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Profitable Poultry: Raising Birds on Pasture



left: **Melissa and Jason Fischbach, of Ashland, Wis., like the small scale and minimum requirements of pastured poultry.** – Photo by Beth Probst; upper right: **Chickens foraging on clover and grass.** – Photo by Wolfgang Hoffmann; lower right: **A mobile on-farm processing unit.** – Photo courtesy of New England Small Farm Institute

LIKE MANY FAMILY FARMERS, JASON AND MELISSA Fischbach and their three children work hard to produce a living off of their diversified Wild Hollow Farm in Ashland, Wis., integrating vegetable production and poultry, and raising their birds on pasture. “There’s a good profit margin raising chickens and turkeys on grass,” said Jason, “as long as you know your inputs, get your prices right and keep your mortalities low.”

The small scale of pastured poultry, along with its quick turn-around and minimal equipment needs, attracted the Fischbachs to raising poultry on pasture. The needs of the family played a big role as well. “As fairly new farmers with little kids, we felt that the chickens were much safer with the kids around, compared to cattle or sheep.”

Jason, who is also an Extension agent for the University of Wisconsin, began raising pastured poultry

when the local farmer already doing so quit: “We sniffed out an opportunity to make a profit,” said Jason. At the same time, two other farming families recognized the same opportunity. Facing similar challenges, the three farms chose cooperation instead of competition and formed Pasture Perfect, LLC, a pastured-poultry cooperative. According to Jason, “Once all the farms joined together, everything changed for the good. We were able to buy in larger quantities, saving money, and help each other with processing.” Pasture Perfect also received a grant from USDA’s Sustainable Agriculture Research and Education program (SARE) to evaluate different feeding options to fine-tune their day-range production system.

Pasture Perfect sells around 1,500 birds per year directly from their farms, netting around \$2-\$6 per bird in 2011, and their poultry is in high demand. The

Also available at:
www.sare.org/poultry
 or order a free hard copy
 at (301) 374-9696.



cooperative also markets 2,000 birds, processed at a USDA-inspected processing plant, through community-supported agriculture, at farmers markets and in local stores. Pasture Perfect prefers to sell the birds directly off the farms though, not only because the profit margin is much higher, but, as Jason said, “Living out in a rural area, working on the farm, you don’t get to see a lot of people, so it’s nice having our customers picking up their orders on Sundays. It gives us a chance to meet our customers and show them where their food comes from.”

The consistent, profitable market is just one incentive for the Fischbachs, their partners and poultry producers across the country. Add in other win-win benefits—amending soil with poultry manure and improving pasture sward and diversity, especially when paired with grazing by ruminants—and it is easy to see how

outdoor poultry systems are meeting the needs of producers across the country.

“Birds on pasture make it easier to graze other kinds of livestock on those pastures, or to think about vegetable production that doesn’t need a boost from chemical fertilizers,” said Allan Nation, editor of *Stockman Grass Farmer*. “Before you know it, you’ve got a diversified operation that makes it simpler to earn money from several efforts, all of them working in concert, and all of them making your farm and your environment stronger. Pastured poultry drives the train.”

This bulletin is about boosting your farm’s profitability and health with pasture-based poultry systems. Read on to learn more, and consult the list of alternative poultry production resources on page 16 for a wide range of general information, publications and online materials.

PART I Determining the Right Alternative Poultry Production System



— Photo by Terrell Spencer, National Center for Appropriate Technology

INDUSTRY CHANGES

RAISING POULTRY ON PASTURE ISN’T EXACTLY NEW. Most broilers, layers and other domesticated fowl were raised outdoors before the advent of the now-dominant confinement method in the late 1950s.

Since then, large corporations have become the primary producers of poultry in the United States, developing “vertically integrated” practices that allow them to capture nearly 100 percent of the multi-billion dollar annual market. Today, vertically integrated corporations control almost every aspect of how broilers and eggs are produced, processed and sold. Individual farmers still participate in these large-scale systems, but as contractors who agree to meet standards that usually include furnishing climate-controlled confinement houses to hold tens of thousands of birds or more. An individual confinement house can cost more than \$200,000. Poultry companies usually supply farmers with chicks and feed needed to bring them to market weight in seven weeks or less. The vertically integrated corporations then typically manage the slaughtering and packaging process, paying contract farmers by the bird, with feed and heating costs factored into the equation. The system has helped make chicken a low-cost staple for American consumers.

But some farmers and consumers question whether, in the process of achieving that efficiency, values they consider important—autonomy and independence for

farmers, the welfare of the flocks, and the taste and quality of their meat and eggs—have been lost. To meet growing demand for poultry raised differently, a number of growers, especially those on small- or mid-scale diversified farms, are choosing to raise birds in alternative ways, most of them reliant upon pasture.

“One of our key findings is that the system has real advantages on diversified farms,” said researcher George “Steve” Stevenson, director of the Center for Integrated Agricultural Systems (CIAS) at the University of Wisconsin, who was awarded a grant from SARE. “What’s really nice about pastured poultry is that it folds in with a whole range of other enterprises.”

For example, Rick and Marilyn Stanley of Wells, Maine, have found that poultry and high-value vegetable production can mix well together. The Stanleys raise certified organic vegetables and laying hens on their historic New England farm. One of the most valuable crops the Stanleys raise is asparagus. They received a SARE grant to experiment with integrating hens into their asparagus production to control quackgrass and other problematic weeds. They examined weed growth in the asparagus beds both with and without the hens. After two years they concluded that the hens did a great job. “We’re happy with the job the hens did, and we’re planning on continuing to use them,” said Marilyn. “The hens are worth keeping for the labor savings alone because we spend so much less time hand weeding the asparagus.”

Terrell Spencer, a Nebraska pastured-poultry producer and sustainable poultry specialist with the National Center for Appropriate Technology (NCAT), said that historically farmers raised poultry not only for meat, eggs and feathers, but also as a management tool. “From the Southern tradition of using Cotton Patch and other geese to weed cotton and strawberry fields to American colonists running turkeys in the fields to manage tobacco worms, poultry are extremely versatile on the farm,” said Spencer. An increasingly popular method of fly control is to follow cattle with laying hens in portable housing, a method invented by pastured-poultry pioneer Joel Salatin. The laying flock tears apart the cow patties while searching for the parasitic fly larvae that live in the dung. The hens have a drastic effect on fly populations, leading to happier and less-stressed cattle, and increased gains and profits. “The more uses you can get out of your flocks, the more profitable they become,” said Spencer.

In Wisconsin, the Fischbachs have also found ways to mix vegetables and pastured poultry on their farm. Besides poultry, they raise tomatoes, peppers and other vegetables in high tunnels. “By November, the crops

Before taking the plunge, consider...

- ☛ In penned systems, expect to move pens daily. Other approaches can be less physically demanding. See “Alternative Poultry Systems” on p. 4.
- ☛ Poultry operations are usually seasonal, unless producers build semi-permanent housing. See “Yarding” on p. 4.
- ☛ You may need to dig to find suppliers such as hatcheries and other contractors. Yet, those retailers will likely ship materials to you.
- ☛ Pastured birds are susceptible to weather-related stress and predation.
- ☛ Reliable processing may be hard to find; many farmers process on site.
- ☛ While some are concerned that pastured poultry might be exposed to avian influenza through migratory waterfowl, others claim that flocks and pasture managed with care to avoid parasites are at less risk than large confinement houses.

are getting pretty rough,” said Jason, “so we move the Thanksgiving turkeys into the high tunnels. The turkeys clean and fertilize the tunnels up pretty nice, and the tunnels help keep the turkeys dry and out of the wind as the cold sets in before Thanksgiving.”

