ORGANIC FARMING RESEARCH FOUNDATION

CROP ROTATIONS & CROP-LIVESTOCK INTEGRATION

Examples of Rotations on Organic Farms with Integrated Crop-Livestock Systems

In OFRF's 2022 National Organic Research Agenda (NORA), organic farmers and ranchers across North America shared a common concern about the lack of technical assistance and educational resources available for Integrated Crop-Livestock Systems (ICLS). Integrating crops and livestock results in numerous benefits, however the process can also lead to increased complexity, especially for farmers who must adhere to National Organic Program rules and regulations.

At OFRF we know farmers' #1 source of information is other farmers.

This series of resources focused on Crop-Livestock Integration is informed by interviews with four highly-experienced organic producers that shared their challenges, successes, and advice for others interested in integrating livestock and crops on their organic farms.

FROG SONG ORGANICS

Hawthorne, Florida

Mixed vegetables, flowers, herbs, pastured pork, eggs

LOCAL COLOR FARM & FIBER

Puyallup, Washington

Naturally-dyed yarns and fibers, Finnsheep lambs, vegetables

SHADY SIDE FARM

Holland, Michigan

Heirloom dry beans, open pollinated corn, small grains, hay, beef and lamb

HIDDEN HOLLOW FARM

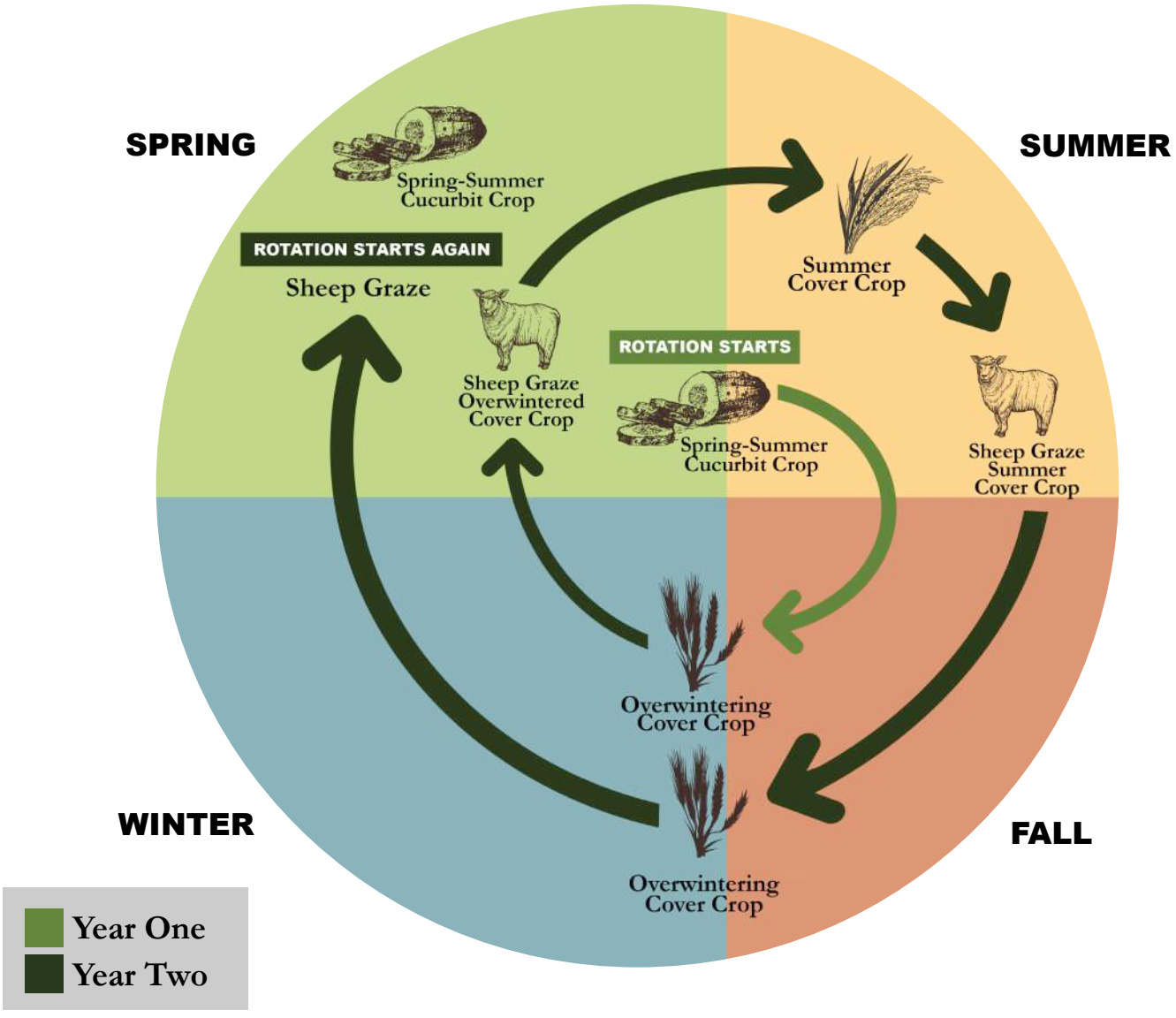
Dayton, Virginia

Dairy, eggs, vegetables, hay, corn, and beef

Where crop rotations are practiced, different crops are planted sequentially on the same piece of land. Organic farmers are required to implement a crop rotation that builds soil organic matter, works to control pests, manages and conserves nutrients, and protects against erosion.

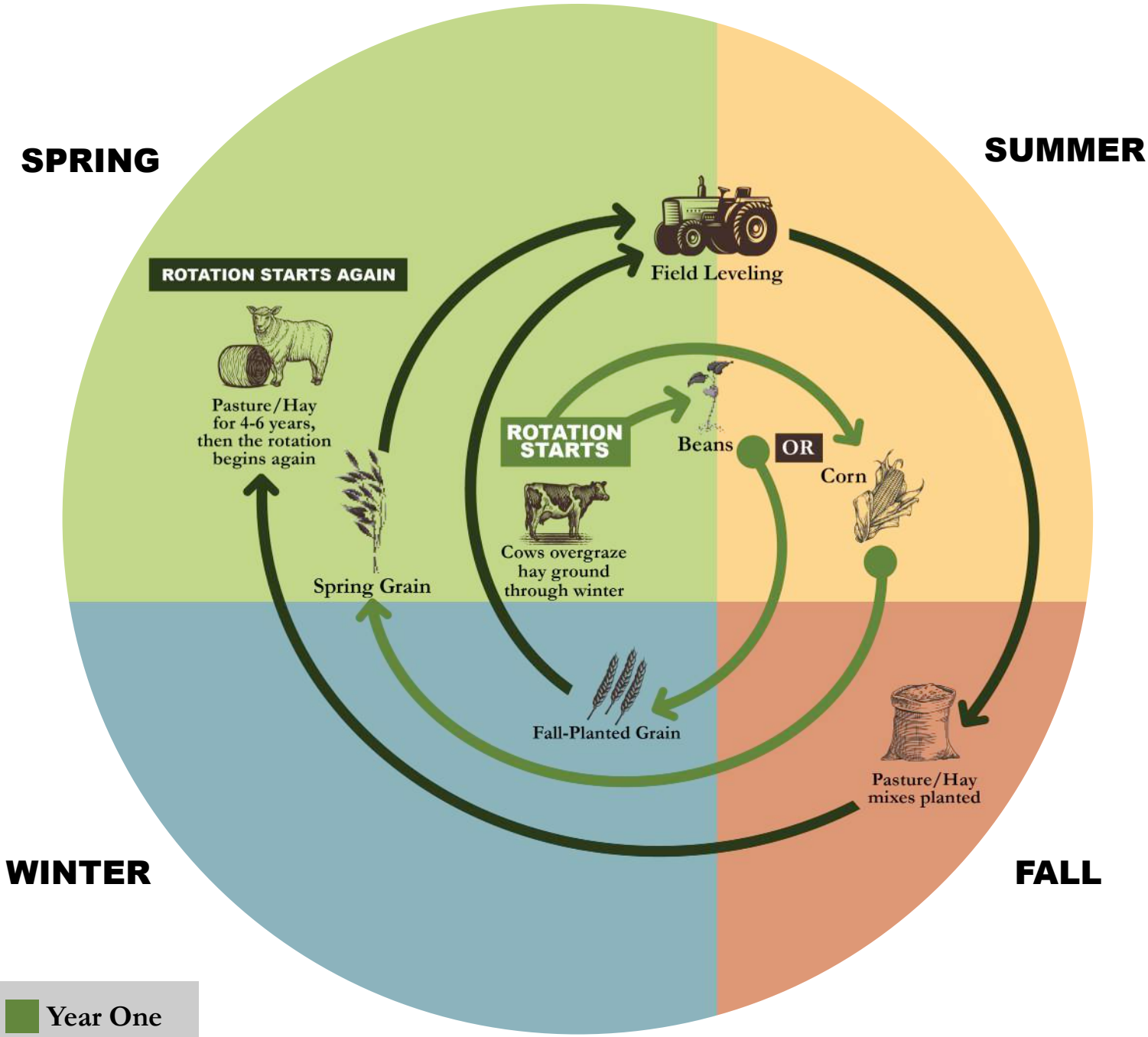
Crop rotations for organic farmers with integrated crop and livestock systems (ICLSs) include animal rotations. On the farms featured in this project, rotations help provide fresh and diverse forage for livestock, deposit manure to crop fields, aid the incorporation of residues to the soil, and help control pests with mechanisms not available to farms without integrated systems.

