

ON-FARM PROCESSING OF PASTURED POULTRY

Clearing a Path for Legal Sale of Poultry Processed by Michigan Farmers

In 1993, a book was published that appealed to rural America and especially to those looking for a more sustainable and sustaining agriculture. *Pastured Poultry Profits*, written by Virginia farmer Joel Salatin, described a low-cost production and marketing system by which a farmer could “net \$25,000 in 6 months on 20 acres,” generating wages comparable to having a good job in town by raising broilers in cages on pasture.

The book was upbeat, optimistic, eye-opening. Not only did it describe a pleasant, pastoral production process, it provided evidence of an under-exploited niche market. In that market, informed consumers pay good prices for high quality products because they are produced and marketed outside of the industrial food sector and promise to be safer, more wholesome, and tastier.

Poultry was the first of agriculture’s industries “integrated” by processors and manufacturers who reorganized it, eliminating farmers as independent entrepreneurs and incorporating them as contract laborers. Fifty years ago, nearly every farmstead included poultry, so farmer readers of Salatin’s book were heartened by the tale of family farmers winning a battle in the overall war for farmer independence.

Still, while the book and the Salatin family enjoyed celebrity and success, other farmers seemed hesi-



tant to adopt his system. Pastured poultry processed on and sold from farms has won only a small share of the market for poultry meat. That’s probably because most farmers are more cautious and less entrepreneurial than the Salatins.

The big question for most farmers is, “Is this all legal? Can I just jump into food processing on my

farm?”

They are not totally comfortable with Joel Salatin’s brash approach. Of 334 pages in his book, he devotes only six to national and state inspection systems designed to protect consumers and assure food safety and quality. How does his operation fit into that world?

“The first thing some people do,

before even raising the first chicken, is to run down to the health department and spill their guts,” he wrote. “I encourage you to just go ahead and start. Don’t let your dreams be subject to some bureaucrat who has not a clue about consumer choice and good food.”

Salatin’s approach is based on an idea he carefully explains in his book.

“Our order blank contains a question: ‘Do you want them dressed?’ Each customer must mark ‘yes’ or ‘no,’” he wrote.

“The price is so much per pound, with no differentiation made between live and dressed birds. It’s the same price. There is no law that

precludes me from dressing chickens for you in my back yard if you bring them to me and I do not charge for the service. Our processing is a gift, an amenity, that our customers ask for and for which we do not charge a penny. By not charging for processing, we do not fit under the legal definition of a processor.

“This procedure keeps us strictly within the confines of the law and as far as we can tell everything is legal. It does mean, however, that if someone drives up to the house unannounced and wants to buy a chicken from the freezer, we do not sell him one. We’re glad to take his order, however, and raise him one precontracted in the field. Consis-

tency in this area is extremely important.”

Salatin gives the impression that marketing is no problem, that a long line of customers is waiting at his door, and that selling dressed poultry is simply a matter of taking orders from those first in line and turning the rest away. But farmers considering entering the business seem quite concerned that the opposite may happen for them. What if they have 150 fully grown birds, only 75 have been spoken for, and another 75 need a hopefully temporary home in the freezer? What does a producer do with birds for which no production contract has been signed with a customer?

This handbook is directed to producers who want greater flexibility in marketing and the security of knowing what they are doing is legal. Perhaps there is a large client base of people who own home freezers, plan ahead in advance of their need, and will order broilers or turkeys in quantity for delivery two or three months ahead. But is it not equally likely that many consumers are impulse buyers who see the sign in your yard and stop by, willing to try something new but not willing to put much effort into it?

It does seem that many people are singing the praises of pastured poultry. Raising them is a great enterprise for small farms and an easy enterprise to add to any size farm. The meat (and eggs) are tasty and, the claim is, they’re healthier for you to eat. The creatures, happily scratching and clucking away in the pasture, seem proof positive that mankind can live in earthy ecological harmony. Who wants or needs an environment where thousands of birds are crowded into small spaces and noxious odors taint our senses, less humane methods plague our consciences, and we seem so out of step with the natural system?

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Processed by Michigan Farmers

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Published December, 2002, by Michigan Integrated Food & Farming Systems, East Lansing, Michigan, with funding from the W.K Kellogg Foundation, the National Farmers Union, the Michigan Farmers Union and additional support from the C.S. Mott Chair of Sustainable Agriculture at Michigan State University.

This publication was graciously reviewed by John and Cindy Dutcher, Dutcher Farms; Anne Fanatico, National Center for Appropriate Technology; Kay and Frank Jones, Earth Shine Farm; Rick and Tracy Meisterheim, Wagbo Peace Center; Jeff Moser, National Farmers Union; Terri Novak, Michigan Department of Environmental Quality; Stephen Parker, United States Department of Agriculture; Susan Smalley, Michigan State University Extension; Robert Taylor, Michigan Department of Agriculture; and John Tilden, Michigan Department of Agriculture. They contributed greatly to its accuracy; errors remain with the authors.

Printed by E & S Graphics, Ithaca, Michigan

We'll review some of these ideas in this publication, too. But the key motivation is to fill a special need that will help more small farmers participate in this growing enterprise of pastured poultry production and marketing. The mission is to help small farmers expand from their role as animal producers, which seems to "come naturally" to so many, into roles as food processors and food marketers, which often do not.

Each year at Thanksgiving, we see the newspaper clip art stereotype of the farmer, ax in hand, marching the turkey toward the chopping block near the woodpile. No image could be less appropriate for the modern farmer producer. Today's pastured poultry producer must use sensible and humane slaughter methods, prepare and package the birds in proper facilities using safe, clean methods, and dispose of wastes without offending the neighbors or endangering the environment.

Rules governing these processes are not well known by producers. In this publication, we will help them learn the rules as stated by the federal government in its Food Safety and Inspection Service and by state government in the food laws enforced by the Michigan Department of Agriculture and environmental



Kay and Frank Jones were determined to build a model small processing building at Earth Shine Farm. By Thanksgiving, 2002, the first turkeys were processed. Frank is on the cover.

laws enforced by the Department of Environmental Quality.

This project was supported financially by MIFFS, the Michigan Integrated Food and Farming Systems organization, through a grant from the W.K. Kellogg Foundation. One MIFFS goal is to help knit the fabric of rural communities, fostering connections between producers and consumers locally, demonstrating an alternative to the huge energy costs and impersonality of the corporate, global food system. Local production and consumption of poul-

try products makes so much sense, but producers and consumers must bridge the gap between them—making a healthy, safe, legal transfer of superior products.

We want to acknowledge the cooperation of producers, who told us what they needed and how they thought they wanted to operate, and officials with the state and federal government, who helped us understand the laws and worked with us to create a document farmers and regulators can rely on for factual information.

THE RISE OF PASTURED POULTRY

Fifty years ago, most poultry was raised under free-range conditions, not just in the United States but all over the world. Then technology came to poultry production and everything changed. Poultry was very amenable to mechanization and to factory-style production methods. In the conversion process, lifestyles changed for the producers, the birds, and the consuming public.