THE SALATIN INFLUENCE: PASTURED POULTRY TAKES OFF

Since poultry farmers began looking for alternatives, innovators have responded by perfecting various systems, many of them outdoors, that raise chickens for greater profit with less environmental impact and better conditions for the birds. The ways to raise poultry are varied to meet producers’ goals and take into account climate, topography and available labor.

In the early 1990s, Virginia farmer Joel Salatin published a book detailing a new system to compete for the small but growing niche of consumers who wanted to buy poultry raised outside the corporate system. His popular *Pastured Poultry Profits* explains the innovations he made to the old practice of allowing poultry to range free around the barn lot. The book lays out production strategies alongside his estimates of what readers who follow his methods can net: \$25,000 in only six months on 20 acres.

In his system, producers raise or buy chicks between April and October, then move them from brooders into floorless pens on pasture. Today, pastured-poultry pens are built in an ingenious array of shapes and sizes, and with different materials and engineering. If put side by side, a lineup of these homegrown pens would look much like a boxcar derby, each reflecting a farmer’s creative ability to design according to a particular farm’s needs and terrain. Salatin’s pens are around 10 feet by 12 feet by 2 feet, flat-roofed, squat and square, and can house



ALTERNATIVE POULTRY SYSTEMS

PASTURED POULTRY PEN – Encloses birds in floorless portable pens that are moved daily to fresh pasture. Birds feed on grass or other forages, worms and insects, and supplemental grain-based feed. They work their manure into the soil by scratching.

☞ *Photo 1 (top to bottom).* Virginia's Joel Salatin, a leader in the movement to expand poultry production outdoors, demonstrates a movable pen, one of many effective systems for raising poultry on pasture. – *Photo by Tom Gettings, Rodale Institute*



“NET” RANGE (OR “DAY RANGE”) – Contains birds in movable housing, with electric poultry netting defining a series of paddocks surrounding the house (often a hoop-like structure). Producers move flocks through paddocks, shifting them as the condition of the pasture dictates. With access to the shelter for feeding, rest and shade, birds can escape from both predators and inclement weather. Birds feed on grass or other forages such as vegetable or grain crops, worms and insects, and supplemental grain-based feed. Birds remain vulnerable to predation—especially avian predation—but may be better protected from the more common nocturnal predation because the housing units are usually more resistant than field pens to raccoons, foxes and skunks.

☞ *Photo 2.* This portable shelter is used in combination with electric fencing on the Elmwood Stock Farm in Georgetown, Ky. Birds are provided supplemental feed and water, and get some degree of protection against the elements and predators. – *Photo by Jerry DeWitt*



“CHICKEN TRACTOR” – Contains poultry in small pens to help prepare the soil for garden plots. Birds feed on weeds, garden plants, insects and grubs, and supplemental grain-based feed—while “tilling” and “fertilizing” the soil. Andy Lee, a Virginia farmer and researcher, wrote a book about this system, claiming the birds can do wonders in weed suppression and soil revitalization.

☞ *Photo 3.* This chicken tractor, at the Dickinson College Farm in Boiling Springs, Pa., is designed to be easily moved across pastures and vegetable beds. The adjustable tarp provides protection from both rain and the hot sun. – *Photo by Dena Leibman, SARE Outreach*

FREE RANGE – Allows birds to range freely across pastures, gardens, and/or cropland, and to return at night or in inclement weather to portable housing. Skids or “eggmobiles” are moved regularly to encourage grazing of particular areas. Birds are vulnerable to predation.

☞ *Photo 4.* Kent Ozkum and Will Morrow of Whitmore Farm in Emmitsburg, Md., use this chicken coop and others to house heritage breed poultry and move flocks to new pasture as needed. – *Photo by Dena Leibman, SARE Outreach*



YARDING – Keeps birds in stationary housing, but allows them access to yard or pasture during daylight. This model has been a popular way for some confinement poultry producers to tap into the growing market for “free-range” poultry, including the new USDA-certified organic program. They can use the same houses designed for the industrial confinement model, modifying the practice simply by fencing a yard or pasture surrounding the house and allowing flocks to range on it. Without taking care to subdivide the area into paddocks, however, farmers using this method risk concentrating birds, which can denude the soil, deplete nutritious forages and concentrate pathogens. Again, because birds are not contained in pens, they are more open to predation, at least during daylight hours.

The comparative value of the various poultry systems depends on the vision you have for your operation. Seek experienced advice and make use of the wealth of information listed in “Resources” on p. 16.

up to 80 broilers. He moves the pens daily to fresh pasture. While receiving exercise and fresh air foraging for plants and insects, the chickens drop manure that adds fertility to the soil.

Salatin passes along his experiences and ideas, holding field days and speaking frequently at conferences. With help from SARE and Heifer International, a nonprofit organization that promotes community development through sustainable livestock production, Salatin held workshops for limited-resource farmers interested in learning more about pastured poultry.

“You walk away from three days with [Salatin] knowing everything from how to keep a chicken healthy to how to keep your customers happy,” said Rosa Shareef, a farmer from New Medinah, Miss., who attended one of the workshops.

Tom Delehanty, a former conventional chicken farmer in Wisconsin, who moved to Socorro, N.M., to raise pastured poultry, credits Salatin’s methods for providing a jumping-off point from which he designed a field pen to fit his New Mexico climate. There, mild desert winters allow him to keep birds on pastures year-round.

PART 2 Potential for Profit

SARE-FUNDED RESEARCHERS AT WISCONSIN’S CIAS studied five farms that raise poultry on pasture and found that the systems, while highly variable, yielded a significant profit for growers who incorporate poultry into diversified farms.

CIAS researcher Stevenson said that in the beginning, people make it work best at lower numbers, around 1,000 birds per season. But he cautions that the learning curve is about five years for a grower to become experienced. “By then, people know what they’re doing, their pastures are in shape, and they have figured out their management and equipment needs.”

Enterprise growth can be rapid initially on a pastured-poultry farm, but it should never be rash. “The temptation is to get too big too fast,” said Spencer from NCAT, “and then a new farmer makes a big mistake on a large scale, and it wipes them out. Successful pastured-poultry growers are good managers, and you can’t be a good manager until you’ve got some experience under your belt.”

“It all gets down to the customer,” said Paul Swanson, a Nebraska Extension educator specializing in sustainable agriculture who sees growing interest in pastured poultry. “To sell your product, you need a customer and a growing number of people who are interested in better tasting, higher-quality chickens and don’t like the current system.”

