



MOSES

# Converting CRP Land to Organic Production

Land that is coming out of the Conservation Reserve Program (CRP) presents an opportunity for organic farmers. As land rental rates rise, many landowners are choosing to put their land up for rent rather than renew CRP contracts, making rental land easier to find. This CRP land typically is free of prohibited inputs and ready to be certified. But, even though the land has been “resting” for many years, it does not mean that it is fertile. CRP land may take considerable planning, work and inputs to be productive.



CRP land is attractive since you do not have to wait 36 months to transition the land to organic. However, one of the main purposes of the CRP program was to take marginal and highly erodible cropland out of production. So, it is usually not very fertile, and may be steep, rocky and thin-soiled, or wet and poorly drained. Still, it is possible to find suitable CRP land and prepare it for organic production.

## “Fallow Syndrome”

One of the problems that can occur after land is left fallow for a period of time is a loss of mycorrhizal fungi. These organisms work symbiotically with plants, bringing in water and minerals, particularly phosphorus, in exchange for the plant providing carbohydrates from photosynthesis. When mycorrhizal populations are low, there will be low colonization rates of plants, which can lead to nutrient deficiencies.

Another downside to fallow land is that nutrients become tied up in woody plants and a thick thatch of plant roots. As a result, organic matter is not cycling quickly. Over time, legumes tend to disappear in fallow areas, so there is not as much nitrogen fixation. Soil tests of CRP land frequently show low nutrient and organic matter levels.

## Steps to Take

If you have the opportunity to take over CRP land, there are steps you can take to bring it back into productive use:

- Confirm with the landowner that no prohibited materials have been applied for at least three years.
- Get a soil test.
- Remove trees, brush, and rocks.
- For hay, mow the field with a rotary mower to remove problem plants before they set seed.
- For row crops, rotovate or plow the field strips and till to prepare the seedbed. Strongly consider contour strip cropping on steeper, erodible hillsides.
- Lime and fertilize (as needed, using allowable applications).
- Plant cover crops, renovate hay fields and/or plant field crops.

## Prohibited Materials

Usually CRP land will not have had any prohibited inputs applied during the contract years. However, the contract does allow for some chemical weed control under certain conditions, so it is possible that some areas may have been spot-treated with herbicides. It is also possible that some seeding has been done to increase diversity. Confirm with the landowner that there have been no herbicides used or seeding done. If there has been some spot treatment, find out the dates of application. You must wait 36 months from the date of application for the field to be ready for organic production. Remember that this is on a field-by-field basis, so only some fields may need transitioning. Seeds are only an issue if they were treated, i.e. they had a fungicide or insecticide treatment applied.

## Soil Test

Take a soil test and ask for a lab report with as much detail as possible. Soil fertility is probably low on CRP

land. Sitting idle does not induce the soil to release plant-available minerals. A lot of the nutrients on the land are now tied up with complex carbons in the woody, brown, or mature plant materials growing there. A soil test will give you have a good understanding of what minerals may be deficient, allowing you to address those deficiencies.

### **Field Preparation**

Remove trees, brush, rocks and stumps if needed. Start working CRP land in the fall to begin the process of residue breakdown well before planting. Shred the residues, disk, rotovate, then wait a few weeks and shallowly work the soil and plant a green manure crop. The brown plant materials (thatch) are carbon, which is complex in structure and slow to break down. It takes time and nitrogen to break down carbon into available nutrients. Apply a rich manure, such as poultry, hog or livestock yard manure. Work the land, put manure on it and grow a green, highly digestible cover crop. Fall rye is a good choice for CRP land, especially when planted in the fall.

All that complex carbon you have worked into the soil is good for building organic matter. You don't want to burn off all your carbon by over tilling. Work the land just enough to break up the sod and then use your cover crop as a way to start improving soil structure and cycling nutrients. Plowing will work, but be aware that you are burying a lot of organic matter in the process.

### **Fertility and Crop Selection**

After preparation, address any mineral deficiencies. Start with any calcium and phosphorous deficiencies and applying a good, balanced, organic crop fertilizer. It will take some time to get soluble nutrients moving again on CRP land, and rock phosphate and lime are low in solubility. Work with a crop/soil consultant if you need professional help.

Next, consider what to plant. A soil full of brown carbon won't grow the best grasses since they need soluble nutrients. Oats and peas, planted in the spring, then a fall seeding crop with clover under-seeded is a good option for a first crop. You are essentially transitioning the land back into production, as compared to transitioning conventional to organic. We are speeding up and getting the nutrient flow working again. Both CRP and conventional land need a healing, fixing period. It will take a few years to rebuild the soil and improve production.

Soybeans, with a rhizobium inoculant, is a good choice for a first crop too, since soybeans are a legume capable of producing much of its own nitrogen needs. Corn is a heavy feeder and not the best first choice until you have

improved the soil fertility and organic matter.

It is often suggested to grow perennial hay on CRP land. Growing hay and selling it removes minerals and organic matter from the soil. These nutrients need to be replaced through the use of livestock manures, fertilizers, compost, and liming materials. Selling hay from ground with low fertility makes the situation worse. If you'd like to harvest hay, it may make the most economic sense to start from scratch with a completely new seeding. Alfalfa, and/or a legume grass mix inoculated with rhizobium bacteria will help with nitrogen fixation.

### **Pasture and Grazing**

CRP land often makes low-quality pasture for the same reasons. If you do decide to use the CRP land for hay or pasture, plan to de-thatch, fertilize and renovate (re-seed) with legumes and the desired grasses. Contact the Natural Resources Conservation Service (NRCS) for help with assessing the quality of CRP pasture, and for help with design, renovation, fencing, and cost share information. NRCS Grazing Specialists can help design a complete grazing plan. The NRCS also has a free document called "Expiring CRP Land—Convert it to Pasture" which can assist with the process.

### **Conclusion**

CRP land will take planning, preparation and work to become productive cropland. Immediate organic certification is attractive, but don't make any decisions without considering the input and labor costs needed to bring the land fertility and structure back to productivity. If you are the landowner, sometimes, CRP land is best left in conservation reserve.

For information about CRP, see [www.nrcs.usda.gov/programs/crp](http://www.nrcs.usda.gov/programs/crp).

For details on the NRCS range and pasture resources, see <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/rangepasture/>.



The Midwest Organic and Sustainable Education Service (MOSES) provides education and resources to farmers to encourage organic and sustainable farming practices.

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