, improper use of water and pollution of ground and surface water. Clearing the land by burning, if required should be minimum. Clearing of primary forests is prohibited. Excessive exploitation and depletion of water resources is not allowed.

1. **Plant protection**

Organic farming system must be carried out in a way, which ensure that losses from insects, diseases and weeds are minimized. Emphasize should be on the use of balanced fertilizer programme, adaptable crops and varieties and resistant cultivars. Weeds, insects and diseases should be managed by preventive, cultural techniques. Natural enemies of pests and diseases should be protected and encouraged through proper habitat management. Products used for plant protection, prepared at farm, local plants, animals and microbes are allowed. Thermal weed management and physical methods of insects and diseases are permitted. Use of synthetic agrochemicals, synthetic growth regulators and genetically engineered organisms or products is prohibited.

**Transitioning to Organic Production**

The process of converting fields previously in conventional production to certified organic production is known as “transitioning.” It is an extended, often challenging process that includes regulatory, production, and marketing components. Careful planning is important to a smooth, successful transition.

Regulatory Considerations

When a conventional farmer wishes to switch to an organic production system the National Organic Program Standards (NOPS) requires a three-year transition period before produce may be certified as organically grown. During the transition phase, growers must use cultural, chemical, and biological practices that are approved under the Final Rule. For example, if an apple orchard was last sprayed with a synthetic fungicide on August 1, 2010, then a crop harvested September 1, 2013, may be sold as organic, but only if the grower has a certificate verifying the organic status for the past three years. It is important to document the last date when a prohibited substance was applied, in order to demonstrate to the certification agency that the field has been free of prohibited substance applications for 36 months and is eligible for organic certification.

Prohibited and Approved Substances

For land to be eligible for organic certification, prohibited substances must not be applied to the land for a period of three years immediately preceding harvest of the crop. Prohibited substances include chemical fertilizers and synthetic pesticides, as well as genetically modified organisms (GMOs), ionizing radiation, sewage sludge and treated seeds. All synthetic materials, unless specifically approved, are prohibited for use and all natural substances, unless specifically prohibited by the National Organic Program (NOP), are approved for use.

Record Keeping

It is important to document the last date when a prohibited substance was applied, in order to demonstrate to the certification agency that the field has been free of prohibited substance applications for 36 months and is eligible for organic certification.

Transition Strategies

During transition, you should establish a soil-building crop rotation and develop effective fertility, pest, disease, and weed management strategies using preventive practices and natural fertility inputs, such as compost, mulch, and cover crops. If needed, the grower may use non-synthetic (natural) biological, botanical, or mineral inputs, or, if these are not effective, synthetic substances that appear on the National List of Approved and Prohibited Substances, which is part of the NOP regulation. The strategy for transitioning to organic crop production depends on the preferences of the grower and the farming system. Approaches for transitioning a farm include:

Gradual Transition

This approach involves progressively converting to organic production by temporarily combining conventional and organic practices before shifting exclusively to organic management. Producers considering making the transition to organic production are encouraged to do it incrementally. By converting portions of the farm to organic production while leaving other parts in conventional production, the producer has time to learn new management skills.

One Field at a Time

Transitioning selected fields of a farm allows growers to begin making the switch to organic production while still maintaining a portion of the enterprise in conventional agriculture. This practice, known as a “split operation,” is allowed in organic certification if the producer establishes protocols to prevent contact between organic and non-organic produce from seed to market. For example, buffer zones or other barriers may need to be established between organic and conventional fields.

Whole Farm

Often referred to as the “cold turkey” approach, transitioning the whole farm at once provides a quicker avenue to becoming fully organic. Carefully selecting crops and cover crops that can help build soil health, as well as varieties that are pest-resistant, can help minimize yield declines that can occur during the transition period.

**The Organic Certification Process**

Certification under the National Organic Program (NOP) is required to label, represent, and market qualifying products as organic. There are two categories of organic operations: producers and handlers. Organic producers may grow crops or collect plants from the wild. These farming operations receive an organic producer certificate. Organic handlers may buy food for resale or may process foods (slicing, freezing, drying, mixing, blending, etc.). These operations receive an organic handler certificate. The organic certificate verifies that the producer or handler has complied with organic regulations and allows their operation to sell or represent the product as organic. Producer certificates include the type of crop (e.g., carrots, apples) and may include other information as well. Sometimes crop varieties are listed (Fuji apples), as well as farm acreage and the name of the field from which the crop has been harvested.

**Producer Submits an Application to a Certifying Agent**

Producers obtain certification from state or private certifiers who are accredited by the NOP. Farmers may apply to any accredited certification agent. To allow time for the entire certification process, submit your application at least three to six months before the harvest of your first organic crop. If you need a certificate more quickly, some certifiers will expedite your application for an additional fee. The documents sent to a certifier are often collectively called the “application,” but in reality, there are several separate documents required:

Application

An operation that wants to become certified first contacts a certifying agent. The certifying agent provides information about its application process and certification fees, as outlined in its fee schedule. If the operation decides to proceed with that certifier, it completes an application, which includes the Organic System Plan (OSP).