Most farmers who have worked with Swanson on poultry enterprises already had crop farms, and many of them had beef cattle, too. They diversified to improve profits. “Chickens are a size that people don’t hesitate to purchase directly, as opposed to a quarter or half of beef,”

Pastured Poultry Economics

Pastured poultry costs and returns vary widely. Before starting your operation, take advantage of budget tools available online. These calculators are used to estimate the economic return from your pastured poultry operation. They typically calculate revenue in terms of the number or weight of birds sold per year, and can include additional revenue from egg, feather and manure sales. Expenses include not only the usual costs for chicks, feed, medication, bedding, paid labor and processing, but also more complex costs, such as marketing, capital investment, equipment depreciation and the value of unpaid labor. Good calculator options include:

- 🔗 www.cias.wisc.edu/crops-and-livestock/poultry-enterprise-budget (University of Wisconsin’s Center for Integrated Agricultural Systems)
- 🔗 www.windyridgepoultry.com/tools1.htm (Windy Ridge Natural Farms)
- 🔗 nwdirect.wsu.edu/barriers/tools.htm (Washington State University)

Swanson said. “It’s an opportunity for farmers to try something without a very large investment.” Most pastured-poultry farmers sell all of the birds they raise even before processing them.

Many direct-market producers find that poultry is a real lure that brings customers onto the farm, and many of them will buy more than just chicken or turkey when they are there.

PRODUCTION BASICS

Housing. The least expensive approaches are the portable field pens, pioneered by farmers in Europe more than a century ago, and more recently made popular in America by Joel Salatin and Andy Lee, though most producers

concede they also demand the most time and labor. For pastured laying hens, open-faced sheds on skids, called colony houses, are a proven housing choice.

Salatin's model also holds promise for producers who wish to raise poultry with low initial costs. Innovative farmers have adapted the Salatin design to fit their particular terrain and needs. In general, simple-to-build pens are made of inexpensive wood, sheet metal or plastic, and chicken wire. Making a 10-foot-by-12-foot pen—suitable for up to 80 mature chickens—should cost no more than \$400, plus labor. Pens can be made less expensive if the roofing is salvaged.

One mobile pen model, invented by Homer Walden of Sunnyside Farm, near York, Pa., includes a novel wheel-and-pull system that makes it easier to move, and can be used for either layers or broilers. The cost is about \$450 to build.

At the other end of the spectrum are the portable houses favored by many farmers involved in day-range or free-range poultry production. Typically much larger and made of sturdier materials, they can cost significantly more. Lee designed and built structures he calls “mini-barns” for his day-range operation. They are made from lumber, plywood, corrugated tin and fiberglass, and have wooden runners, or “skids,” at their bases that allow

them to be dragged with relative ease by tractor to fresh stands of pasture when needed.

The chicken-tractor model, which Lee designed and describes in his book *Chicken Tractor*, calls for small numbers of birds to control weeds and insect pests, and increase fertility in garden plots. Simple and inexpensive, the tractor model might be the best way for someone with limited farming experience to begin raising poultry outdoors, although it is intended primarily to work in concert with vegetable production.

Salatin has designed coops on wheels that house laying hens, called eggmobles. The eggmoble follows a herd of beef cattle, where the hens eagerly scratch apart cow patties to get at the fly grubs inside, reducing parasite numbers and providing nutrition for the laying flock. Spencer, the NCAT poultry specialist, built an eggmoble, constructing housing for his laying flock of 125 hens on top of an old haywagon chassis. “Parts of our place are really steep and having the layers on wheels lets us more easily move the flock from field to field. We just lock the hens in and we tow it wherever we need them. It helps us take better care of our pastures.”

Pasturing systems like Lee's, where the chickens are not confined in the housing pens, are called day-range systems and usually depend on portable fencing to manage where the hens roam. Most producers favor electric fencing designed for poultry, called poultry netting, or feather netting. It costs about \$160 per 164-foot roll (including step-in posts, but not the power source). The amount of poultry netting needed to manage a poultry flock is determined by several factors. The species, type (layer vs. broiler), age and breed of the bird, the flock density, and the condition of the pasture and health of the soil all dictate how much space to give the poultry being raised. “If the pasture's getting hammered, there are too many birds on too small an area,” said Spencer. “If you pay attention to your pasture condition, you'll know if and how you need to change. It's pretty simple once you get an eye for it.” Spencer suggests two rolls of netting per 150 birds.

Brooders. Brooders are secure, climate-controlled areas where newly hatched chicks can live until sufficiently feathered to live outdoors. They are made of plywood, lumber and chicken wire, and contain warming lamps, drinking water containers, feeders and litter. A basic brooder that holds as many as 250 chicks can cost as little as \$100 to construct.

Feed and Water Delivery. Beyond a brooder and field pen, producers only need containers for feed and water. They can be simple and inexpensive, even home-

Watering units, such as this one in a portable shelter on Elmwood Stock Farm in Georgetown, Ky., can be simple, but should be sturdy and allow access by many birds at once.

— Photo by Jerry DeWitt



made. Ensure that any feeder or watering unit, whether made at home or purchased from a commercial source, does the job properly. Feed containers must be rodent proof, as rodents' access to the feed can spread salmonella. If the feed is stored outside or in the field, the containers must be waterproof. For example, improperly anchored or poorly designed feeders and watering units can be tipped over or clogged, increasing opportunities for spoilage and contamination as well as inducing unnecessary stress or endangering the lives of a flock. As pastured-poultry enterprises grow, labor often becomes problematic. Producers raising large numbers of poultry design their feeding and watering systems to be as efficient as possible.

FEED

MOST POULTRY DIETS CONTAIN CORN FOR ENERGY, soybeans combined with an animal or synthetic source for protein, as well as vitamin and mineral supplements. Some growers are switching to soy-free feeds in response to customers who want to avoid soy in their food chain. In well-managed pasture systems, producers very rarely use medications, as proper sanitation and a healthy growing environment help prevent health issues before they start. Consumers by and large appreciate poultry raised without antibiotics and other medications, an appreciation that is often reflected in their willingness to pay a premium price for pastured-poultry products.

Besides the feed in the feeder, free-range poultry have access to a buffet of forages, seeds, insects and other animals while on pasture. Joel Salatin estimates that his broilers forage for more than a quarter of their diet. Other producers guess feed savings of anywhere from 5-25 percent on pasture. When using low-quality feeds, the vitamins ingested when the birds forage on grasses and forbs can balance out nutritional deficiencies in the feed ration. "There are a lot of environmental and management factors that affect how much food's out there for your birds," said Spencer. "Soil fertility, bird genetics, management style, climate, time of season and unexpected things like drought, flooding, late/early frosts—all of these can throw a major wrench in your operation if you don't plan ahead."

Where pastured-poultry farmers source their feed is as diverse as the farmers themselves. Often pastured-poultry producers begin with prepared rations from their local feed store. As the operation grows, producers often buy feed in bulk, enabling them to purchase top-quality feeds, including organic, soy-free and GMO-free (not genetically modified) if that is part of the operation, for prices comparable to conventional feeds. Some pro-



ducers, both small and large, mix and grind their own feed. Ration recipes can be found in books, websites and listservs dedicated to pastured- and range-poultry operations.

Whatever route you take—ready-mixed feed or preparing your own blend—expect the cost will likely range between 15-50 cents per pound for conventional and GMO-free rations. Cornish Cross meat birds will ingest roughly 10-15 pounds of feed each before reaching market weight, which means the typical cost of feeding each bird will range from \$2-\$6 during its seven- to eight-week lifetime (or longer for slower growing breeds). The most productive laying hens consume around 25 pounds of feed to get to the point of lay.