The birds, once somewhat free to interact with the natural environment, were now closely confined in

buildings and cages. In the new artificial environment, everything had to be controlled. Crowding led to increased disease, so antibiotic use became routine. Light frequencies were altered and tips cut off beaks to control cannibalism. Since birds no longer foraged, diets had to be formulated to meet their total needs.

For producers, the change was also dramatic. Chickens and turkeys swiftly disappeared from most farmsteads, where they had been ubiquitous for centuries. Instead of being

dispersed in small flocks on virtually every farm, poultry was concentrated in large confinement operations. Feed companies and other integrators controlled and standardized every aspect of production—the diet, the housing, the drug regimen. The farmer's role as an entrepreneur and manager was reduced to that of a worker under contract who carried out the daily regimen for thousands, even millions, of birds.

For consumers, all this change was a mixed blessing. The cost of

production of broilers was driven down, and chicken was no longer just a special treat for Sunday dinner. Poultry is today the most consumed meat in the United States, surpassing both beef and pork. The final products, eggs and meat, were also transformed. Egg yolks have less intense color and flavor, which some consumers like and others disdain. The meat is fatter, thus juicier, tenderer, and less chewy, again leading to differences of consumer opinion about the final product.

But people are much richer now than they were a half century ago.

When small farmers gave up chickens, it was because they were losing the race in which winners produced cheap poultry. Back then, consumers were poorer and more price-driven. Today, economists say, less than a third of consumers are price-driven. That means other factors, quality factors, can play bigger roles in consumer choice.

Consumers are concerned about food safety. What has been surprising is that modern, sparkling, stainless steel processing plants can actually multiply problems. Multi-million-pound meat recalls result from commingling products into large lots. Some consumers are taking a “smaller is better” attitude, but it is important that producers understand bacteria care nothing about size of operation.

Then there are issues concerning antibiotics. There is concern that resistant bacteria can be passed to humans in their food. Healthy poultry can be raised without dosing the birds with antibiotics.

Consumers are concerned about flavor and texture and color. Modern, mass-produced poultry and eggs are mild in flavor and pale in color. Birds grown with access to the out-of-doors, where they can eat grass, insects and other critters in addition to grain, take in more substances like

carotene, which makes yolks and skin orange. Birds also grow somewhat more slowly under outdoor conditions, and more mature birds have a more intense flavor.

With many reasons that transcend economics, the imperative to produce poultry cheaply is no longer essential for everybody. Today, poultry raised “the right way” and processed right on the farm sells for two to five times store prices and a growing number of people willingly pay that. Because profit margins are greater, farmers can make more income with a few thousand birds than their contract cousins can make with a million. And, while the work is harder than many might think, the lifestyle is pastoral.

So after a half century, poultry is reappearing on farmsteads. It’s almost as if they never left. There they are, out there scratching and clucking and flapping, and the farmers are delighted. Chickens have personalities. They can be picked up and petted. They talk to you in soft voices. They’re so interesting. How did we ever let them get away?

The new perception is that a significant number of consumers are willing to pay much more than 49 cents a pound for poultry if it’s the right kind. Farmers who are looking for profitable niche enterprises for their farms are very interested. That’s the lure.

On the other side is the perception that rules governing processing and packaging of dressed animals for sale are complicated. Farmers used to solving production-side problems are just not as at home in the food processing arena, and they see a significant barrier to entering the business unless they are willing to make significant investments.

Both of these perceptions appear to be true. There is abundant evidence that some consumers are willing to pay \$2 and more a pound for

chicken that is raised in an unconfined, free-ranging condition on a diet that includes vegetation, worms, and insects but does not contain antibiotics or growth stimulants.

It is also true that the days are gone when farmers kill chickens with an ax and dress them on the kitchen table for a waiting customer. To capture the on-farm processed pastured poultry market, they will have to put on a “food processing” hat, devote time to learning, just as they would for production-related technology, and make some investment in equipment and facilities.

Profitable market niches can evaporate instantly if there is even a hint of doubt about the safety of a food product. Foods derived from animals fall in the category of what food regulators call “potentially hazardous foods”—food that disease-causing organisms rapidly multiply on unless strictly controlled. Therefore, regulation exists.

On the positive side, the Michigan Department of Agriculture has stated its support for farmers who want to develop added-value enterprises. Moreover, the atmosphere is not negatively charged by command and control agencies—local, state, or federal—waiting to pounce on some poor farmer who dresses a chicken for a neighbor. In fact, it may be the opposite. Many want-to-be pastured poultry producers complain that guidance is often general and solid advice and direction is hard to come by. Nobody seems to be looking over anybody’s shoulder. But farmers fear stepping into quicksand unknowingly.

The goal of this publication is to give farmers who want to process poultry on their farm for sale to customers seeking this product a basic introduction to the rules that will govern their activities and some direction about how to go about it. They must be willing to enter the

world of food processing. For farmers geared to production and sale of commodities, this value-added world may be new territory.

There are some barriers. Over the last half century, as small farmers were giving up their production rights to a few larger producers, they were also giving up their rights to process and sell meat, milk and eggs from their farm gate. Almost all the restrictions resulted from legislation designed to protect consumers from unsafe or unwholesome food. It is important to protect consumers from disease and filth.

In the modern food system, inspectors may appear to be more con-

cerned about construction materials and screen doors than with the moral fiber and motivation of a farm family looking to provide a superior product to fussy customers they know on a first-name basis. In our work on this project, we found inspectors truly interested in the problems of small producers.

One myth needs to be addressed. If you're going to sell dressed poultry, the state of Michigan does have a legal interest in your operation. There is no exemption for small on-farm poultry processing operations. In some states, state regulations allow producers who slaughter fewer than 1,000 birds a year to operate

without oversight. That is not true in Michigan.

Michigan laws offer no size exemption in many areas in which food safety and wholesomeness are issues. There is no exemption for sale of raw, unpasteurized milk. There is no exemption for sale of beef, swine, or pork slaughtered and processed on-farm. These activities must be carried out in licensed plants.

If you process poultry on your farm, you are expected to have facilities to do that. Consulting and working with your local Michigan Department of Agriculture food inspector is a critical part of the process.

THE RULES WE LIVE BY

There are stories of unreasonable things done to seemingly innocent people by government agencies doggedly pursuing their mission. Yes, in fact, little old ladies selling cookies at bake sales have been shut down by zealous enforcers.

Such stories seem to persist forever. Today, food law enforcement agencies seem less interested in "command and control" and more interested in carrying out a broadly defined safety and wholesomeness mission with as few hassles as possible.

Today, rules exempt bake sales and other such food-related club or charitable activities from direct government oversight. But a person wanting to process poultry on his farm for sale to the public needs a license.

A food establishment license is required in almost all instances where food is commercially handled or served to the general public. Even giving food to the general public is included, because the issue is not "sale" but "risk." The Michigan Food Law of 2000 requires the li-

censing of any person or firm that processes, packs, cans, preserves, freezes, fabricates, stores, prepares, serves, sells, or offers food for sale.

The Food Law of 2000 established new license exemptions for retail businesses that sell only incidental amounts of "not potentially hazardous" single-service prepackaged foods such as commercially processed canned goods, dry goods, candy, and other low-risk packaged food items.

