Organic Small Grain Production

An Overview of Practices and Certification

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With the organic market growing at a rate of about 25% per year, more and more producers are exploring the possibilities of certifiable organic enterprises. One such enterprise is the production of organic small grains.

Growing organic small grains involves the utilization of sustainable practices that excludes the use of certain conventional methods such as commercial fertilizers, synthetic pesticides, herbicides, or fungicides. Organic growers instead rely on practices such as crop rotation, cover crops, and mechanical means such as undercutting for weed control. Soil fertility is maintained with alternative means such as animal waste, compost, or green manures. An integrated pest management system is also critical in order to control pests and various diseases.
Organic Certification

According to the United States Department of Agriculture organic certification is required for operations, or portions of operations, that intend to label and sell products as "100 percent organic," "organic," or "made with organic" ingredients. Gross annual sales of organic products must also exceed $5,000.

The process of certification involves working with an accredited certifying agent. Agencies for certification in our area include the Oregon Department of Agriculture (ODA), Oregon Tilth, and Stellar Certification Services, Inc. Contact information for these agencies can be found in the USDA’s Agricultural Marketing Service resources.

The typical process of obtaining certification involves an application, followed by an inspection of the operation. As pointed out by Oregon Tilth, the application doubles as the farm plan for the operation, which will include maps of the property, a description of record keeping, field and crop locations, pest and disease management strategies, and methods to prevent contamination. Then the application and inspection results are reviewed by the certifying agency, and the grower will clarify or correct any issues discovered as a result of the review. Finally, a certification contract and organic certificate are issued.

Fees for certification vary among agencies and certifiers. ODA for example has a $250.00 fee for first time applicants, with a $75.00 per hour inspection charge. Oregon Tilth bases its fee schedule on the gross income of the operation.

Organic vs. Sustainable

Although the words “organic” and “sustainable” are often used together when describing an operation, there are some subtle differences between the two terms. Essentially, sustainable agriculture refers more to the operation’s ability to operate in a manner that has the least amount of negative impact on the surrounding environment, and practices good stewardship to ensure their land will be productive for generations to come.

Although USDA certification standards currently do not extend beyond organic production there are third-party entities that a producer can register with in order to certify that their operation is eco-friendly. Sustainable certifications can include water conservation, green energy, or erosion control.

One such third-party certification entity is Salmon Safe, Inc, based in Portland, OR. Salmon Safe certifies that an operation is utilizing practices and procedures that support the restoration of salmonoid ecosystems in the Pacific.
Northwest. This can include water quality, runoff management, proper use of buffer zones for streams that run through the property, and avoiding the use of any pesticides that are deemed harmful to salmon if introduced into the applicable waterways.

Certification can be obtained directly from Salmon Safe, or as an additional service from Oregon Tilth.

**General Areas of Production**

Some general aspects of production that must be addressed when seeking organic certification are soil fertility, weed control, and disease & pest management. Fortunately, Alternative methods that comply with organic certification standards exist for each area of production in small grains with additional research adding knowledge to the production system each season.

**Soil Fertility**

A typical soil fertility strategy seeks to find natural, alternative methods of fixing nutrients and building organic matter in the soil without relying on commercial fertilizers. Methods for this include crop rotation, animal manures, and green manures.

Crop rotation is used for the current crop to reap the benefits of whatever previous crop was in place. An example is to plant legumes, whose nitrogen-fixing quality will benefit the following crop. Crop rotation has additional benefits beyond soil fertility such as weed suppression, and the disruption of pest and disease life cycles.

Fertilizing with animal manures can also be a component of fertility management. This is especially beneficial from a management standpoint if there is a livestock enterprise in place along side a field operation. Local sources are important for long term sustainability of incorporating animal manures largely due to the cost of transportation.

Green manures refers to the practice of planting a cover crop, and then tilling it under for the purpose of soil improvement. Again, legumes are an ideal crop to utilize for green manure due to their nitrogen-fixing properties. Austrian winter peas planted in early spring are an example used in our research trials.

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*Rotary hoeing wheat, OSU organic dryland cropping systems study—2008
Photo: Mary Corp*
Weed Control

In addition to crop rotation, management practices such as fallow weed control and in-crop tillage are effective means to control weed populations. Planting a cover crop that will be undercut for green manure during fallow can result in a weed-free field at seeding time. Light mechanical in-crop tillage such as the use of a harrow, cultivator, or rotary hoe can also be beneficial.

Allelopathic properties (the ability to inhibit the growth of surrounding plants) of certain cover crops are being explored. One possibility is rye, which is thought to suppress the germination of small seeds for 30 to 60 day, or until it is tilled under.

Disease and Pest Management

An integrated pest management system is essentially as an overarching strategy with the goal being to reduce the presence of crop-damaging insects that may also spread disease. This system can vary from operation to operation, but basic management plans may include scouting, establishing population thresholds, planting sacrificial cover crops, mass trappings, or biological control methods such as releasing beneficial insects to combat the population of harmful ones.

An integrated pest management resource guide is available from the OSU Extension Service.

Some diseases can be managed by choosing varieties that display better natural resistance, or by mixing varieties. Mixing varieties that have different areas of natural resistance can reduce the risk of total crop failure due to the onset of one specific pest or disease. Planting different varieties in different fields may also be a viable option.

Resources


Salmon Safe assessment guidelines: www.salmonsafe.org

References