When evaluating feed options, consider:

- Organic feeds are increasingly available from mills and suppliers. Expect to pay two to four times the cost of conventional rations.
- Some feeds are medicated to combat coccidiosis, which is particularly devastating to chicks; experienced farmers typically find that clean brooders, deep litter and clean living conditions make medicated feeds unnecessary.
- Feeds can be ordered in various forms, such as cracked, mashed and pelletized. Healthy debate rages as to which form is better for pastured birds. The process of making feed crumbles and pellets heats the feed, destroying heat-sensitive vitamins, yet some argue that heat and pressure free up other nutrients and make them available to birds. Ground feed is not typically heat treated, but more feed can be wasted through spillage in the field. Many producers report that the higher cost of high-quality feed

By adding flax to hen rations, some producers have capitalized on the ability to enrich eggs with omega-3 fatty acids, which lower cholesterol and thus have been linked to reduced risk of heart disease in humans.

— Photo by Ken Schneider

On his Good Shepherd Turkey Ranch in Tampa, Kan., Frank Reese Jr. raises Bronze, Bourbon Red, Narragansett and other heritage turkey breeds.

— Photo by Frank Reese Jr.



is often offset by lower consumption rates as the birds eat less to get the nutrition they need.

- Some producers have found that vitamin supplements help reduce mortality, with their costs being more than offset by greater flock productivity.

For more information see *Pastured-Raised Poultry Nutrition*. Download a free copy from ATTRA at <https://attra.ncat.org/attra-pub/poultry>, or buy a print copy by calling (800) 346-9140.

BREEDS

MOST PASTURED-POULTRY PRODUCERS HAVE ADOPTED the same breed of meat bird as their confinement counterparts: the Cornish Cross. Developed for its large breast, large appetite and rapid development, the Cornish Cross also boasts a mild flavor that is familiar and appealing to most consumers.

Virginia homesteader and author of *The Small-Scale Poultry Flock* Harvey Ussery and his wife are experimenting with hardier varieties of birds, such as New Hampshires and Plymouth Rocks. Even though these varieties take longer to reach butchering weight, the meat boasts more flavor. Ussery wants to educate consumers about alternatives to Cornish Cross. He said the fast growth of the Cornish Cross strains the birds' hearts, digestive systems and leg joints. Moreover, birds more suited to foraging eat less supplemental

feed. The American Livestock Breeds Conservancy also recommends Plymouth Rocks, as well as Delawares, as heritage broiler breeds that perform well on pasture.

Ussery, writing in *Grit!*, the American Pastured Poultry Producers Association (APPPA) newsletter, details the problems he encountered with the Cornish Cross. Cornish Cross chicks from nearly all hatcheries in the country come from the same stock. The variety, he argues, is ill-suited for raising outdoors because it has been bred for confinement. Properties that make for good and efficient foragers, he said, have been "selected out" because they are not needed in confinement production models.

The only appeal of the Cornish Cross, he said, is its ability to arrive at market weight in a period of about seven weeks. Emphasis on that single quality has neglected other important factors, such as flavor, texture, vigor, health and a bird's ability to take full advantage of all the benefits available to it on pasture.

But not all Cornish Cross strains are equal on pasture. Older (commercially called "low-yield") strains of Cornish Cross, such as the occasionally black-flecked feathered Cobb 500 or the Ross 308, tend to do better on pasture and are more forgiving on lower-quality nutrition than the newer ("high-yield") varieties, such as the Cobb 700.

Many producers are finding a compromise between the accelerated growth of the Cornish Cross and the lower feed conversion and dress-out weights of the older heritage breeds. Several varieties of broilers with names like Freedom Rangers, Red Rangers and Rosambros have been selected for high growth rates and hardiness for living outdoors on range. These birds are raised a few weeks longer than the Cornish Cross to reach comparable weights, typically nine to 12 weeks, but have a different texture and flavor profile than their industrial counterparts. "We love them," said NCAT's Spencer. "You sacrifice a little breast meat and accept a little more grow-out time, but we've never had a complaint, just a lot of compliments, and it differentiates us from anything our customers can find in the stores."

Some pastured-poultry producers report that they are growing and selling the Cornish Cross side by side with broiler strains bred for pastured production. They often find that more discriminating customers offer little resistance to paying 50 cents per pound more for the flavorful meat of the latter.

Layers. There is no overwhelmingly favored variety of laying hen for range poultry production. Several breeds, including heritage breeds like Leghorns, Anconas and Minorcas, and highly productive hybrids like com-

mercial Leghorn varieties, supply exceptional numbers of eggs, according to Kelly Klover, a SARE grantee and author of the book *Talking Chicken*. Egg colors are a regional preference, with brown eggs often—and erroneously—being identified as true farm eggs. Some producers are finding niche markets with heritage layers, such as the Ameraucana and Araucana, which lay blue-shelled eggs popular at Easter. The biggest pitfall in selling eggs is failing to price them correctly: Ensuring that all input and labor costs are reflected in the final price is critical for economic success with layers.

Turkeys. The “Cornish Cross” of turkeys is the Broad Breasted White. Again borrowed from the confinement industry, the Broad Breasted is a fast-growing bird that takes about four months to reach market weights of about 18-22 pounds. Many who have raised turkeys say they are more manageable in many ways than broilers, and that they forage much more aggressively than chickens. Unlike the Cornish Cross, the Broad Breasted White and Bronze varieties of turkeys maintain much of their turkey instincts and behaviors.

Joleen Marquardt, a pastured-poultry producer in Pine Bluff, Wyo., said she and her children were at first intimidated by the sheer size of their turkeys at processing time, but found them more docile than broilers. “The weight gets to be a little much after a full day of processing, but it’s not nearly as bad as I anticipated,” she said.

The alternative to the Broad Breasted turkeys are the traditional heritage turkey breeds. Heritage breeds take longer to grow out, but develop a flavorful carcass with less breast meat and much more dark meat. Varieties include the Bourbon Red, Spanish Black, the Bronze and the Royal Palm. More are listed, along with useful information about turkey and other heritage-poultry production, on the website of the American Livestock Breeds Conservancy. (See “Resources,” p. 16.)

MORTALITY AND PREDATION

MORE IMPORTANT THAN THE BREED OF BROILER, LAYER or turkey is an assurance that the birds live to be profitable on the farm. Critically important in any pastured-poultry operation is that mortality rates must be controlled. New producers typically have high rates of mortality—sometimes as high as 10-30 percent; experienced farmers often have mortality rates of 2 percent or lower.

In the brooder, mortality occurs for a number of reasons. Typically, chicks are air-freighted and then shipped by truck, so any delay in shipping can cause problems in the brooder. Poultry chicks typically have a nutrition reservoir of around three days as they absorb the rem-

nants of their egg yolks. The sooner chicks are given access to food, water and a heat source, the better. Piling, a common mortality factor, is the result of scared or frantic chicks or older birds rushing to a corner of a brooder or pen. As the birds pile on top of each other, the bottom birds get smothered and die from suffocation. Often, producers will use rounded corners in the brooder to avoid this problem.