Firms that do not need a food establishment license—but are still subject to inspection by MDA or local agencies—include produce stands selling whole fruits and vegetables, bake sales and potlucks run by charitable, religious, fraternal or other non-profit organizations and serving only home-prepared foods, non-profit cooperatives, retail honey and maple syrup outlets, and several others.

Information posted on the MDA Internet web site (www.michigan.gov/mda) provides this advice: You should contact the Michigan Department of Agriculture if you sell or

manufacture food because you will need a Limited Wholesale Food Processor license that costs \$70 a year. It applies to a wholesale food processor that has or expects to have \$25,000 or less in annual gross wholesale sales. Examples, says the web information, "may include a small maple syrup operation, a small apple cider mill, a small honey processor, and a small poultry or rabbit slaughterer."

The license covers food processing plants of all kinds, egg grading and packing plants, flour mills, honey houses, and many more.

An application for a food establishment license must be submitted to the regulatory agency at least 30 days before a new food business opens. An inspection must be conducted before the license can be issued. The MDA highly recommends, but does not require, that new food processing enterprises have their plans reviewed by an MDA inspector before applying for a food establishment license and opening up for business. These reviews are conducted by MDA staff free of charge

on request. The inspector may hold up your license if the design of your facility, location of equipment and sinks, and other essential criteria are not met.

In Michigan, specific rules apply to each of three levels of production:

1,000 or fewer birds processed annually

- Michigan Department of Agriculture licenses and inspects the facility for compliance with Good Manufacturing Practices. No antemortem or postmortem inspections are conducted on birds.

- The USDA's Food Safety and Inspection Service (FSIS) investigates complaints, but the federal rules do not apply to poultry raised and processed on the farm and sold within Michigan.

- Processed birds must be la-

beled. The label must include product identity, name and address of producer, safe handling instructions, "keep refrigerated" or "keep frozen" notices, sell-by dates for refrigerated birds or lot identification codes for frozen birds, and net weight.

1,001 to 20,000 birds processed annually

- USDA FSIS does periodic sanitation inspections of the facility, but there are no antemortem or postmortem bird-by-bird inspections.

- Depending on the complexity and scope of the operation, the Michigan Department of Agriculture may also license and inspect the facility for compliance with Good Manufacturing Practices.

- Specific provisions of the Federal Poultry and Poultry Processing Inspection Act do not apply for farm-raised and -processed poultry for sale

in Michigan only.

- Processed birds must be labeled. The label must include product identity, name and address of producer, safe handling instructions, "keep refrigerated" or "keep frozen" notices, sell-by dates for refrigerated birds or lot identification codes for frozen birds, net weight and "Exempted—P.L. 90-492" where applicable.

20,001 or more birds processed annually

- USDA FSIS does full inspections.

- MDA would not license the plant but would license retail sale operations for on-site sales to consumers.

- Hazard Analysis Critical Control Points (HACCP) Plan required.

- Full label required.

- Interstate sales allowed.

PROTECTING THE ENVIRONMENT

On-farm poultry processing facilities may need to obtain a groundwater discharge general permit from the Michigan Department of Environmental Quality's Waste Management Division.

There are no provisions built into the rules saying, "if you only discharge 100 gallons, you don't need a permit." The rule states that a slaughterhouse discharging "washwater with additives" at less than 2,000 gallons per day annual average needs authorization to discharge "into the groundwater or onto the ground of the state."

The key word is "slaughterhouse." You might in fact discharge more soapy water from your kitchen after stuffing the Thanksgiving turkey and serving all the guests than you would butchering a batch of 75 chickens and cleaning up afterward. Two thousand gallons per day, annual average, would cover a fairly

large processing plant operating every day and certainly a very large one that operated only a few days a year. Most producers envision operating their poultry slaughter operation only a few times a year, not continuously.

Wastewater with additives is defined as wastewater that results from cleaning operations to which detergents, disinfectants or other chemicals have been added. The destination of the wastewater is not the key issue. It may go into a septic tank, into a lagoon, or into a holding tank to be spray irrigated onto land.

If the wastewater is to be discharged onto land, there are limits defined by the season and the number of acres of land used. Land application is not to exceed 4,000 gallons per acre per day during the growing season or 2,000 gallons per acre per week during the non-growing season.

If disposal is by irrigation, wastewater can't be discharged within 100 feet of property lines, homes, commercial buildings, or surface water. The surface to which it is applied must contain vegetation adequate to prevent erosion and take up nutrients. Slope on the disposal area must be two percent or less.

The wastewater must be transported to the site in enclosed containers. Crops for human consumption can be irrigated with wastewater only if they are processed before being eaten.

If the wastewater goes to a lagoon, it must be fenced with warning signs and vegetation controlled to discourage animal burrowing.

If the wastewater goes into a septic tank, it must be monitored for sludge buildup and pumped when sludge occupies 25 percent of capacity.

The procedure is to contact the

DEQ's Environmental Assistance Center (800-662-9278) and request a Certificate of Coverage. Before constructing a treatment or disposal facility, plans and specifications must be submitted to the department. After receiving the COC, land ap-

plication site identification forms must also be filed with the Waste Management Division's district office, the township supervisor, and the local health department having jurisdiction. This site identification needs to be made on Agricultural

Stabilization and Conservation Service maps showing property boundaries, surface waters, dwellings, commercial buildings, and discharge locations. More information can be found at DEQ's web site (www.michigan.gov/deq).

FOOD LAWS APPLY TO EVERYBODY

Any person who sells a processed chicken to anyone else falls under the authority of state and federal laws.

That doesn't mean "they" are "waiting" for you to "make your move" so they can catch you and arrest you for dressing and selling a chicken or two. But if somebody complains about your activities, food regulatory staff will investigate.

What might anyone complain about? Suppose you dressed a chicken for sale to a nice couple of soccer parents. They were supposed to come at 2 o'clock to get their bird but didn't show until 4:30. Then instead of going home and putting their fresh bird into the refrigerator, they went shopping for an hour and then picked up the kids after their game. Later that evening, after a late dinner, both kids complained about stomach pains and were taken to the emergency room with vomiting and diarrhea. The doctor asked if they'd eaten anything unusual. As a result, they talked about your chicken.

There are many complaints about our food system. One often hears about chlorine and other chemicals and processes that are used on our food. But one thing is sure about chlorine: It kills germs. And the food system is designed to provide food safety in the face of all the abuses that can result from the way modern folks, including those soccer parents, live their lives. So

your "special product," produced without chemicals and sprays and disinfectants, is only special for special customers who understand food and food safety. For the others, it is potentially hazardous.

Consequently, there are regulators who respond to complaints that may stem from foodborne illnesses.

These include regulators at the federal Food Safety and Inspection Service and the Michigan Department of Agriculture Food and Dairy Division.

As a small producer, you are exempt from FSIS inspection rules if you process 20,000 or fewer birds a year. You must tell FSIS what you are doing, and your exemption exists as long as you maintain sanitary standards and do not produce adulterated or misbranded products. FSIS retains the right to look over your operation and stop it if it does not seem safe and sanitary or the chickens don't look healthy. Moreover, you must label your product in such a way that a "bad chicken" can be traced back to you.

