Bringing Idle Land into Organic Production

by Mary-Howell & Klaas Martens

With the high price of organic grains right now, many farmers are eyeing abandoned land, thinking about the profit it might produce. Some of those people have never farmed organically, but they realize that a piece of abandoned land could be certified without a transition period, allowing them to benefit from organic farming immediately. If you are thinking about doing this, there are many things you should understand first to achieve organic success.

ORGANIC CERTIFICATION

Nearly everyone knows that organic farming means not using a lot of things that conventional farmers do, such as synthetic fertilizers, pesticides, antibiotics, growth hormones or genetically modified crops, and that for land to be certifiable, it must be three years away from the last use of prohibited materials. However, many people don't understand that organic certification is not just about what we *don't* do. To be successful at organic farming, organic farmers put

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strong emphasis on *intentional improvement of soil health and biodiversity on the farm*. This includes crop rotation (we are not allowed to grow the same crop in succession in the same field) and use of cover crops, approved soil amendments, compost and other natural materials that stimulate and enhance soil organic matter and microbial activity.

If we make over $5,000 on organic sales, or if we sell to organic processors or organic livestock farmers, all our crops labeled as "organic" must be certified by an agency licensed by USDA. There are over 100 such agencies in the United States and Canada. You should contact such an agency operating in your area. Ordinarily, the process of certification consists of the following steps: First, you obtain and complete a fairly extensive "Farm Plan" application in late winter. You will probably benefit from asking an experienced organic farmer to help you fill out your initial application, for better understanding of the intent of the questions and the goal of the process. During the summer you will undergo an on-farm inspection, and in the fall, you receive your certification. The process always takes longer than you expect, on average about 6-8 months. In the first year, you will probably not to be able to sell your organic crops until the entire process is complete. This will may mean that you have to store some crops for several months until your certification is finalized.

Keep in mind that organic certification requires fairly extensive record-keeping, and for many farmers, this can be a challenge. The goal of organic certification is traceability: your paperwork documenting everything that happens with your organic crops from planting to sale, including all field operations, inputs, harvest and storage records, sales receipts, *etc*. All purchased inputs must be approved, and all labels must be saved. Before embarking on the organic certification journey, it is a good idea for you or someone else on your farm to take full responsibility for this detailed and careful record-keeping process. If you are parallel-producing both organic and non-organic crops of the same type on your farm, you should plan now how they will be kept clearly separate to prevent commingling.

Organic certification is not cheap. Before starting the process, you may wish to compare the likely added value from organic crops to the additional costs. It is possible that certifying a small piece of abandoned land will not pay, even at today's grain prices.

EVALUATING THE LAND

First you must evaluate the land you are interested in certifying. The plant species present can tell you a lot about your potential success and what you will need to do. Land growing mostly goldenrod, sumac and other semi-woody plants probably has been abandoned for awhile, and the soil will contain mostly recalcitrant non-cycling organic matter that won't readily break down to release fertility. Old sod fields are much the same — very high in organic matter, but little of it is actively cycling, resulting in low microbial activity and low available fertility. Such land can usually be "awakened" with a few years of appropriate amendments and crop rotations, but you will really have to focus on providing enough nutrients to your crops in the first year. Also, woody growth will need to be mowed and plowed under, and may still create machinery challenges until it decomposes.

Idle land with weeds such as lamb's-quarter, pigweed and velvetleaf indicate high fertility soil, perhaps land that received ample manure in the past. Such land should be adequately fertile, but weed control may be a real challenge. If there is quackgrass on the land, a pass or two with a spring-tooth harrow on a dry sunny day after the field is plowed will help to remove as many of the roots as possible.

Before the season starts, it is a good idea to conduct soil tests. We organic farmers highly value the information we get from soil tests, not just the usual NPK and pH, but also calcium, magnesium and trace elements such as copper, boron and zinc. Make sure the lab you choose will provide this detailed information, and find out from them how they want the soil tests taken and prepared before you head out to the field. Soil tests alert you to the limiting factors, to potential weed and crop problems, and help you plan appropriate inputs effectively and economically.

