American Farmland Trust

CONSERVATION CROPPING SYSTEM FOR *ORGANIC TRANSITION*

What's Your Strategy?

A **Conservation Cropping System** is a suite of practices that work synergistically to replenish soil life, restore organic matter to your farm's soils, and in return reduce risks. Over time these improvements increase nutrient efficiency and farm profitability, reduce sediment and nutrient losses, and make farms more resilient to extreme weather conditions. The practices are tailored specifically to your farm, with considerations such as the equipment you own, the crops you raise, and your soils, slope and proximity to water.

What Is the Purpose of Conservation Cropping System?

The purpose of this Conservation Cropping System (CCS) recipe is to provide a starting point for farmers interested in transitioning a farming operation to organic, with a focus on restoring soil life and natural function. This recipe provides starting steps, and should be used along with finding a crop advisor or mentor experienced with organic transition.

Cover crops are not simply another growing-season choice, like which seed treatment to use, but instead cover crops are important tools for accomplishing long-term goals such as ensuring farm productivity and profitability for the next generation.

Best Type of Conservation Cropping System?

The best CCS is the suite of practices that work well with your farm to improve soil health while improving profitability. Every CCS includes practices to:

1) Reduce soil disturbance to the maximum extent possible
2) Keep a living root in the system for as long as possible
3) Diversify crop rotations
4) Keep the soil covered with living or dead (mulch) vegetation at all times

For every CCS, a good starting point is to have a fertilization plan that maximizes nutrient use efficiency through the 4Rs. The 4R concept incorporates the Right fertilizer source at the Right rate, at the Right time and in the Right place: http://www.nutrientstewardship.com/4rs/

Step-by-Step "Example" for CCS Organic Transition in Three Years:

Step 1) Year "0": Any land used to produce raw organic commodities must not have had prohibited substances applied to it for the past three years. The transition plan below assumes that prohibited substances (e.g. many chemical applications) have ceased prior to the first year operating the farm – i.e. the transition starts in the summer or fall of "year 0".

Step 2) Year 1 (Spring Transition): In the first year, don't plant a cash crop, plant a "soil-life" crop to jump-start soil biology. Plant oats over a seeded grass-legume mix such as 25% red clover, 25% perennial ryegrass, 25% alfalfa, and 25% orchard grass. Calculate proportions by seed count and not by weight. (NOTE: Do not harvest in Year 1, if one harvests everything, all of the fertility is harvested.)

Step 3) Year 2: Keep grass-legume mix. Hay one time only, early or mid-season, based on quality of the hay.

Step 4) Year 3 (Completed Transition): This is the first year to obtain certified crops. The hay-field will be shallow, moldboard plowed or tilled (roto-tiller), or even shallow disking in the spring, with secondary tillage trips to level the field. Cash crops can be planted. Cultivation will be used for weed control multiple times (NOTE: A four-year diverse rotation with cover crops is best for nutrient retention).

Option of Transition Types (Short Summary):

It's very important to find a crop advisor or mentor who has experience in transition and organic farming. One wrong mistake can have an impact for 5+ years. It's very important to be a "giver" more than a "taker" with crops and hay. It is strongly advised against taking more than one crop of anything per year and not double-cropping. Instead, take advantage of cover crops with the type of current conditions that are being used on the farm.

Option 1: If Cash Is Not Needed

In the spring of year 1, plant the oats and grass-legume mix. Combine or mow oats and keep mix mowed or grazed through year 1 and year 2. (NOTE: Don't bale or sell any of the hay.) In the fall of year 2, work the mix up and plant an oats/radish cover crop. Plant corn in the spring of year 3.

Option 2: Intermediate

In the fall, after the conventional crop harvest, plant wheat. Seed grass-legume mix in March or April of year 1. Combine wheat in year 1 and mow-mix in the fall of year 1 and through year 2. (NOTE: Don't bale or sell any of the hay.) Work-up a mix in the fall of year 2 and plant a winter-kill cover crop and corn in the spring of year 3.

Because synthetic fertilizers are not being used, the crops planted are the soil's fertility.

Option 3: If Cash Is Needed

Plant cereal rye following conventional crop harvest (minimum 150 lbs for no-till beans, 75 lbs for cultivated beans). Follow cereal rye with soybeans in year 1. Either mow down and work in the cereal rye, or use a roller crimper and no-till soybeans. Follow soybeans with wheat, rye, or oats in year 2. Inter-seed small grains with red clover (NOTE: Mow clover after grain harvest for weed control). In the spring of year 3, add manure as needed and work red clover down and plant organic corn.

Observations

Get to know the neighbors and their farms! Be able to understand their cropping systems so harm can be avoided and vice versa. Try to find out the neighbor's maturity dates and herbicide usage. Plan a sustainable system, find a mentor, and ask some questions: What will be managed? Grain? Livestock? Vegetables? Is the land owned? How much is rent? Or is it leased? If money is needed, then plant a cash crop of cereal rye in the fall and no-till the land. The types of crops grown will influence timing considerations and cover crop rotations.

Continual Learning:

Seek out "farmer mentors" – look for farmers in the area who are implementing soil health management practices in organic systems. A great place to find a mentor is through the IDEA Network – this is a list serve with dozens of active members, both farmers and researchers, working together for continual learning. Contact Will Glazik (w.glazik@gmail.com) to sign up.

Consult with Soil Health Specialists and find field days at the Illinois Sustainable Ag Partnership: www.ILsustainableAg.org

Stop in your local USDA Natural Resources Conservation Service and county Soil & Water Conservation District office for technical and financial assistance with the conservation practices discussed in this fact sheet: https://www.nrcs.usda.gov/wps/portal/nrcs/main/il/contact/local/

Sign up for updates with the Soil Health Partnership & find other farmers, field days, and professionals: www.soilhealthpartnership.org

The Land Connection is an Illinois non-profit with a focus on training farmers in organic methods: www.thelandconnection.org

Join the Midwest Organic & Sustainable Education Service (MOSES) and find field days and fellow organic farmers along with a wealth of information about growing organic crops: https://mosesorganic.org/

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