Photo by Troy Bishopp

what is SUSTAINABLE agriculture?

Every day, farmers and ranchers around the world develop new, innovative strategies to produce and distribute food, fuel and fiber sustainably. While these strategies vary greatly, they all embrace three broad goals, or what SARE calls the 3 Pillars of Sustainability:

PROFIT over the long term
STEWARDSHIP of our nation's land, air and water
QUALITY OF LIFE for farmers, ranchers and their communities

There are almost as many ways to reach these goals as there are farms and ranches in America.

A cattle rancher might divide his rangeland into paddocks in a rotational grazing system to better manage soil and water resources while improving animal productivity. A field crop farmer might implement a rotation to break up pest cycles, improve soil fertility and cut costs, or use cover crops—non-cash crops grown for their benefit to the soil and ability to suppress weeds. A fruit and vegetable grower might try a new marketing approach such as selling directly to restaurants in a nearby city to gain a larger share of the consumer food dollar.

No one recipe works on every farm and ranch. But to give a flavor of sustainable agriculture at work, we have profiled the sustainable operations of eight of SARE's many cream-of-the-crop grantees—including producers, researchers and educators. To get a more complete picture, view 61 in-depth profiles in SARE's book *The New American Farmer, 2nd edition* at www.sare.org/newfarmer.

Best Practice Sampler

It is impossible to list all the innovative and varied practices farmers and ranchers use to improve sustainability, so consider SARE's list below a sampling, not a prescription, of best practices.

MARKETING

Farmers and ranchers can boost their financial sustainability by using a greater diversity of marketing techniques: processing on-farm; creating value-added products and a strong brand identity; conducting market research to match product to demand; selling direct to consumers at farmers markets, community-supported agriculture (CSA) enterprises, roadside stands or through the Web; and delivering to restaurants, small grocers and local institutions—to name just some techniques.

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COMMUNITY VITALITY

Thriving communities—rural and urban—are a key to quality of life for all. When farmers and ranchers hire help and sell in nearby communities, for example, they contribute to the local economy. In turn, they have a nearby hub for raising their families and a possible market for their products.

ECOLOGICAL INSECT AND WEED MANAGEMENT

Ecological pest management avoids single-bullet solutions that can harm beneficial insects, and instead uses a combination of many complementary strategies—for example, biological controls such as trap crops for insect pests, physical removal of weeds and insects, application of chemicals if necessary, and other methods such as selecting crops that smother or shade out weeds and creating habitat for beneficial insects.

GRAZING

Management-intensive, or rotational, grazing systems keep animals moving from pasture to pasture to provide high-quality forage and reduce feed costs. An added bonus is that—with a little attention from the farmer or rancher—grazing animals distribute manure across the field, which contributes to soil fertility and reduces the need for purchased fertilizer inputs.

CONSERVATION TILLAGE

Many soil conservation practices—contour tillage, reduced tillage and no-till, to name a few—help prevent soil loss from wind and water erosion. Conservation tillage systems also help minimize soil compaction, conserve water and store carbon to help offset greenhouse gas emissions.

COVER CROPS

Growing plants such as rye, clover or vetch after harvesting a cash crop can provide multiple benefits, including weed and insect suppression, erosion control and improved soil quality. Cover crops are now grown on millions of acres across the country.

CROP, LIVESTOCK AND LANDSCAPE DIVERSITY

Growing a greater variety of crops and livestock—especially genetically diverse open-pollinated plants and heritage breeds—can make a farm more resilient to diseases and pests, as well as extremes in weather and market conditions. Certain agroforestry techniques—inter-planting trees with crops and growing shade-loving specialty crops, for example—help conserve soil and water, provide wildlife habitat and increase beneficial insect populations.

NUTRIENT MANAGEMENT

Well-managed and properly applied on-farm nutrient sources—such as manure and leguminous cover crops—build soil, protect water quality and reduce purchased fertilizer costs.

ON-FARM ENERGY CONSERVATION AND PRODUCTION

Farmers and ranchers are using energy-saving devices, windmills and solar power, while also learning how to grow and process their own fuel. These practices not only make farm operations more profitable, clean and efficient, they help reduce dependence on foreign oil and reduce greenhouse gas emissions.

A WHOLE-FARM APPROACH

A whole-farm approach combines the practices listed above into one integrated management system that works with nature: Reducing tillage and careful application of on-farm nutrient sources, for example, build soil organic matter; energy costs are reduced when fuel is produced from waste or renewable sources; pests are controlled by plant and landscape diversity; income is boosted by more efficient use of on-farm resources—and the list goes on.

WHAT ARE YOUR IDEAS? Read on for some of SARE's cream-of-the-crop stories about successful sustainable agriculture, then consider applying for your own grant... (view all SARE project results at www.sare.org/projects)

Ana Vivar sells a bounty of vegetables at a market in Santa Fe, N.M. The produce is from Santa Cruz Farm, where Don Bustos, Vivar's father, uses ecological pest management, cover crops, on-farm energy production and other sustainable techniques (see p. 5).

Photo courtesy Santa Cruz Farm