It is very important that your fertilizer recommendations be made by someone who understands organic farming and eco-agriculture. If at all possible, talk with someone, another farmer perhaps, who has successfully brought similar land into productive organic farming. Many experienced organic farmers are willing to help you evaluate your soil test results and suggest which nutrients are needed and what products are allowed under organic standards. Just because you spend a lot of money on crop inputs, or that a particular product is allowed under organic standards, does not mean that it is what you *need*, nor does it mean that it is the most cost-effective way to address your problems.

In many cases, nutrient availability and crop performance will be greatly improved by application of lime or gypsum, or from additional drainage, but before you start investing in amendments or installing tile that will pay off over a number of years, you may want to firm up rental or ownership agreements to last more than one year. Don't try to fix all the nutrient problems in the first year — not only will that often be unsustainably expensive, but adding massive amounts of any product at one time, even something as beneficial as lime, will also "shock" the soil and create nutrient tie-ups and microbial disruptions. Lime recommendations based solely on soil pH have led a lot of farmers into trouble, largely because of this factor. Plan on correcting the problems over several years, taking soil tests as you go to monitor improvement. Unfortunately, we have seen some farmers who had doing OK before they started "improving the soil" but who actually bought themselves serious and expensive soil problems by trying to fix things too fast.

PLANNING YOUR FIRST CROP

Many new organic farmers want to start with corn, but that is probably not a good choice on abandoned land. Corn has high fertility needs, especially nitrogen, so unless you have a good source of manure, crop growth may be weak, and the weeds will come on strong. Even

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with adequate fertility, weed control in corn will take a lot of attention. Without extra manure, we figure that corn on first-year organic land isn't likely to make more than 50-70 bu/A, so if you do choose to plant corn, it is wise to have fairly modest expectations.

We have found that soybeans are a particularly good pioneer crop on new organic land because they are tolerant to low fertility and can compete well against the species of weeds you are likely to have. Usually, row-crop type weeds are not a serious problem the first year on abandoned land. We usually plant soybeans with a corn planter and then cultivate them for weed control, but you can drill soybeans if you plant later in the season at a fairly heavy rate.

Buckwheat is a terrific crop to bring abandoned land back into production and health, though there may not be a strong market for the buckwheat grain. Because buckwheat tolerates low fertility, controls weeds, loosens and improves the soil, and makes minerals in the soil more available for subsequent crops, it is a great green manure that, when plowed under, will prepare the soil for planting a winter small grain in the fall or other crops the following spring. Buckwheat is also a good forage when grazed.

Of the small grains, oats or spring triticale, with or without field peas, are probably your best bet. Oats particularly usually produce a good crop on first-year land. Oats can also be used as a nurse crop to establish alfalfa or other hay mixes. Spring barley has high fertility needs and often requires a more experienced eye for weed control because the young seedlings are vulnerable to damage, but it can be successful with sufficient amendments. Under our conditions, we use caution planting winter small grains since they often need more fertility and different conditions than first-year land can usually provide.

GETTING STARTED

Let's start with a crop of soybeans. We would plow the land in the spring (or in the fall if possible), disk it once, apply a half-ton of composted chicken manure and perhaps 150 pounds per acre potassium sulfate, depending on the soil test results. If the soil has a pH of 6.5 or lower, layer manure would be fine, but on higher calcium soils, we prefer to use broiler manure with its lower calcium content. After applying the compost, we disk it in and then plant the soybeans. Adjust your planter and check to make sure you are getting uniform seed depth placement — uniform emergence is critical to effective weed control.