It is common, especially among inexperienced pen producers, for birds to be crushed or injured when field pens are moved to new stands of grass. This is less of a concern for producers using one of the systems that do not require frequent moving of the housing. As producers and a given flock become more experienced, the birds become accustomed to frequent movement of their pens and learn to walk with them.

The other major factor in premature loss of birds is predation. Due to their small size, chickens are a favorite

In Kentucky, Poultry Growers Share Mobile Processor to Comply with Restrictive Laws

In Kentucky, a group of farmers, consumers, nonprofit organizations, university scientists, and health and agriculture department officials have jointly constructed a mobile processing unit—about the size of a large horse trailer—that can be hauled by truck to different locations. It contains the scalding, plucking, washing and packaging equipment each farm family needs to process broilers and turkeys.

One of the key players in the coalition is Heifer International, a nonprofit organization that helps farmers with limited resources launch pastured-poultry and other enterprises. Heifer applied for SARE funds, which, combined with major support from the Kentucky Department of Agriculture, financed the \$75,000 mobile unit. Participating farmers helped design the unit, and Steve Muntz, coordinator of the poultry project and Heifer’s then-Appalachia program manager, said they are satisfied with their initial experiences.

“There was no alternative for the farmers,” Muntz said. “There is not a single federally inspected poultry processing plant in the state that will take birds from an independent producer, and selling live birds to individuals is the only other way, given the state restrictions.”

The USDA has exempted the unit from federal inspection, and the state has licensed it for both poultry and shrimp processing. Birds processed in the unit, the only legal method for independent Kentucky farmers to sell processed poultry, can be sold anywhere in the state.

The unit, which must be paired with a docking station equipped with potable water, electric and sewer connections, is located in Frankfort. To reach greater numbers of farmers and to minimize the per-station expense (estimated at \$4,000 to \$5,000), organizers expect to see another station constructed in eastern Kentucky.

“As agriculture has gotten bigger and bigger in this country, the doors to the marketplace have been closed to small farmers,” Muntz said. “The unit is one key available to Kentucky farmers to unlock those doors.”

opposite page:

Farmers who opt to process their birds on farm should assemble the proper equipment, maintain a clean workspace, and understand state and federal regulations.

— Photo by Frank Jones,
University of Arkansas

The Pioneer Valley Open-Air Mobile Poultry Processing Unit (MPPU) in Massachusetts is the first MPPU in Massachusetts to be approved by the state department of public health. It has operated under different management models, traveling between farms either as a rental operated by the farmer or with a trained crew.

— Photo courtesy of New
England Small Farm Institute

not only of people, but also of nearly every predator in the wild. Flocks raised in a field-pen system tend to be safer from daytime predators such as dogs, hawks and the occasional eagle because they are securely enclosed. Nocturnal predators such as raccoons, foxes, coyotes, owls and skunks, however, will exploit even the smallest opening in the pen. Even the most experienced producers say they have lost a few birds.

Range poultry, on the other hand, are much more vulnerable to avian predation. Alabama day-range producer Charles Ritch, for example, said hawks and owls are “a big, big problem, and they have been ever since I started.” He pegs his predation losses at about 5 percent each season.

Producers with the most success rely on multiple layers of protection to keep their poultry safe. When combined, protective measures such as livestock guardian dogs, electric poultry netting and perimeter fencing often play a synergistic role in keeping mortality down and poultry profits up.

Most producers expect some premature loss from each flock despite working to reduce mortality. To minimize loss:

- Provide sufficient warmth, water and feed, especially in the crucial first days after you receive your shipment of chicks.
- Place pens well inside pastures rather than along wooded fence lines, because many predators are reluctant to travel across open territory.
- Consider installing electric fences and/or using a trained dog.

ON-FARM PROCESSING

CONSIDER SLAUGHTERING AND PROCESSING ARRANGEMENTS early on, because commercial processors that handle relatively small numbers of birds are hard to find. If you want to sell through grocery stores or to restaurants, you typically must process in a government-approved facility, but those who sell directly to the public may be able to slaughter on farm under a federal exemption.

Tom Delehanty, the New Mexico farmer, cautions that a fledgling poultry producer be sure to have lots of help with strong stomachs if they choose to process on the farm.

“You can’t do it alone, and if any members of your family or people you hire are going to have a problem with the pace of the work or with killing, plucking and gutting chickens, you’d better know about it before you ever get started in the business,” he said.

For a typical on-farm dressing operation, you will need:

- kill cones;
- a scalding tank (to loosen feathers), purchased or constructed;
- a plucker to remove feathers;
- stainless-steel tables for eviscerating;
- running water for washing;
- plastic tubs or a stainless-steel tank to chill carcasses prior to packaging; and
- supplies such as sharp knives, ice, bags and gloves for sanitation.

Joel Salatin and his family continue to process up to 20,000 broilers each year on farm, a practice that has worked well for other farmers as well. Using equipment similar to what is listed above, Salatin works on a concrete slab beneath a simple corrugated fiberglass roof. Salatin’s waste water is then pumped to the farm’s vineyards for nutrient-rich irrigation.

“My family and I have worked out the best way for us to do this, and we’ve got it down to a science,” he said.

The most important judges of the quality of his dressing operation, Salatin said, are those who help him do the processing, and his customers. “Our customers pick up their orders from a site right next to where we do the processing, so they can see for themselves how clean it is,” he said. “If they don’t like what they see, they won’t come back.”

Disposal of Solid Wastes. Salatin composts the feathers, guts, heads, feet and blood of the broilers he processes. He admits it takes some skill and experience, but said he is able to manage his compost piles so that odors and pests aren’t a problem, even at the height of summer.





Processing Regulations

Small, independent producers who want to process poultry themselves and sell directly to customers can take advantage of provisions in federal laws that exempt them from inspection. Some states use the federal laws while others have their own laws.

Fewer than 1,000 broilers: In many states, if you do not sell meat across state lines and you do not market poultry from other farms, you can raise and process up to 1,000 birds a year and be exempt from federal inspection rules. Check with officials in your state department of agriculture or health before processing to clarify the exemptions allowed.

Between 1,000 and 20,000 broilers: If the processing facility used and practices employed meet federal sanitation standards and you do not sell meat across state lines, you can be exempt from federal inspection rules, although most states (such as Kansas) may impose stricter rules. Check with officials in your state department of agriculture or health before processing to clarify the exemptions allowed.

Direct marketing rules for fresh eggs also vary by state.

Labeling claims are tightly regulated. Contact USDA's Food Safety Inspection Service at (800) 233-3935.

For more information, consult the "Poultry Processing Regulations and Exemptions" section of the Niche Meat Processor Assistance Network's website (www.nichemeatprocessing.org).

Oregon farmer Robert Plamondon, who raises about 800 free-range layers and 2,000 broilers outside the town of Blodgett, does the same, sprinkling hydrated lime on his compost heap after each addition to both reduce odors from the decaying organic matter and to repel pests such as flies, raccoons and even other chickens. Salatin incorporates wood ash, as well as lime. Both Salatin and Plamondon use the compost to amend the soil in their garden plots, as well as to help fertilize their pastures. Spreading the compost on the farm makes sure that the money spent on feed stays on the farm and ultimately does not go to waste.

