Tips for Transitioning Fields to Organic Production

Bill Verbeten, Regional Agronomist, Cornell Cooperative Extension

With lower corn, soybean, and wheat prices many conventional grain farmers are considering transitioning a small part of their farm to organic to take advantage of the strong demand and higher prices for organic grains, Table 1. This article passes along the advice of some successful organic grain farmers in western NY as well as some research based-practices to increase the odds of successfully growing organic grains.

Certification & Transition Crops
To receive organic certification a field needs to be free of prohibited inputs for 36 months. Additionally farms need to work closely with a certifier, such as NOFA-NY (http://www.nofany.org/organic-certification/contact-certification), to make sure the appropriate documentation is in place.

But what are some ways to deal with three years of farming a field organically without getting the organic premiums? One option is to grow hay or haylage and not apply insecticides or prohibited fertilizers. For split operations (conventional and organic on the same farm) with cattle or a forage market this is a common practice. Another strategy is to grow crops that have a premium for transition. Dry beans are in demand and frequently have to be imported into NY so farmers have an opportunity for a premium price for this crop. Contact Everbest Organics (http://www.everbestorganics.com/) for more information. With the growth of the distilling market, some distillers are willing and able to pay a little more for non-GMO corn for their whiskey. Contact information for NY distillers is available on my Google Map (http://www.nwnyteam.org/submission.php?id=320&crumb=grains|3).

Non-traditional crops like buckwheat may have a place during these transitional years. Contact Birkett Mills for more information (http://www.thebirkettmills.com/company-infoforgrowers.asp). There is high demand for organic feed for organic livestock, but this market is not an option for transitional grain. Farmers seeking to enter organic markets should contact local organic farms and commercial outlets for their grain such as Lakeview Organics in Penn Yan, NY (http://www.lakevieworganicgrain.com/).

Best Management Practices
Choosing the right field goes a long way to making the transition to organic production easier. A number of split operation farmers recommend taking one of your best fields to start with organic. Fields with poor drainage, shallow soil, compaction, and other issues will be more problematic during the transition period.

Having a large supply of manure on hand is a must for organic farming. The USDA Guide for Organic Crop Producers (http://nwnyteam.cce.cornell.edu/submission.php?id=465&crumb=organic|6) states “Manures from conventional systems are allowed in organic production, including manure from livestock grown in confinement and from those that have been fed genetically engineered feeds.” It also states that there are restrictions on when the manure can be applied, “Application of manure to organic crops is restricted by what is known as the 90–120-day rule, as described in § 205.203(c)(1). You may not apply raw, uncomposted livestock manure to food crops unless it is: 1. Incorporated into the soil a minimum of 120 days prior to harvest when the edible portion of the crop has soil contact; OR 2. Incorporated into the soil a minimum of 90 days prior to harvest of all other food crops.”

Table 1: Organic Grain Prices

<table>
<thead>
<tr>
<th>Organic Crop</th>
<th>Price</th>
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<tbody>
<tr>
<td>Corn</td>
<td>$11.50/bu</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$28/bu</td>
</tr>
<tr>
<td>Transitional Black &amp; Pinto Beans</td>
<td>$0.55/lb</td>
</tr>
<tr>
<td>Black &amp; Pinto Beans</td>
<td>$0.90-93/lb</td>
</tr>
<tr>
<td>Light Red, White, &amp; Dark Red Kidney Beans</td>
<td>$1.20-1.34/lb</td>
</tr>
</tbody>
</table>

Source: Personal Communication with Everbest Organics
Corn is generally the easiest grain crop to begin with in an organic rotation. It’s a tough crop and most farmers already grow it. However there will need to be some management changes. First early planting is not recommended because the soils are still cold (<50 °F). This increases the time it takes for corn to emerge, gives insects (especially wireworms, white grubs, & seed corn maggots) a chance to eat the seeds, and increases the odds of seedling diseases attacking the corn. Fall plowing a sod followed by secondary tillage in the spring can greatly reduce these insects. However be sure any fall plowed fields are not highly vulnerable to erosion. Planting corn varieties with disease resistance is critical in organic corn because late season fungicide applications to control Northern Corn Leaf Blight and Gray Leaf Spot are not in the toolbox for organic fields. Delaying planting for organic fields may also require a shorter relative maturity than typically grown on earlier planted conventional fields. Cultivation equipment is a must to reduce weed pressure. For weedy fields a secondary tillage pass a couple weeks prior to planting followed by shallow cultivation right before planting can help reduce the weed populations. In extreme cases weekly shallow tillage and field rolling operations can be used to germinate and kill weeds before planting. Right after planting and prior to emergence of the corn rotary hoes can work well to control weeds, but be careful not to use this tool too late and tear up the crop. Early season cultivation of weeds can be accomplished with a flex tine weeder, Figure 1, when the weeds are at the white tread stage. Later passes for weeds 1-4 inches tall will require low or high residue cultivators, Figure 2. Timing these cultivation passes is a bit of art and experience, but 2 to 3 passes are necessary for most organic farms. Increasing seeding rates slightly and narrowing row spacing can also reduce weed pressure in organic fields. Soybean and dry bean production will be similar to corn in organic fields, but the disease pressure will likely be higher. White mold devastated soybeans and dry beans, conventional and organic alike, across western NY in 2014 and has the potential to be a perennial problem in organic fields. However practicing good crop rotations, planting resistant varieties, and widening row spacing (30 inch instead of 7.5 inch) can help reduce disease pressure. Mike Stanyard evaluated the product Contans for three seasons in western NY and never could find a consistent response in soybeans. Additionally Gary Bergstrom has conducted many trials with similar products without much disease reduction so we don’t recommend that farmers rely on these products to reduce soybean diseases in conventional or organic fields. Small grains (wheat, oats, barley, spelt, & rye) are almost always part of an organic rotation. Unlike high input conventional systems, small grains in organic rotations rely on manure, legume credits, and some Chilean nitrate for their nitrogen sources. While copper and sulfur products may slightly reduce some leaf diseases they haven’t been shown to consistently reduce disease pressure. Gary Bergstrom at Cornell University is conducting additional research with these products on malting barley and will have some information under NY conditions later this year.

With any of the organic grain crops there will be a need to invest in good seed cleaning equipment. Smaller, damaged, disease kernels can be separated by using fan mills, gravity tables, barrel cleaners, or even a well-placed screen in an auger. Be sure to thoroughly clean grain bins prior to storing organic grain and consider placing screening on the vents to keep insects out. *Diatomaceous* earth tears the soft bodies of insect larvae and can be added to organic grain. Managing the bin temperatures will go a long way to control insect growth in the bin as Ken Hellevang recently discussed at our Soybean/Small Grain Congresses. His website is here (http://www.ndsu.edu/aben/personnel/hellevang/) with more information on grain storage.

*Figure 1: Flex Tine Weeder*  
*Source: University of Maine (http://www.extension.org/pages/68312/video:-weed-control-in-organic-spring-cereals#VNzk6nF90j)*

*Figure 2: Cultivator*  
*Source: University of Wisconsin (http://corn.agronomy.wisc.edu/Management/L043.aspx)*