WEED CONTROL

In organic grains, weeds are going to be your biggest challenge. You will need certain types of specialized equipment, and timing is extremely critical, so before you start the season, make sure that you have the right equipment available and in good repair for early season weed control (coil-tine harrow or similar tool) and mid-season weed control (between-row cultivator). For soybeans, we usually use a coil-tine harrow weeder once just before emergence and again between the unifoliate and trifoliate stages. We then will cultivate once at mid-trifoliate and a second time about one week later. When the weather conditions are right and our equipment is properly adjusted, these four passes are generally enough to control the weeds. Weed control in small grains or drilled soybeans is a little simpler — a pass with the coil-tine harrow at emergence and than again at the four-leaf stage. (For more information on weed control equipment, timing, and decision-making, see our three online weed control articles at *www.newfarm.org/features/2005/0105/earlyweeds*.)

HARVESTING & SELLING

Before harvest comes, start making contacts with potential markets. It is not difficult to sell most organic grains, and the price is quite high right now, but you still will be expected to deliver a high-quality, stable product on your buyer's schedule. This may entail storing the crop for a while after harvest, so be sure you have a location, bin or other facility where your organic grain can be held in good condition, clearly separated from any conventional grain. The grain also must be harvested and handled to prevent the possibility of commingling with conventional grain or prohibited materials. If your combine, trucks, grain dryer, augers and storage facilities are not "dedicated organic," this will involved complete and documented cleanout before organic grain is handled. Be sure when you deliver the grain to your buyer that you bring along a completed bill of lading, fully identifying the product, and a copy of your organic certificate. Our article at *www.newfarm.org/columns/martens/2004/0904* can give you more tips on preserving grain quality and positive long-term marketing relationships.

Successfully growing organic grain is certainly not rocket science, and there is no doubt that we need substantial additional supplies of grain to stabilize price and availability for organic livestock farmers. With a little careful planning, and productive cooperation with other experienced organic grain farmers in the area, bringing a piece of idle land into production this year may be a great way for conventional farmers to learn that they really do want to become organic farmers after all!

With their three children, Mary-Howell and Klaas Martens have farmed 1,400 acres of organic field crops for the past 15 years in Penn Yan, New York. They also own and operate Lakeview Organic Grain, an organic feed and seed operation serving dairy and grain farmers in the Northeast.

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Resources for Soil Health and Soil Biology Information

Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin- free pdf download 94 pages http://learningstore.uwex.edu/assets/pdfs/A2809.pdf or purchase from the Learning Store, http://learningstore.uwex.edu

Soil Biology Primer - Soil and Water Conservation Society- purchase from http://www.swcs.org/en/publications/soil_biology_primer/

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Optimal Compost Rates for Organic Crop Production Based on a Decay Series Jeffrey B. Endelman *Utah State University* http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1354&context=etd

On Farm Research Guidebook, Dan Anderson http://web.aces.uiuc.edu/vista/pdf_pubs/GUIDEBK.PDF

Cornell Soil Health Assessment Training Manual http://soilhealth.cals.cornell.edu/extension/manual/SoilHealthManual4-22-10compressed.pdf

Sustainable Soil Management – ATTRA http://www.soilandhealth.org/01aglibrary/010117attrasoilmanual/010117attra.html

Sampling Soils for Testing – U of WI http://learningstore.uwex.edu/assets/pdfs/A2100.pdf

On-Farm Research Guidebook http://web.aces.uiuc.edu/vista/pdf_pubs/GUIDEBK.PDF

Soil Fertility Management for Organic Crops- U of CA http://anrcatalog.ucdavis.edu/pdf/7249.pdf
Midwest Cover Crops Council website http://www.mccc.msu.edu/

Cover crop selector tool http://www.mccc.msu.edu/selectorINTRO.html

University of Wisconsin-Madison, Dept. of Soil Science soils.wisc.edu

University of Wisconsin-Extension, Soil Science Extension http://www.soils.wisc.edu/extension

UW Nutrient and Pest Management ipcm.wisc.edu

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