Other producers who live close to metropolitan areas with upscale and ethnic restaurants can sell feet and heads to chefs who use them to make soup stocks. Some resourceful producers have found that by grinding the poultry heads, backs, feet and organs, they can turn low-value, or typically wasted, parts of the chicken into a highly demanded, raw pet food product that can be sold for a good profit to pet lovers.

COOPERATIVE MOBILE PROCESSORS

To provide farmers with affordable alternatives to on-farm poultry processing, groups around the country are bringing slaughtering to the farm. Mobile poultry processing units (MPPUs or MPUs) are becoming a popular solution to the nationwide lack of poultry processors that work with independent farmers.

Twelve farm families in Michigan collaborated on a mobile processing unit in a project partially supported by SARE. The unit, built in 1999, cost about \$20,000 and called for about 360 hours of labor.

Rick Meisterheim, of Michigan's nonprofit Wagbo Peace Center, coordinated the project. He reports that the 12 producers contributed together about \$11,000 toward the cost of the unit, and agreed to a yearly membership fee of \$25 and a 25-cent charge per bird processed.

For the Fischbachs in Wisconsin, "Processing was a problem from the start," said Jason, "and it always seemed to be the bottleneck." The family teamed up with the other members of the Pasture Perfect Co-Op to build a mobile processing unit. Processing on farm, the net gain per chicken triples compared to hauling to a state-licensed processing center. "Once we joined together, everything changed for the better."

With three other Nebraska growers, David Bosle bought a mobile processing trailer in a cooperative effort. The farmers and others in the community share a trailer equipped with killing cones, a scalding tank, a feather picker, a scale and an evisceration area. The processor, purchased with help from Nebraska's Center for Rural Affairs, which received a SARE grant, allows the four farmers to share the cost of processing. They also rent out the mobile unit to other farmers or, at a discount, to community groups like 4-H.

For more information, see "Resources," p. 16.

PART 3 Environmental Benefits

POULTRY CAN DO A LOT TO REMEDY PROBLEM SOIL AND control both insect pests and weeds while supplying a new revenue stream for the farm.

SOIL

BIRDS ON PASTURE OR CROPLAND ACT AS MINIATURE manure spreaders that fertilize the soil. They turn and mix soil and manure as they scratch for insects and worms, increasing organic matter and improving fertility. The calcium-rich manure from laying hens can raise the pH of soil over time, making the ground more conducive to highly palatable forages like clovers, vetches and orchardgrass. A word of caution: Birds can't stay too long in one area or in high concentrations, especially when the ground is wet, as this kills forages and compacts the soil.

Steve Stevenson of Wisconsin's CIAS worked with farmers who raise other livestock in addition to poultry on pasture. In each case, the chickens followed the larger animals, from dairy sheep to beef cattle. "We heard again and again that chickens do wonders for soil quality and nutrients," he said. A flock of laying hens, run two to three days behind cattle herds, peck and scratch apart the cow

patties as they eagerly gobble up the larva from the parasitic flies that prey upon the cows, accomplishing two tasks at once.

In Louisiana, SARE-funded researchers studying the benefits of integrating vegetables with broilers or layers found that vegetables grew best when planted 14 days after birds were moved across the plot. "We found significant improvement in plant performance 14 days after birds were on the land," said James McNitt, a researcher at Southern University in Louisiana, who tested for the optimum time to plant cucumbers, summer squash, mustard greens and collard greens after pastured poultry.

Mark and Robin Way of Cecil County, Md., appreciate the extra nitrogen, phosphorous and other nutrients their flocks give to their hay fields. They move seven pens at a time across one of their four hay fields, and rotate to a new field each year.

"We've had soil tests, and we're right where we should be," Robin Way said. "The animals do well on the fields. They pick out bugs, and what they give back is extra nitrogen."

Tom Delehanty's birds help him overcome an obstacle endemic to New Mexico: poor soil. His birds are building a layer of rich organic matter atop the sandy desert ground to the point that he is considering expanding into organic produce.

"Between the rye and oats I plant both as cover crops and forage, and the scratching the birds do that works their manure down into the ground, I'm getting fertility like they've never seen around here," he said. "I've got grain farmers coming from all over the valley to look at my pastures because they stay green all year long."

FORAGES

RESEARCH, ALONG WITH THE OBSERVATIONS OF MANY producers, demonstrates that birds and pasture offer mutual benefits. Planting diverse forages that improve soil quality by fixing nitrogen or adding organic matter makes good sense, even though poultry producers sometimes debate how much grass or other forage meat birds and layers actually eat, and how much benefit they get from it. Unlike ruminants such as cows, goats and sheep, birds cannot digest the cellulose in most plants very efficiently, although turkeys and geese are better at it than chickens. That said, eating greens is the same for poultry as humans: A greens-only diet is not enough to sustain life, but greens do make a big difference in health.

Paul Ehrhardt, who raised 2,500 chickens in 2001, grows a dense combination of clover and grass to pasture his birds and improve the soil on his Sun Prairie, Wis., farm.

— Photo by Wolfgang Hoffmann



Joel Salatin has established what he calls a “permanent polyculture” of clovers and grasses in his pastures, with varieties of native grasses, broadleaves, clovers, chicories, oats and rye that mature at different times of the season. His chickens will “eat almost anything as long as it’s not too tall and not too tough,” he said.

Oregon egg producer Robert Plamondon has found that pasture research from the early 1900s still applies. “Everything I’ve read points to oats as the ideal cool-season green feed,” he said, “while ladino clover, alfalfa and, to a lesser extent, other clovers are better summer feeds. My own experience with oats has been very favorable.”

ANIMAL HEALTH

WELL-MANAGED PASTURED FLOCKS ARE GENERALLY resistant enough to disease and infections that many producers forego the use of antibiotics or medicated feed. Pastured-poultry producers often use this detail as a marketing tool. It is no secret that consumers want antibiotic-free chicken for their families. Significant problems with cannibalism are rare, so the practice of beak trimming is uncommon.

By contrast, chickens raised in confined houses are at risk for a host of respiratory illnesses because air quality is marred by ammonia and dust made up of excrement, litter, skin and feathers. To guard against illnesses such as bronchitis, coccidiosis and necrotic enteritis, confinement chickens receive routine inoculations and antibiotics, in addition to being fed additives such as arsenic.

Pastured birds, however, are more susceptible to weather-related stress. They can get too cold or too hot, exposed to rain and wind, and injured by predators. Chickens handle cold much better than heat, eating extra feed to produce heat through digestion as needed. Some steps to reduce heat stress during hot periods include ensuring adequate access to shade, refreshing water two to three times per day, and moving pens across pasture only in the morning or evening, when it is cooler.

Diseases such as coccidiosis can be a concern, especially in the brooder, if conditions are allowed to become unsanitary. To keep pathogens under control, use frequent rotations and allow pasture plots time to rest. Clean pens and brooders regularly between flocks to keep harmful microbes in check.

PART 4 Quality of Life Issues

MOST PRODUCERS FIND ALTERNATIVE POULTRY SYSTEMS make economic sense because the cost of establishing them is low while the potential for significant and steady income is high. However, much of the growing interest is because these new systems also promote values such as family and community cohesion, environmental stewardship, working outdoors and independence for farmers.