Every food processing operation of any size must comply with the Michigan Department of Agriculture's Good Manufacturing Practices, which are modeled on those found in the Federal Code of Regulations.

And there is one more possible overseer—the Michigan Department of Environmental Quality. As well as

complaining about your product, someone could complain about your operation if it produces noise, runoff, or odors. Within a permit, you can dispose of wastewater by on-land application. There are no specific provisions allowing burial or composting of slaughterhouse wastes. DEQ wants to know what you are doing and be part of an approval process in advance—rather than finding out about you through a complaint from a private citizen.

DEQ cooperates with the Michigan Department of Agriculture in those areas where Right to Farm Law provisions may apply. Under their agreement, when DEQ receives complaints from the public concerning activities that may be farm-related, it turns them over to MDA for investigation.

FEDERAL AND STATE RULES

The Food and Dairy Division of the Michigan Department of Agriculture is responsible for assuring that foods are processed in a wholesome environment using good manufacturing practices and that they are properly labeled. MDA has about 50 inspectors who oversee the operations of about 20,000 food establishments. Michigan does not have a state meat inspection system so all commercial meat processors are licensed by the USDA Food Safety and Inspection Service unless specifically exempted in federal regula-

tions.

Obviously, with this few people spread so far they do not inspect animals or day-to-day operations. Instead of “continuous oversight,” the system relies on “spot checks” and response to specific complaints.

Antemortem and postmortem inspection of animals, if it is required, is done by the federal Food Safety and Inspection Service. A “custom exemption” exempts operations from animal inspection if, in the case of beef, pork and lamb, they are doing custom work for people wanting to have animals they own slaughtered and processed for their own use. Farmers who sell freezer beef, pork, or lamb in fact sell live animals to customers and then arrange, in the name of this customer, to have the animal custom slaughtered, cut, wrapped and frozen. The meat comes to the customer with each package labeled “not for sale.”

Farmers who sell processed poultry sometimes operate within a similar environment. Some take them to slaughter plants offering full federal inspection. Some take their chickens or turkeys to a custom operator. Others choose to do the slaughter and processing on their own farms. While custom and small farm operations are exempt from antemortem and postmortem inspection requirements, they must meet sanitation and processing standards that apply to their operating procedures and facility construction and maintenance.

What is different about poultry, compared to beef or pork, is that producers may sell to the general public up to 20,000 processed birds per year without the live birds being inspected and without having to sell the live birds to the customer before they are slaughtered. These dressed birds may not go into the wholesale food distribution network, but they can be sold directly to individuals,

farm markets, supermarkets, and restaurants.

Food Safety and Inspection Service of the U.S. Department of Agriculture is responsible for ensuring that meat and poultry products are safe, wholesome and accurately labeled. FSIS enforces poultry under the Poultry Products Inspection Act (PPIA) and other meat under the Federal Meat Inspection Act. In states that have their own inspection systems, these inspections are delegated to the states.

Exemptions from inspection are set forth in the PPIA and in the federal poultry inspection regulations (9CFR 381.10).

Small producers who want to slaughter or process not more than 20,000 birds per year themselves and sell them within the state of Michigan may take advantage of provisions in federal laws that allow them to be exempt from federal inspections. These include the producer grower and small business enterprise exemptions.

The producer grower exemption is for small producers who own and raise their own birds and slaughter and process them on their own premises. Federal law requires that these birds be labeled with the producer’s name and address and the statement “Exempted—P.L. 90-492.”

The small business enterprise exemption allows the small producer to purchase, slaughter, cut up, and sell birds and to custom slaughter and cut up birds in addition to slaughtering, cutting up, and selling his or her own birds. However, these birds may not be further processed (e.g., ground up and combined with other food products to make sausage).

Both exemptions allow sales to directly to consumers; to hotels, restaurants, and institutions; to some distributors; and to retailers. In all cases poultry must be sound and

healthy when slaughtered. Slaughter, cut up, and handling must be under sanitary conditions. Product must not be misbranded.

The producer grower and small enterprise exemptions do not provide exemption from the Michigan Food Law and applicable local ordinances and regulations. (Legal Reference: 9 CFR 381.10 (a) and 21 USC 464 (c), both accessible through websites listed in center of this publication.)

All firms and individuals that process, store, or distribute poultry and meat products are subject to random reviews by FSIS inspectors, even if they are exempt from inspection.

There are nearly 40,000 restaurants in Michigan, and they are under the purview of about 45 local health departments—not the MDA. Local health departments usually stipulate that food served in restaurants come from “approved sources,” so farmers who sell dressed poultry to restaurants are indirectly subject to health department regulations.

While all this might sound like a conflicting tangle of regulations and regulators, that is not really the case. Michigan has its own food law (the Michigan Food Law was rewritten in 2000) that “adopted by reference” title 21 of the Code of Federal Regulations, which define “current good manufacturing practice in manufacturing, packing and holding human food.” The Michigan Food Law also contains the legal requirements that local health departments use to regulate restaurants and other food service facilities. So the whole system is tied together, and there is a standard set of rules.

Any person engaged in poultry slaughter and processing for sale, whether exempt from inspection or not, must keep records “properly necessary for the effective enforcement of the act.”

The conditions of the poultry exemption are based on the number of poultry sold, so “effective enforcement of the act” may include a review of sales records. Other records might include the number of birds processed on a given slaughter day and any identification number assigned to that lot of birds.

FOOD MANUFACTURING REGULATIONS

The rules and regulations applying to food manufacturing establishments are the most difficult for small producers. Here’s the problem.

In theory, anyone who processes even one chicken for sale must do it under conditions that would meet the approval of inspectors from both the state and federal governments. The standards are written to apply to all kinds of operations, small and large. A frequently asked question is, “Must I build and maintain a separate toilet and hand-washing facility to serve a processing area I use only a few times a year and just a few people who meet for a day to do the work?”

Small producers fear they won’t be able to afford to meet such standards, and they fear the heavy hand of the regulators.

On the other hand, some small producers complain there is not enough regulation—specifically, that the rules as written are too general. What is an “easily cleaned surface?”

In the last decade, many compliance agencies at both state and federal levels have given up inflexible “command and control” directives and have become much more pragmatic. But since small producers have little experience knowing what FSIS inspectors will find acceptable, they can be very nervous about the whole subject.

They would like firm guidelines on materials and methods, but would

also like some flexibility when rules seem designed for industrial-scale meat packing facilities.

What’s the best approach?

1. Draw a detailed plan including the floor plan of your facility, the equipment you intend to use, and showing how birds will move through your facility as they are processed.

2. Take it to the MDA food inspector serving your area for review.

3. If you intend to operate as an exempt producer, you do not need to submit plans to FSIS. You should go to the MDA Food and Dairy Division inspector serving your area. However, the decision about the adequacy of the facility is made by the USDA FSIS Circuit Supervisor who reports to the Madison District Office. The Madison office can assist with general facility questions or have a local veterinary medical officer or food inspector answer specific questions. You may also talk to the FSIS inspector and make your case for the adequacy of your facility by giving an honest description of how you intend to operate.

