

Up Your Sustainability

Sustainability, as it relates to farming, describes practices that can be sustained over a long period of time without depleting or damaging natural resources, while maintaining the farmer's income and decreasing farm expenses. Learn how to increase your homestead's sustainability.

By Carol Ekarius

Plan Your Sustainable Homestead

Read "Planning Makes Perfect" for an in-depth checklist to help you plan your sustainable homestead.

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Everywhere you turn, it seems like the buzzwords "sustainability," "green design" and "reducing your carbon footprint" are being used.

But what do these words mean to farmers?

Sustainability, as it relates to farming, describes practices that can be sustained over a long period of time without depleting or damaging natural resources, while maintaining the farmer's income and decreasing farm expenses.

In many ways, sustainability is even more important to farmers and homesteaders than to their city cousins because it's tied not only to environmental concerns, but to very direct economic and social concerns as well: the checking account must balance or the farm—whether commercial or hobby—will not remain a farm for long; and, the family and community must directly benefit from activities undertaken in the name of conservation.

There are three key goals for increasing sustainability:

- 1) Increase energy and water conservation and efficiency;
- 2) Reduce or eliminate the use of harmful substances; and
- 3) Make efficient use of available materials and resources.

© John IvankoThe great thing is, we all have the ability to make some changes (some are expensive or difficult, others are cheap and easy) that increase our personal sustainability; when you start incorporating these concepts into your farming operation, you can improve your checking account balance and your family's quality of life, as well!

Growing Green: Pastures, Perennials, Ally Cropping

In terms of sustainability, green is the color to shoot for and getting more land into perennials, such as pastures, hay fields, windbreaks and riparian vegetation strips, is one of the first things to do.

In fact, these green swathes are the winners of the ecosystem gold: They are effective at slowing runoff and reducing erosion, and for providing habitat for wildlife and for native beneficial insects, such as bees, dragonflies and aphid-eating lady beetles.

They allow more water to recharge aquifers. Green earth is cooler than brown earth in the summer and if trees are part of the landscape, they reduce the impacts of wind—from erosion to increased heating and cooling costs.

Perennials and Pastures: Some perennial crops also provide food for your family or products for market (think herbs, orchards, vineyards, berries and beehives associated with legumes like clover or birdsfoot trefoil).

© David LiebmanTo increase your farm's sustainability, planting native perennials should be at the top of the priority list. These perennials have adapted through time to thrive in your climate and soil, and they provide food for native wildlife and

beneficial insects. Avoid monocultures and encourage biodiversity whenever possible.

For pastures, use management intensive grazing to reduce weeds and improve stand health, and interseed a variety of grasses and legumes that do well in your region using frost seeding (surface spreading seed during early spring when you're having hard frosts) or even snow seeding. Frost seeding is more effective with legumes than most grasses; if you need to add some new grasses, you may need to use a no-till pasture drill.

Next on the list is planting a garden—a truly wonderful addition for sustainability. Even if your farm is still a dream and your reality is a small lot in town, the garden will provide both food and pleasure.

Each year plant some new perennials in your garden: A vast array of herbs—from basil to thyme—are excellent garden perennials, as are fruit bushes and trees.

Mulch, Irrigation and Ally Cropping: Will you need to irrigate your garden? If so, invest in a rain barrel (if they are legal where you live) and if possible set it on ground higher than your garden so that gravity does the work.

For annual garden crops, use generous amounts of mulch to retain moisture.

Most farms still have some annual cropping areas. At a minimum for these fields, use green vegetative strips and windbreaks along the edges to reduce erosion and provide habitat for wildlife and beneficial organisms.

You should also consider alley cropping—a technique that dramatically increases your sustainability in annual fields without significantly decreasing yields. In alley cropping, you break a large field up by planting rows of trees or shrubs at relatively wide spacing across the field.

Select trees or shrubs that will provide products (nuts, berries) or nutrients (leguminous trees and shrubs); these will reduce erosion and evaporation while providing a long-term monetary benefit. Crops planted in the alleys tend to out-perform those grown in larger fields without the tree or shrub breaks.

Crop Rotation: Another important step to increasing sustainability in the garden or field is to use well-planned crop rotation.

The rule of thumb for crop rotation is: Never grow the same annual crop in the same soil two years in a row.

So corn on corn is bad, but a multi-year rotation where a field is in alfalfa or a similar forage crop for hay, grazing or green manure for two to three years, followed by a year of corn, then a year of soybeans, then another year of corn, and finally a year of small grain as a nurse crop for the forage, is excellent.

Benefits of crop rotation include reductions in disease, insect and weed pressure, and increases in soil fertility, organic matter and water-holding capacity. Rotations require planning and forethought, but they have been shown time and again in university research to improve yields and farm profitability.

As your land's health improves, pests decrease, but when you have to deal with these problem organisms, opt for non-chemical strategies as your first choice.

Integrated Pest Management

Integrated Pest Management (IPM) is an approach that uses knowledge of the pest and its life cycle to combat it. IPM solutions vary depending on the problem organism you are dealing with, but may include: using physical barriers, such as covering potato plants with garden fabric like Remay to keep the Colorado potato beetles away from the plants; using beneficial organisms such as lady beetles to fight aphids; using pheromones to disrupt the mating of some insects; or using mechanical treatments such as tillage or flame weeders to control weeds.

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