FAMILY AND LIFESTYLE BENEFITS

WHEN THE FISCHBACHS STARTED TO FARM, THE SIZE OF their children was a concern. “We were scared that our kids could get hurt with larger animals like cattle or hogs,” said Jason, “but poultry are a more manageable, safer size,” and that gave the Fischbach family peace of mind.

Pastured poultry has also added a community dynamic to the Fischbachs' life. The co-op farm families process together, and after they are done, they gather for a picnic and watch their children play together on the farm.

Joleen Marquardt, a Wyoming pastured-poultry producer, held down a variety of jobs off the farm, but thought

that she was missing out on too much of her children’s lives. She and her husband, Greg, who operate a dryland wheat farm, were juggling child care with her various jobs.

“I like to work and contribute to the upkeep of the family,” she said, “but I felt I was losing contact with the kids.” Her pastured-poultry venture changed all that.

“I kept one of my jobs because I can do it in the winter months when we can’t raise chickens outdoors, but I focus on broilers right up through Thanksgiving,” she said. She can also focus on sons James and Jordan, and daughter Jessica, because they work right alongside her now instead of waiting for her to come home from town every evening.

“That’s the biggest benefit,” Marquardt declared. “I work with my kids, and see them learn how to take care of the chickens and work with customers.”

Considering what she used to spend on babysitters and travel, “I didn’t sacrifice anything by starting this business at home.”

Marquardt’s lifestyle resembles that of many other range-poultry farmers. Some stages are so labor intensive



John and Ida Thurman, shown with Merrill Marxman of USDA's Farm Service Agency (left), received a SARE grant to test whether raising poultry would stimulate profits and create jobs. "We have found that the more people are doing these types of chickens, the more people know about them, and the better the market gets," John Thurman said.

— Photo by Ken Schneider

they cannot be done alone, and families provide the most ready workforce. Children with sufficient training can handle even the most difficult parts of the process, including moving field pens or relocating larger portable shelters with a tractor. They also can help dress and package broilers, or collect and wash eggs.

LABOR

WISCONSIN'S CIAS RESEARCHERS, TRACKING LABOR ON five pastured-poultry farms, developed a model where farmers spend 20-22 hours per week handling a 1,000-bird supplementary enterprise, raising chickens from chicks through slaughter at eight to 14 weeks.

"Labor can eventually sink your business if you don't have a plan to control it. There's a reason why the industry went to CAFOs [Concentrated Animal Feeding Operations], and labor is a big part of that. If you're going to raise poultry on pasture on any significant scale, you're going to have to be efficient and automate as much as you can," said Spencer. Automatic watering systems, storing feed in waterproof containers in the field, and maximizing the flock size according to the pasture's capacity are just a few of the tricks producers commonly use to reduce labor.

Ohio farmer, author and lecturer Herman Beck-Chenoweth believes farmers routinely undervalue the cost of their own labor. "They should keep track of everything, from building pens to learning more about the process to marketing, and if it isn't paying, they should do something else," he said, adding that it is important to ask a fair price for meat and eggs while minimizing the amount of time spent on poultry chores.

The Salatins have efficiency down to a science. According to Daniel Salatin, Joel's son and now the manager of the poultry operation, two people process 35 to 40 chickens per hour on Polyface Farm.

COMMUNITY BENEFITS

AT LEAST SIX FAMILIES IN A TRADITIONALLY LOW-INCOME community in Illinois have re-charged their finances by adding range-poultry enterprises to their farms. Farmers in Pembroke Township in north central Illinois were so inspired by their experiences testing alternative poultry systems that they formed the Pembroke Farmers Cooperative to share poultry pens, a refrigerated truck, a livestock trailer and, not least, valuable production information.

Jump-started by two SARE grants, awarded as part of North Central Region SARE's efforts to target funds to underserved groups, the Pembroke farmers experimented with both free-range and pen methods. "Through this project, I learned how to raise a healthier chicken in a process that is more economically beneficial," said Irene Seals, a producer-grant recipient. "Raising pastured poultry is now a major part of our operation."

With help from the Kankakee County USDA-Farm Service Agency (FSA) director, they located a small-scale processor to slaughter and package their birds, complete with the co-op label. With processing secured, the families were able to sell their product within the county or, for an even better premium, in Chicago.

"It's a system that I felt really fits their lifestyles and the community," said Merrill Marxman, the FSA director. "We started it as a USDA outreach effort to what we saw as an impoverished community, and now the co-op has its own headquarters."

In another long-running partnership, NCAT, Heifer International and the University of Arkansas have held pastured poultry workshops throughout the South. Hundreds of farm families have participated, many of limited resources who benefit from this relatively inexpensive way to add new revenue.

The Way family of Cecil County, Md., enjoys farming and raising livestock, from poultry to rabbits to beef cattle, on pasture. Robin Way said the family also finds merit in attracting customers from their community to experience an integrated farm.

"People are losing small, diversified farms," she said. "We try to manage the farm like its own little community, and we invite people to come see what we do—how the animal was raised and how it's processed. We're proud of what we have and how we raise them."

PART 5

Marketing Options

THE EXPERIENCE OF PRACTICALLY EVERY RANGE-POULTRY producer bears this out: *Marketing your product will take as much time and energy as the actual task of raising and processing your product.*

In a survey, 80 percent of APPPA members cited direct marketing as a top sales method. For most, the best way to reach family, neighbors and others in the community is word of mouth, posting flyers on local bulletin boards, selling products at farmers markets and contacting customers often.

MARKETING TIPS

Pre-Orders. Many producers pre-sell their pastured poultry, asking a small deposit that is credited to the customer when the birds are processed. Typically, a buyer that pre-orders is an excellent customer to have, and efforts should be made to show appreciation for these customers. The deposits help with cash flow, paying for some of the up-front feed and processing costs. Among all poultry, customers are most willing to pre-order Thanksgiving and Christmas turkeys, and are often willing to pay higher prices on these special occasions.

Samples. Robin Way not only praises the virtues of investing in a colorful, easy-to-spot farm sign, she recommends giving out free meat, including donations at local events. “If they take the trouble to drive down our lane, I’ll give people freebies,” she said.

Farmers selling directly to local stores or restaurants find that giving samples helps. They have to be passionate, tell the person in charge what to look for in their product, why what they produce is different, why it is worth the premium. Then the meat manager, or the chef, will pass on that understanding and value to customers.

Selling with Other Products. Delehanty, the New Mexico grower, markets his organic meat under a “Real Chicken” brand that commands premium prices—in 2011, as high as \$5 per pound at upscale grocery stores in nearby cities. Next, he plans to sell organic vegetables he expects will flourish in the manure-rich soil aided by his flocks. He thinks communicating the symbiotic relationship between his birds and produce will help sell both.

One grower who works with James McNitt at Southern University has a ready market for her pastured poultry partly because she already has dedicated customers for her organic blueberries. “And people are pushing her to do more,” he said.



Many community supported agriculture (CSA) operations are open to offering egg and meat options to customers. “It really diversifies the CSA share,” said Spencer of NCAAT. “It helps the CSA become more of a one-stop shop. If there is a CSA nearby, and you’re a poultry producer, just go and see if there’s an egg or poultry need that you can fill. Often this is a win-win situation.”