The USDA published in 1984 Agriculture Handbook 570, entitled “U.S. Inspected Meat and Poultry Packing Plants—a Guide To Construction and Layout.” The following information is taken from that. While FSIS states there is no specific exemption for producers merely because they are small, plenty of “wiggle room” is available because exempt producers are specifically exempted from having to file an application for inspection services. Thus they do not need to file plans and drawings of their processing plant—even though, in theory, the practices and methods described apply to everybody.

In the introduction, the book plainly states: “The federal Meat Inspection Act, the Poultry Products

Inspection Act, and the Humane Methods of Slaughter Act provide the legal basis and the rules and regulations that are applied by FSIS. These regulations form the basis for all decisions relating to such subjects. Like most regulations, however, they require interpretation and judgment in their application. . . .

“For the most part, they are applicable to both large and small volume producers. Proposals that are submitted for approval are evaluated on the basis of those practices necessary to process meat and poultry in a sanitary manner and to provide for inspection needs.”

The publication informs producers about what FSIS inspectors expect in a well-designed and -managed meat processing facility. Whether all of these rules must apply to you is a matter for negotiation with your local food inspector.

“The scope and nature of the operations are taken into account in deciding the facilities and equipment necessary for each individual project,” the handbook says. “Some variation is allowable in existing construction if meat and poultry can otherwise be processed in a sanitary manner. It is strongly recommended the guidelines be followed in all new construction.”

FOOD LABELING GUIDE FOR PRODUCTS MANUFACTURED OR SOLD IN MICHIGAN

The Food and Dairy Division of the Michigan Department of Agriculture is responsible for assuring that food and other consumer packages are properly labeled. The division has fact sheets that summarize the basic requirements.

Michigan's labeling law, part of the Michigan Food Law (PA 92 of 2000), is based on Title 21, Title 9, and certain other parts of the Federal Code of Regulations.

For poultry processed and packaged under a producer/grower exemption, important information that must be on the label includes

- the name of the product,
- the name and address of the producer,
- the net weight,
- a statement saying it is exempt under the federal law PL 90-492,
- "Sell by" dates unless the product is subject to full USDA inspection or sold frozen.
- If the product is for retail sale, it must also include safe handling instructions.

A label might look like this:

<p>SMITH POULTRY 12345 Pasture Road Merry MI 49101</p> <p>Product: Whole Chicken Exempted PL 90-492 Keep refrigerated</p> <p>Weight: _____ lb _____ oz Sell by _____</p>
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The label's "principal display panel" (PDP) is where product identity and quantity information must appear.

The "statement of identity" is the common or usual name of the food. It must be displayed "prominently," using a type size and face easily read by the purchaser. In the case of chicken or turkey, further description might be "whole chicken" or "chicken legs" or "chicken breasts." Farmers who sell poultry under the producer/grower exemption may legally sell it whole, cut up, deboned, or ground and mixed if the product label lists the ingredients in descending order of predominance.

Label standards call for a type size at least 1/16-inch in height. That is very small for a product name, less than half the size of typewriter type and about the size of the "small print" in safe handling instructions. The operative words in the standards say, "All required information must be conspicuous and easy to read," suggesting point sizes greater than 12 be used for product names.

The "name and address of a re-

sponsible party" must include the name, address, city, state, and zip code.

The "quantity declaration" should be on the lower third of the PDP. For farm-packaged products, metric units need not be included.

Producers should be aware that altering the basic product can lead to further labeling requirements. Such alterations include use of artificial flavoring, sweetening, or coloring; use of "fanciful" terms to describe the product; adding ingredients such as spices or preservatives; or making health or nutrition claims.

"Nutrition labeling" is required on most foods, but some foods are exempt, including food produced by small businesses. However, use of any dietary or nutritional claim, such as "low fat," "diet," or "lean," forfeits the exemption, and complete nutrition labeling is then required.

Poultry could be described as "raised on pasture" or "raised outdoors," but label claims that the food is higher in omega-3 fatty acids or that it is lower in calories would require additional labeling.

<p>Safe handling instructions</p> <p>This product was prepared from poultry meat. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly. For your protection, follow these safe handling instructions:</p> <p>Keep refrigerated or frozen. Thaw in refrigerator or microwave.</p> <p>Keep raw meat and poultry separate from other foods. Wash working surfaces (including cutting boards), utensils, and hands after touching raw meat or poultry.</p> <p>Cook thoroughly.</p> <p>Keep hot foods hot. Refrigerate leftovers immediately or discard.</p>
--

This would have to appear in a panel headed by the title “Nutrition Facts” and would have to include these components in this order: total calories, calories from fat, total fat, saturated fat, cholesterol, sodium, total carbohydrate, dietary fiber, sugars, protein, vitamin A, vitamin C, calcium, and iron. Serving size is the basis for reporting a food’s nutrient content.

While terms such as “light,” “low,” “reduced,” “less,” “more,” and “high” can be used, such terms must be supported by other information on the label.

Producers cannot use the term “organic” unless their farm operations are certified as meeting organic standards described by both federal and state standards. Specific practices, such as production without using added growth promotants or antibiotics, can be included on the label if these would not imply nutrition claims that would need to be supported in the “nutrition facts”

panel.

Businesses may submit their labels directly to either the Michigan Department of Agriculture or the Food and Drug Administration for review. That service at MDA is available “as resources permit.” The review results in an “informal opinion” about the acceptability of the label and does not relieve the business of the full responsibility for proper labeling.

Labels should not be submitted to both MDA and FDA, but producers can choose either. Requests to FDA should be sent to:

Food and Drug Administration
Center for Food Safety and Applied Nutrition
Division of Regulatory Guidance (HFF-310)

200 C Street, SW
Washington D.C. 20204

Federal help is also available at Michigan’s FDA district office at:

Compliance Branch
Food and Drug Administration
1560 E. Jefferson Ave.
Detroit MI 48207
(313) 226-6260

For an MDA label review, submit it to your MDA regional office’s Labeling Specialist (see listing at end of publication).

The U.S. Government Printing Office has publications available containing more information about food laws and regulations. They are available, for a fee, from the U.S. GPO, P.O. Box 371954, Pittsburgh PA 15250-7954. Phone (866) 512-1800. Fax (202) 512-2250.

Title 21 of the Code of Federal Regulations contains the regulations FDA enforces. Part 1 to 99 are general regulations for enforcement of the Food, Drug and Cosmetic Act and the Fair Packaging and Labeling Act. Part 100 to 169 covers food labeling, standards of identify, and good manufacturing practices. Part 170 to 199 covers food additives.

SETTING UP THE PROCESSING ENVIRONMENT

What should the processing environment look like on your farm as you embark in an on-farm processing and poultry retailing business? Let’s make a few assumptions.

First, you’re not going to set up a USDA-inspected processing plant. You’re not going to process more than 20,000 birds a year, you’re marketing them yourself and not selling through a distributor, and you’re not selling into interstate commerce. So you can be exempt from USDA inspection requirements.