Local Color Farm and Fiber; A Two-Year Rotation of Cucurbits and Sheep



Squash production is rotated with a year of cover crops and sheep grazing at Local Color Farm and Fiber. An overwintering cover crop such as crimson clover and grass is planted following squash in year one. In the spring of year two, sheep graze the overwintering clover and grass mix. A summer cover crop of buckwheat is then planted, which is also grazed by grazed by Local Color's Finn sheep, a breed raised for fiber. In the fall of year two another overwintering cover crop such as rye goes in. The following spring, the cover crop is grazed by sheep before the rotation begins again.

Shady Side Farm; A Seven-Year Rotation of Heritage Grains and Pasture



Shady Side Farm uses a 7-year rotation to produce heirloom beans or corn, over-wintering heritage grains, and 4 or more years of hay and pasture for sheep, cattle, and chickens. In year one, a year of pasture/hay is followed by over-grazing through the winter by Belted Galloway cattle, a breed that does well outside in Michigan winters. In summer of year two, flour corn or heirloom beans are planted. Where beans are grown, an over-wintering heritage grain is planted in the fall; if corn is grown, oats or barley are planted the following spring. After the grains come out, there is a window in the rotation for field leveling before pasture mixes are planted. Pasture mixes remain for 4+ years before the rotation begins again.

Hidden Hollow Farm Rotation Description

A long pasture mix is also part of a seven-year rotation at Hidden Hollow Farm, a producer of organic milk and eggs. Six years in a diverse pasture mix is followed by a summer where chickens graze intensively, and, like at Shady Side, cows 'outwinter' to help prepare the ground for planting the following season. The next summer, the perennial pasture mix is planted with a triticale nurse crop, which grows quickly and provides early grazing by mid-March, as the pasture mix is still getting established.

"To keep erosion from being a problem we strip till, so all our paddocks are no more than 300' wide, that way when we need to rotate into annual crop, where we do tillage we minimize the erosion potential. It takes the cows about two days to go over about 5 acres, so that works well. Production on pasture is harmed when ground is regrazed within a few days of being grazed. So we keep the sizes so we can move every couple days."

~ Arlen Beery
Hidden Hollow Farm

Frog Song Organics Rotation Description

At Frog Song Organics, a crop rotation for sweet potatoes includes grazing by pigs, and helps control a serious insect pest. Following the potato harvest, a cover crop is planted. Later, pigs graze down the cover crop and dig down to eat any leftover sweet potatoes, effectively removing any insect pests within them. The ground is then plowed and planted with the next crop in the rotation, a winter, spring, or summer vegetable. (See Resource 1: Benefits of Crop Livestock Integration and the Crop-Livestock Integration at Frog Song Organics video, both available on our website.)

Key Takeaways

On organic farms with ICLS, crop and animal rotations intersect. This can add complexity to crop planning, but farmers can strategically coordinate crop and animal rotations to benefit crops and livestock, boost soil health, and increase farm efficiency.

This resource is one of several ICLS resources OFRF has created for farmers. The series includes farmer stories, a video presentation, and factsheets on key topics, that include: The Benefits of Crop-Livestock Integration, Food Safety and Crop-Livestock Integration, and Infrastructure for Crop-Livestock Integration.

ORGANIC VALLEY Family of Farms

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FARMERS ADVOCATING for ORGANIC