**Organic System Plan**

The Organic System (or Farm) Plan (OSP) is the producer’s opportunity to describe the farm and farming operation to a person who has never seen it. Understanding what is needed and why it is needed makes the process easier. Section 2.5, Organic System Plan, provides more detail about how to develop the OSP.

**Farm Map**

An accurate map of all farm acreage and production units is typically required as part of the OSP. Important map features include the following:

**Field Histories for New Fields and New Farms**

Field histories are required for fields if they have no history organic production. To obtain organic certification for a field, a grower must be able to document all materials applied to that field for 36 months prior to the harvest of a first organic crop. The certifying agent then reviews the field history to determine if a field is eligible for certification.

**Operator Agreement or Affirmation**

The person who signs the operator agreement agrees to adhere to the regulations and affirms that the information supplied to the certifier is correct. This agreement must be signed by the person who has responsibility for making decisions about the operation—typically the farm owner.

**Report of Organic Yields and Sales**

New applicants will be asked to estimate their projected organic sales. Upon renewal of certification, farmers are required to report the yield and sales of organic products. Ordinarily, the sales are reported in the calendar year during which the money is collected.

**Certifier Agent Reviews the Application**

The certifier reviews the OSP submitted by the grower and any other documentation required for certification. The certifier must clearly communicate to the applicant in a timely fashion whether the application appears complete and whether the OSP appears to comply with the regulations. If the application is complete and the operation is in compliance with NOP regulations an inspector will be assigned to the operation and will schedule an on-site inspection.

On-site Inspection

Once the certifier’s initial review determines that the operation may be able to comply with the regulations, the certifying agent assigns an organic inspector who calls the applicant to set up an appointment. The inspection must be scheduled within a reasonable time, although it may be delayed for up to six months so that the inspector can observe the relevant land, facility, or activities. For example, if the certifier receives a crop production application during the winter, the inspection may be delayed until the spring or summer when the production season is underway. The purpose of the on-site inspection is to:

**The Role of the Organic Inspector**

The organic inspector should conduct an opening meeting to discuss the inspection plan. This meeting defines the role of the inspector, communicates the confidentiality of all information, and outlines the planned inspection activities. This is the inspector’s opportunity to set expectations and answer the applicant’s questions. The NOP considers opening meetings to be a best practice for all inspections. Organic inspectors are trained to look critically at all aspects of an organic operation and to maintain strict confidentiality.

Exit Interviews

At the conclusion of the inspection, there will be an exit interview to confirm the accuracy and completeness of the observations and information gathered, addresses the need for additional information, and discusses issues of concern. If significant information is missing, the inspector should note this in the inspection report and discuss this as a concern during the exit interview. The inspector does not make the certification decision, but identifies noncompliance issues with regard to organic standards.

Certifier Reviews the Inspection Report

After the on-site inspection is completed the inspector submits their inspection report to the certifier who then reviews the report and application in order to determine whether or not the operation is in compliance with the regulation. A certification committee, staff member, or review committee reviews the OSP, the inspection report, and all associated documentation. The reviewer will pay particular attention to any issues mentioned in the exit interview and will decide the seriousness of those issues.

Certification Decision

The final decision-maker determines which action is appropriate to the operation. The review of the inspection report may lead to different paths, each of which may require additional evaluations or decisions. After assessing whether the operation appears to comply with the organic regulations, the certifier make one of four certification decisions below and communicates this decision in writing to the operation.

Renewing Certification – Annual Update

The annual update adds new information to the existing OSP. A certified operation must submit an updated OSP and fees to its certifier at least once per year to continue its organic certification. If the operation fails to submit its annual update and/or fees, the certifier issues a Notice of Noncompliance. The annual update must include a summary statement outlining any changes to the OSP that were made during the last year, as well as any changes planned for the coming year. If the certifier requires supporting documentation to verify these changes, then the operation will provide it.

**Organic Labeling Requirements**

In October 2002, the USDA began enforcing a set of national standards that food labeled “organic” must meet, whether it is grown in the United States or imported from other countries. The use of the seal is voluntary, so some organic food products may not carry the new label, but all organic products will carry notification of third-party certification.

Categories of Organic Content

All product labels and marketing information that make an organic claim must comply with Subpart D of the NOP Regulations (sections 205.300 – 205.311). These sections outline product composition requirements, along with labeling requirements for the different composition categories. The type of labeling and market information that can be used and its placement on different panels of consumer packages and in market information is based on the percentage of organic ingredients in the product.