Second, you do want flexibility. While you hope to have all the birds sold for fresh delivery soon after you process them, what happens if

they’re not all sold? You’ll want to pop the extras into the freezer for sale to anyone at any time. So you don’t want to be subject to the restriction Joel Salatin lives with. Remember he needs to have a signed contract with each customer stating he or she is buying a live bird and specifically asking for his services to butcher it. You want to be able to freely process your birds on your schedule and retail the products the same way.

Third, money is an issue. You want to avoid expensive investments if they are not essential. If you need a restroom, for example, you also need a septic tank and drain field or access to a public sewer. These are

large investments that go well beyond a porcelain stool and sink. So let’s assume you want to do things as inexpensively as possible, but conform to building code requirements and food safety rules.

So what are the rules? In general, they are stated in the Code of Federal Regulations (Title 21, Food and Drugs). Part 110 is titled “Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food.” These rules are enforced by MDA’s food inspectors who work in the Food and Dairy Division of the Michigan Department of Agriculture.

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Useful Internet Web Sites

Michigan Integrated Food & Farming Systems www.MIFFS.org	“Raising Poultry on Pasture” www.wisc.edu/cias/pubs/briefs/057.html	Michigan Limited Wholesale Food Processors License Application Form www.michigan.gov/documents/MDA_FoodEstablishmentLicenseApplicationForm_41243_7.pdf
Production and Processing	Stockman Grass Farmer www.stockmangrassfarmer.com	
American Pastured Poultry Producers Association www.apppa.org	Sustainable Farming Connection Pastured Poultry Resources www.ibiblio.org/farming-connection/grazing/pastpoul/resource.htm	Michigan Right to Farm Law www.michigan.gov/mda/0,1607,7-125-2961_2968_4823-13052-00.html
Appropriate Technology Transfer for Rural Areas www.attra.org		
Back 40 Books www.free-rangepoultry.com	USDA Economic Research Service Poultry and Eggs www.ers.usda.gov/briefing/poultry	United States Code www.access.gpo.gov/su_docs/help/hints/uscode.html
Chicken Feed: Pastured Poultry www.lionsgrip.com/pastured.html	Regulations and Agencies	
Eat Wild www.eatwild.com	Michigan Bodies of Dead Animals Act www.deq.state.mi.us/documents/deq-wmd-swp-bodiesofdeadanimals.pdf	United States Code of Federal Regulations www.access.gpo.gov/nara/cfr
“Home-Raised, Home-Butchered” Extension Bulletin from Kansas State www.oznet.ksu.edu/library/fntr2/FOODASYST/2poultry.pdf	Michigan Compiled Laws www.michiganlegislature.org	United States Code of Federal Regulations, Poultry Products Inspection Regulations www.access.gpo.gov/nara/cfr/waisidx_02/9cfr381_02.html
Michigan State University Extension Poultry Bulletins www.msue.msu.edu/poultry	Michigan Department of Agriculture www.michigan.gov/mda	United States Poultry Products Inspection Act www.fda.gov/opacom/laws/pltryact.htm
North Central Initiative for Small Farm Profitability www.farmprofitability.org	Michigan Department of Environmental Quality www.michigan.gov/deq	USDA Food Safety and Inspection Service Field Office Locations and Phone Numbers www.fsis.usda.gov/OA/programs/fieldoff.htm
Poultry Resource Manual by Iowa State University Extension www.iowaagopportunity.org/poultry/poultry_manual.html	Michigan Department of Environmental Quality Groundwater Discharge General Permit www.deq.state.mi.us/documents/deq-wmd-gwp-Rule2215Slaughterhouse-1.pdf	USDA Hazard Analysis and Critical Control Point (HACCP) & HACCP Implementation www.fsis.usda.gov/OA/haccp/imphaccp.htm
“Profitable Poultry: Raising Birds on Pasture” www.sare.org/bulletin/poultry/index.htm	Michigan Food Law www.michigan.gov/documents/MDA_PA92of2000_21702_7.pdf	

Who Regulates On-farm Poultry Processing in Michigan?

Agency/Contact	Operation Size (Birds/Year ¹)		
	≤1,000 for sale within Michigan	>1,000 and ≤20,000 for sale within Michigan	>20,000 ²
Michigan Department of Agriculture³ www.michigan.gov/mda	Licenses and inspects facility	Licenses and inspects or may defer to FSIS on a case-by-case basis	Licenses and inspects only retail sales operations taking place at that location
USDA Food Safety & Inspection Service Madison Field Office 2810 Crossroads Drive Suite 3500 Madison WI 53718-7969 Phone: (608) 240-4080 or (800) 826-2256 Fax: (608) 240-4092 www.fsis.usda.gov/	Investigates complaints	Investigates complaints, does periodic safety inspections, authorizes “Exempted--P.L.90-492” status	Inspects facility, process and product
Michigan Department of Environmental Quality Environmental Assistance Center P.O. Box 30457 Lansing MI 48909-7957 Phone: (800) 662-9278 www.michigan.gov/deq	Investigates complaints. May require storage and discharge licenses and permits (e.g., Groundwater Discharge General Permit for washwater from slaughterhouse)	Investigates complaints. May require storage and discharge licenses and permits (e.g., Groundwater Discharge General Permit for washwater from slaughterhouse)	Investigates complaints. May require storage and discharge licenses and permits (e.g., Groundwater Discharge General Permit for washwater from slaughterhouse)
Local health departments	May inspect, permit and/or license new installation of well, septic and other disposal systems	May inspect, permit and/or license new installation of well, septic and other disposal systems	May inspect, permit and/or license new installation of well, septic and other disposal systems
Other agencies	May operate licensing and regulatory programs for health, insurance, labor, taxation, vehicles, buildings and other concerns	May operate licensing and regulatory programs for health, insurance, labor, taxation, vehicles, buildings and other concerns	May operate licensing and regulatory programs for health, insurance, labor, taxation, vehicles, buildings and other concerns

¹Total of chickens, turkeys, ducks, geese, and guinea fowl

²It is highly unlikely that >20,000 birds per year would be processed “on-farm”

³See MDA Regional Office listing on inside back cover

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The rules are stated in many cases in very general terms subject to interpretation, so a good of thumb is to work with the inspector when planning the facility so there are no surprises when it is complete.

FACILITY REQUIREMENTS

Food processing operations must be conducted in a separate, enclosed room or building. The food processing room must have floors, walls, and ceilings made of impervious, cleanable materials.

In the case of small poultry processing operations, the entire process need not take place inside a building. Chickens may be killed outside, then taken inside to be scalded and picked. Feathers should be ejected from the picker into containers outside the building. The processing operation does not have to be enclosed by solid walls, but must be adequately screened to eliminate insect and rodent entry.

Completely enclosed toilet facilities must be provided and should be conveniently located near the work area. This does not mean toilet facilities must be constructed to serve the processing area specifically; the processing area must be located in such a manner that enclosed toilet facilities are convenient.

