

# Introduction

## What Is Organic Agriculture?

There is no universally agreed-upon definition of organic agriculture. Some have defined organic agriculture by using a list of allowable practices while others also include mention of the various underlying values or beliefs supported by organic agriculture, such as the need for environmental protection and conservation. For our purposes here, we will use the USDA's definition from the National Organic Program (NOP) Standards issued in 2002. Here the term organic refers to the way agricultural products are raised, harvested, and processed.

The NOP definition of organic production is “an agricultural production system that is managed in accordance with the (National Organic Production) Act and its (subsequent) regulations (i.e., Standards) to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster the cycling of resources, promote ecological balance, and conserve biodiversity.” More concisely, organic farming is an integrated production system that is based on ecological principles that foster harmony with nature and promote ecosystem balance.

## Organic Principles

Various authors have written about the fundamental principles of organic agriculture. We will rely mainly on Dr. Charles Benbrook, agricultural consultant, and Fred Kirschenman, an organic farmer and writer, for the principles listed here (1997).

1. **Ecological Principle** — Organic production should fit into and benefit from natural systems. The earth's finite resources and nature's limitations must be recognized and accommodated. The goal is to produce the highest quality food with the least impact on the environment while ensuring the sustainability of the production system.

2. **Systems Principle** — Organic farming requires a systems or whole-farm approach to planning and operations. When designing or managing an organic production system, the appropriateness of any practice, process, or input should be considered based on its impact on the whole system and the biological and ecological processes that govern the interactions within the agro-ecosystem.
3. **Precautionary Principle** — Organic farming is a complex system whose interactions with nature are not completely understood. Because the sustainability of the system is the long-term goal, new practices or products must be proved to be safe before introduction into the organic production system. Clean and safe technologies should be sought and research conducted to find and reduce risks.
4. **Local Differences Principle** — Organic agriculture has guiding principles and certification rules to follow but in practice, because of variations in soils, climate, topography, management, ownership, pest complexes, disease pressures, etc., each farm's operating system will be different.

Understanding the principles upon which organic farming is based is extremely important for a successful transition to organic agriculture. Farmers report experiencing a motivational change concerning the way they view their farm and farming when they transition to organic agriculture. Many see their values shift to an even greater emphasis on their role as a custodian of the health of people, their communities, and the environment. In a 1999 Ohio State University survey of Ohio organic farmers (Rzewnicki, 2000), the most frequently stated reasons given for why the respondents farm organically or were in the transition process to do so were concerns for the environment or stewardship of natural resources. The development of an environmental ethic is not a prerequisite for organic farming; however, it does help to motivate when faced with the challenges of converting to and managing an organic production system.

## Realities

It will be important for you to begin the transition process fully aware of the potential challenges and rewards you could experience during the process. Before you attempt any change, let's take a look at some of the realities you will be faced with as you transition to organic production.

1. Organic farming of today is not a return to the type of agriculture that was practiced before the introduction of synthetic pesticides and fertilizers (pre-1940s). While some of the older technologies still apply, current organic farmers use modern equipment, recommended crop varieties, certified seed, recommended soil and water conservation practices, sensible livestock management, and inventive practices for organic waste and residue management.
2. You will need to develop an intimate knowledge of your entire farming operation in order to develop an effective management plan. You will need to know every detail about your different fields — soil quality, nutrient content, persistent weeds, drainage issues, etc. What are your labor options? What equipment do you have access to and can it be modified?
3. Your soil is the lifeblood of your farm. Much of your success as an organic farmer will depend on your ability to build and maintain healthy soils. You will need to learn about and implement methods that improve or preserve soil structure, soil biological life, and organic matter content while providing an optimal balance and supply of nutrients to your crops.
4. You will rely much less on off-farm inputs and more on knowledge and planning. Armed with the extensive knowledge about your farm, the information you have learned about the problems it faces, and the knowledge of the many management options available to organic farmers, you will be able to design an effective farming system that will lessen your reliance on off-farm inputs while giving you economically viable yields.
5. Simply substituting “non-toxic” inputs for synthetic pesticides and fertilizers is not sufficient. You will need to think of your farming operation as an integrated system with all parts interconnected.
6. To ensure the profitability of your organic enterprise, there are rules to be followed. You will have to understand the term “organic” as a labeling term. Certified organic refers to agricultural commodities produced in accordance with the Standards of the National Organic Program. You must be certified to receive premium prices for your organic products. In order to be certified, you must comply with the Standards. The rest of this manual is devoted to explaining the relevant Standards and developing an understanding of the certification process.
7. Your organic management plan will take you outside your comfort zone to a place that will be considered different from the mainstream. Organic farming is a distinctive way to think about and practice agriculture. You will have to deal with new crops, products, practices, markets, machinery, and different ways to learn about them all. You will have to be ready to handle the uncertainty you may feel at first. Organic farmers must be willing to be risk takers.
8. Because you will not be able to rely as much on traditional sources of agricultural information as you learn about organic farming, you will need to develop strong problem-solving skills and be willing to learn from your mistakes. The amount of research and subsequent publications about the various aspects of organic farming has increased tremendously in the past decade. However, you must be able to take the information you learn and adapt it for your farming system. Local variations in soil, climate, topography, economics, etc., do not allow organic producers to farm by the book. Even though much of organic production information still remains outside of conventional agriculture sources, this publication will help you access what is available and show you how to adapt what you learn for your own farming system.

9. If you plan to raise grains, vegetables, and/or fruits, your biggest challenge during the transition process and as you farm organically will be weeds. You will have to rely primarily on mechanical weed control that will use more diesel fuel and will provide more wear and tear on equipment and require a larger labor input (Dix, 2000). This will be difficult, but with the proper management, over time your weed problems will be reduced.
10. In the past, grain, vegetable, and fruit producers have experienced a decline in crop yields during their transition process. Most of these problems arise from farming on soils that are compacted, have little organic matter content and minimal biological activity. Lack of experience in organic management practices also can negatively impact yields. The results from the transition experiment in Ohio (shown in Table 1) reflect these problems. However, recent research conducted on the organic transition process has demonstrated that with good preparation and management, yields can be obtained in organic plots that are near if not more than those in the conventional plots (Delate and Combs, 2004; Martini *et al.*, 2004). It is important to note that the transition research conducted by Delate and Combs was done on rich prairie soils that had been in alfalfa for the three previous years with a farm manager experienced in organic production, whereas the Ohio study was done on conventional land that had been in continuous corn for 15 years prior to the experiment.
11. Including livestock in your organic production system is not required in order to be successful. However, having some type of livestock on your farm can be very helpful to your soil management program. Livestock can cycle nutrients and energy, limiting the need to purchase fertility inputs while providing an additional source of income.
12. Going organic should be seen as a long-term commitment. The transition process takes time. Depending on the size of your farm, it may take many years. At a minimum, it takes three years to certify a field once you have stopped using the prohibited products. As it will be presented later, most practitioners and researchers agree that it is best to transition your farm one parcel at a time instead of all at once. Most suggest to start with no more than 25% of your acreage. This will allow you to apply what you have learned to subsequent fields and will provide some economic support if you experience difficulties during your first step.

Acknowledging these realities of organic farming from the start will better prepare you to make the transition. Arming yourself with knowledge and foresight only increases your chances of success from the beginning of the process.