THE EXTRA-HEALTHY EGG?

SOME PRODUCERS ARE TRYING TO CAPITALIZE ON THE ability to enrich eggs with omega-3 fatty acids, which lower cholesterol and thus have been linked to reduced risk of heart disease in humans. Any chicken on pasture will consume omega-3s in the forages they eat, and the more lush the pasture, the more nutrients consumed. Also, flax, commonly grown as an oilseed, can be added to hen rations at about 15 percent. Researchers at the University of Nebraska have found that so-called “omega eggs” can reduce saturated fat by one-third.

NICHES WITHIN A NICHE

THIRTY-ONE PERCENT OF THE RESPONDENTS TO AN APPPA survey raise turkeys along with pastured broilers. Sixty-nine percent raise layers. Many also report raising varieties of poultry other than chickens and turkeys, including ducks, guinea fowl and pheasant hens.

Specialty fowl such as ducks can be raised with as little effort as is required for other poultry, but can bring in much more money per pound. Their rareness also tends to make the job of marketing easier. Restaurants can offer good markets for exotic fowl, and if state regulations allow direct sales to restaurants, it is worth contacting the chefs at every upscale establishment in the area.

Investing in an eye-catching farm sign and an easy-to-read label helps bring repeat customers.

— Photo by Edwin Remsberg

Alternative Poultry Resources

GENERAL INFORMATION

Sustainable Agriculture Research and Education (SARE)

SARE Outreach; Patapsco Building, Suite 1122, College Park, MD 20742-6715; info@sare.org; www.sare.org
SARE is a nationwide grant making and education program with the mission of advancing sustainable innovations to the whole of American agriculture. SARE Outreach produces information on sustainable agriculture, primarily based on SARE research results.

National Sustainable Agriculture Information Service (ATTRA)

P.O. Box 3838, Butte, MT 59702; (800) 275-6228; attra.ncat.org
Provides assistance and resources to farmers and other ag professionals. ATTRA has a tremendous amount of information on nearly every agricultural enterprise, including sustainable poultry.

Alternative Farming Systems Information Center (AFSIC)

USDA National Agricultural Library Rm. 132, Beltsville, MD 20705; (301) 504-6559; afsic.nal.usda.gov
Provides online information resources, referrals and database searching, with specialized information on organic production.

American Livestock Breeds Conservancy

P.O. Box 477, Pittsboro, NC 27312; (919) 542-5704; www.albc-usa.org
The American Livestock Breeds Conservancy protects genetic diversity in livestock and poultry species through the conservation and promotion of endangered breeds.

PUBLICATIONS

Related ATTRA Publications

See attra.ncat.org for: *Growing Your Range Poultry Business: An Entrepreneur's Toolbox* • *Pastured-Raised Poultry Nutrition* • *Small-Scale Poultry Processing* • *Small-Scale Egg Handling* • *Organic Poultry Production: Providing Adequate Methionine*

Building a Sustainable Business: A Guide to Developing a Business Plan for Farms and Rural Businesses

SARE; (301) 374-9696; www.sare.org/business
This in-depth guide brings the business planning process alive to help transform farm-grown inspiration into profitable enterprises.
Free download online.

Chicken Tractor

Good Earth Publications; (540) 261-8775; www.goodearthpublications.com

Day Range Poultry: Every Chicken Owner's Guide to Grazing Gardens and Improving Pastures

Good Earth Publications; (540) 261-8775; www.goodearthpublications.com

Fresh-Air Poultry Houses – The Classic Guide to Open-Front Chicken Coops for Healthier Poultry

Norton Creek Press; 36475 Norton Creek Road, Blodgett, OR 97326; www.nortoncreekpress.com

Grit! – The American Pastured Poultry Producers Association (APPPA) newsletter

P.O. Box 85, Hughesville, PA 17737-0085; (570) 584-2309; www.apppa.org

Pastured Poultry Profits

By Joel Salatin, Polyface Farms; Published by Acres U.S.A.; (800) 355-5313; www.acresusa.com

Raising Poultry on Pasture: Ten Years of Success

APPPA; P.O. Box 85, Hughesville, PA 17737-0085; (570) 584-2309; www.apppa.org
A comprehensive collection of informative *Grit!* articles written by pastured-poultry producers for pastured-poultry producers.

The Stockman Grass Farmer

The Stockman Grass Farmer; P.O. Box 2300, Ridgeland, MS 39158-9911; (800) 748-9808; www.stockmangrassfarmer.com
This monthly magazine is devoted to the art and science of turning grass into cash.

Storey's Guide to Raising Chickens

Storey Publishing; 210 MASS MoCA Way, North Adams, MA 01247; (800) 441-5700; www.storey.com

Success With Baby Chicks - A Complete Guide to Hatchery Selection, Mail-Order Chicks, Day-Old Chick Care, Brooding, Brooder Plans, Feeding and Housing

Norton Creek Press; 36475 Norton Creek Road, Blodgett, OR 97326; www.nortoncreekpress.com

Talking Chicken

Acres U.S.A.; (800) 355-5313; www.acresusa.com
This 395-page book, written by SARE grantee Kelly Klober, offers valuable insight into rare, heritage and heirloom breed selection, chick raising, breeding and marketing for meat and egg production.

ONLINE SOURCES

American Livestock Breeds Conservancy Turkey Manual – How to Raise Heritage Turkeys on Pasture

www.albc-usa.org/EducationalResources/turkeys.html#manual
A comprehensive, free guide to raising heritage turkeys.



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APPPA/Grit! Pastured Poultry Listserv

APPPA; www.apppa.org
Available with membership to APPPA.

ASK FSIS

askfsis.custhelp.com; (800) 233-3935
The online/phone hotline of USDA's Food Safety Inspection Service (regulates processing of poultry). Producers can talk with regulatory professionals and get straight answers. If requested, producers can get answers in print on letterhead for their records and protection.

ATTRA Small Poultry Processors and Services Database

attra.ncat.org/attra-pub/poultry_processors
A state-by-state listing of USDA and state-inspected processors that work with farmers.

Guide to On-Farm Poultry Slaughter

Cornell University; smallfarms.cornell.edu/2012/07/20/new-on-farm-poultry-processing-guide
This 28-page guide on regulations is specific to New York, but has good general information.

New Entry Sustainable Farming Project

nesfp.nutrition.tufts.edu/training/poultryresources.html
Find online cost calculators for poultry production and processing; and guidebooks (free PDF downloads) on building an on-farm poultry processing facility, food safety and licensing.

Niche Meat Processors Assistance Network

www.nichemeatprocessing.org
NMPAN is a national network of people and organizations creating and supporting appropriate-scale meat processing infrastructure for niche meat markets. NMPAN provides information and resources to processors, producers, buyers, regulators and others.

Pastured Poultry Discussion Group

groups.yahoo.com/group/PasturePoultry/

State Poultry Processing Regulations

www.extension.org/mediawiki/files/2/28/NMPAN_State_Poultry_Regs_Report_6June2011.pdf
Compiled by NMPAN, this document covers the state-by-state laws concerning the federal on-farm poultry slaughtering exemption.

Pastured Poultry Budget Calculators

See the "Pastured Poultry Economics" sidebar on p. 5.