A sign must be placed in the bathroom reminding employees to wash their hands after using the lavatory. Conveniently located hand washing facilities must be provided and must have hot and cold running water and soap available. There should be disposable towels and covered trash containers.

Walls and ceilings should be light colored for easier cleaning and to provide better lighting on all work surfaces. Adequate lighting must be provided, and all interior lights must be shielded to prevent pieces of glass getting into food should a bulb break.

Grounds and buildings surrounding the poultry processing operation must be free of conditions that could lead to product contamination. That includes stored equipment and spray materials and also litter, waste, or uncut weeds and grass that could harbor pests and rodents.

All wash and wastewater not discharged into a septic tank system or municipal sewer must be disposed of in a legal manner. In small poultry processing operations, water in the scalding will become contaminated with fecal material and water used in the evisceration and cooling areas will contain organic material. On-land disposal of these wastewaters is permitted, but the Michigan Department of Environmental Quality may need to be consulted if methods, locations, and volumes could lead to complaints from neighbors.

DEQ also has jurisdiction over disposal of offal—entrails, heads, feet, feathers, etc. The law itself is somewhat vague, stating that “Sewage disposal shall be made into an adequate sewerage system or disposed of through other adequate means.” It further states that “Rubbish and any offal shall be so conveyed, stored, and disposed of as to minimize the development of odor, minimize the potential for the waste becoming an attractant and harborage or breeding place for pests, and protect against the contamination of food, food contact surfaces, water supplies, and ground surfaces.”

Equipment, utensils, chemicals, and supplies not used in food processing must be stored in an area clearly separated from those used in food processing. Food contact equipment and supplies must be stored off the floor in a well-ventilated location.

All food contact surfaces must be constructed of food-grade materials that are safe, durable, corro-

sion-resistant, non-absorbent, and easily cleaned and sanitized. Seams must be smoothly bonded or maintained so as to minimize accumulation of food particles, dirt, and organic matter.

Hot and cold potable, running water must be available in all processing areas. Volume and water pressure must be adequate for cleanup. A high pressure washer is recommended.

If well water is used, it must be tested and approved by the appropriate public health agency at least once a year.

A person must be assigned the responsibility of supervising the overall sanitation of the facility. That person should have the background, training, or education needed to identify sanitation failures. Food handlers and supervisors should have appropriate training in proper food handling techniques.

To prevent contamination of food products, all persons working in the processing and packing areas must wear clean outer garments, maintain a high level of personal cleanliness, and conform to hygienic practices while working. Hands must be washed thoroughly before starting work, after each absence from the working area, between operations, and any time they become soiled. Jewelry should be removed unless it is easily kept clean (wedding bands, for example). Hair restraints must be worn—hair nets, caps, headbands, beard covers, etc. If gloves are used, they must be designed for food handling operations and kept in good repair. Gloves must be changed or hands washed when personnel move from non-food contact or cleaning operations into food-contact operations.

Tobacco must not be used in rooms where food is processed, handled or stored.

A person who has diarrhea, skin

boils, infected wounds or sores, or is a carrier of a communicable disease that can be transmitted by food must not work in the processing area. In general, precautions must be taken to protect food, food-contact sur-

faces, and food packaging materials from contamination by disease organisms, perspiration, hair, cosmetics, tobacco, chemicals, and medicines.

Small poultry processing opera-

tions are exempt from antemortem and postmortem federal inspection, but the law states that only healthy birds may be processed and offered for sale.

THE SLAUGHTER PROCESS

The functioning of an on-farm broiler slaughter operation is pretty straightforward, but may seem otherwise because there are some basic disagreements right at the start. How does one kill a bird?

The cartoon rendition shows the farmer, ax in hand, escorting the turkey to the woodshed. And back a half-century ago, that method was in fact used on poultry. The bird was restrained by its legs, and its head was laid against the wood block and lopped off. Many of us remember what happened when the head was nearly missed and needed to be re-struck and the paroxysms of the headless bird as it flopped, spewing blood over all and sundry. Why this “method” was used is not clear. It seems more like criminal execution than humane slaughter.

Still, the “alternative choice” is not obvious either. There are three other approaches.

The basic choice of the mainstream poultry processing industry is electrostunning—using electricity to shock the bird into unconsciousness.

For chickens and small birds, Sam Varghese, the poultry Extension specialist at Michigan State University, advocates cervical dislocation as a humane method. The farmer holds the bird on and under one arm, holding its neck with that same hand. With the other hand, the neck is stretched as the head is turned upward to dislocate the spine just below the head. The bird is then bled.

Most farm processors use “kosher kill.” In this method, the bird is

placed head downward in a killing cone, a funnel-like device that exposes the head and neck of the bird while restraining its wings. Gravity holds the bird in place. The farmer, using a sharp knife, slits the neck skin and the veins and arteries beneath. The bird rapidly bleeds to death as the heart pumps the blood from the body.

“The birds die pretty quickly, in a minute or two,” said Doug Kirkpatrick, who dresses and sells poultry from he and wife Lee’s farm near Alpena. The birds don’t appear distressed and they continue to breathe normally since their windpipes are not severed, he said.

Doug described the processing system he and Lee use. They work in the mobile processing unit built by Rick Meisterheim and cohorts at Wagbo Peace Center at East Jordan.

John Dutcher, who with wife Cindy operates as part of a cooperative near Goetzville in the eastern Upper Peninsula, described a larger

scale (400 birds per hour) processing operation available from Brower Equipment Co., Houghton, Iowa.

“Four hundred birds per hour is about as small as a commercial operation would want to go, but is fairly large by on-farm standards,” John Dutcher said. “But the description is interesting.”

“As you begin planning your processing operation, obtain the advice of your local inspector,” Brower says. “Requirements vary from one geographic area to another. By obtaining the blessing of your local inspector, you can often save time and expense. Local Extension personnel can also be a good source of knowledge.”

To do 400 birds an hour in the Brower style requires three people to kill, scald, and pick and about 12 people to eviscerate and pack. That shows where the labor-intensive part of the operation lies. For the Kirkpatricks, Doug does the bleeding, scalding, and picking and Lee



John and Cindy Dutcher (right) work within a cooperative to market their pastured poultry. With them are fellow co-op members Greg and Diane Krause.

the evisceration. When birds have cooled, the two work together to weigh and package the birds.

“When killing the bird, it is best to cut the carotid artery, not the windpipe,” Brower says. “This allows the bird to more easily bleed and minimizes shock. A properly bled bird will have little or no blood around the bone or joint. If you use an electric stunner and blood appears in the joints, the bird has been stunned too hard. Turn the setting lower. Do not cut the head off as the bird is bled. This will result in an undesirable appearance. The head should be removed during the evisceration process.”

Brower estimates bleeding time at about 1 minute and 15 seconds.

“After birds are bled, they should be scalded then picked as soon as they can be loaded into your scald,” Brower advises. “Scald and pick without delay. The scald is the key to a good pick. When analyzing damaged birds, if bird shows a bruise, the bruise happened before the bird was killed or during death shudder. A bled bird will not bruise. The darker the bruise the older the injury. If a broken bone has blood around it, the breakage occurred while the bird was alive. The darker the blood, the older the injury.”

“Pick only long enough to pull feathers. Extending pick risks skin tearage. Excessive skin tearage in the breast and inner thigh are signs scald is too hot or long. Fatty tissue under skin should not liquefy. If fat breakdown occurs, scald is too hot.”

Brower recommends a scald time of one minute, using 145-degree water for broilers, 127 degrees for quail, 150 for ducks. “If, when picking, it is apparent that the birds are not sufficiently scalded, we recommend a longer scald, not a higher temperature,” the company says.

Picking takes about 30 seconds. How such an odd-looking device can

defeather a broiler in 30 seconds is a mystery, but it “works wonderfully,” says Doug Kirkpatrick. His looks like a half-barrel and contains a revolving drum with rubber fingers extending outward. These fingers remove feathers rapidly from four to eight birds at a time. There are smaller, table-top type pickers that remove feathers from one bird at a time as a person holds the bird.

“We do everything in fours,” Doug said. The rotary killing cone holds eight, four coming in and four ready to move to the scald. Bleeding takes about twice as long as either scalding or picking.

“When processing pheasant and turkeys, hand strip heavy wing and tail feathers (“flight feathers”) before picking,” Brower advises. “Water fowl are a difficult species to pick—whether they are dry picked (no scald) or if they are scalded and picked.”

For broilers, Brower says, “With practice, you can achieve a yellow skin if desired. A bird has two skins. The outer yellow skin is usually loosened in the scald. However, if you drop the scald temperature to 127 degrees, the outer yellow skin will remain in place. Scald for the same length of time, just drop the temperature.”

In the Kirkpatrick’s operation, killing takes place outside the mobile unit. Blood is captured in buckets placed beneath the cones and is taken to the compost pile. The mobile unit contains two rooms; the first, where bled birds go, contains the scald and picker. Doug describes both as “rather messy,” as the scald water doesn’t stay clean and small feathers can fly about. Feathers from the picker exit via a chute going outside into a barrel, from where they too will be taken to the compost pile.

Once birds are picked, they go through a chute separating the two

rooms of the mobile unit into a stainless steel tank of cold water in the evisceration room.

“We want them clean and cold fast,” Doug said. The birds cool faster once eviscerated, but “we prefer eviscerating cold birds,” he said. “They are less slick to handle.” So birds are chilled, then eviscerated, then chilled again to a final temperature of 40 degrees. Most of the work is done by cold well water, but they use ice as well.

The evisceration process starts with chilled birds getting a once-over for missed feathers. Most are stubs of feathers with broken shafts that are removed by fingers, knives, and sometimes pliers. Heads and feet are removed first and the neck skin is slit to loosen the crop and the windpipe. These will be removed with the entrails out the rear of the bird.

Gizzards, hearts, necks, and livers are put into stainless steel pans of ice water; they will be recovered later and put into the body cavity when birds are packaged.

Gizzards are an organ unique to birds (and maybe dinosaurs) that do work of grinding food before it goes to the true stomach for digestion. This tough muscle, half very dark meat, half grizzly connective tissue, is either a nuisance or a delicacy, depending upon your attitude. Stripping the lining from a gizzard is “a labor issue,” according to Doug. “We just recover the best meat,” he said, and that appears to be good enough for most customers.

But at some homes, families fight over who gets the gizzard. There are markets for feet as well, says Brower. “Should you elect to market them, you can get them in presentable condition. Scald the feet twice (one minute each time) and pick once for 30 seconds. The skin should be removed.” At the Kirkpatrick’s, feet join other “wastes” in the compost heap. (For

some markets, customers, especially Asians, prefer the chickens with heads and feet still on.)

Here's what Brower Equipment Company says about evisceration:

"The following operating plan is recommended. One worker can remove the feet and cut the oil gland. This should be done before birds are eviscerated. Position a barrel or cart near the eviscerating table to collect feet. The second employee cuts neck skin and pulls crop. One worker can open tail, pull vent, draw entrails. When drawing entrails, contamination can result if the operation is improperly performed. Care must be taken to pull out the intestines without tearing them. Separate giblet mass at this time and discard offal. One person can separate the heart, liver, and gizzard. Carefully pinch the gall off the liver or cut it off with the heart/liver shears. The gall may cause contamination and discoloration if broken. You can remove the sack around the heart with your fingers. If regulations require the tubes that go into the heart be trimmed, use shears to trim. Use one employee to trim, split, and wash gizzards. Use shears for trimming (a hacksaw blade also works well to split open gizzards). One worker can peel gizzards and help take giblets to the point where they will be chilled. This worker will not be busy all the time. However, it is difficult to combine this operation with another. Use one worker to remove lungs and wash cavity. The next worker can remove the heads, cut necks, wash carcasses, and drop into chill tank."

This is what Brower says about chilling: "Consult a refrigeration or ice machine manufacturer or other expert about chilling your birds. This can be a capital-intensive part of your operation. Purchasing an ice bin allows you to run your ice machine 24 hours a day. Other options for consideration include placing ice

storage inside a cooler or placing an ice machine on top of a small cooler. In other words, there are several creative possibilities for adding the cooling capability you need.

"Chilling is necessary to reduce pathogen development. Chilling by itself will not reduce pathogens. Birds need to be thoroughly washed as well. Birds need to be chilled to below 40°F within four hours of death. Maintenance of the bird at this temperature can give shelf life of 7 to 10 days. The amount of ice depends on the ratio of ice to water and also depends on the temperature of the room where chilling is performed. For chilling, estimate 1.5 pounds to 1.75 pounds of ice per bird. This is where the water in your chill tank is about 35°F and where room temperature is 68-77°F. To maintain birds in a cooler, estimate 10-15 pounds of ice in a tray of about 20 birds."

The Kirkpatricks usually process from 130 to 160 birds at a time. They like to do all the slaughter on one day and have customers pick up their birds the following day. "It is a major inconvenience to have customers showing up early on slaughter day and waiting around for their birds," Doug says.

Birds also need time to "settle," he said—a day for broilers, three or four days for turkeys.

At slaughter day's end, the Kirkpatricks leave birds in a tank of cold water and ice for packaging the next day. Birds are then removed from the water and put into wire baskets, where they can drip and drain before bagging. With water cooling, birds hydrate, gaining 5 to 8 percent in weight. Cooling on top of ice or in an air chilling chamber makes for a less waterlogged product. Draining is a compromise.

Doug and Lee work together to put birds into labeled bags, which are then weighed and weights marked

on the label. They have some freezer capacity, and birds that need to be held for later delivery to customers or that don't have a specific "home" to go to immediately are frozen. But most are sold fresh.

They have a pricing structure. Chickens sell for \$1.75 a pound fresh, \$1.85 frozen, and \$2 and more at farmers markets. The added charges reflect the added costs. They make no label claims. "We call ourselves natural," Doug said. "We use no antibiotics, implants, or hormones, but we are not certified as organic and don't feed organically grown grain."

The Kirkpatricks obtained a permit from the Department of Environmental Quality for on-land disposal of wastewater from the mobile processing unit.

All the feathers, blood, feet, heads, and entrails go to a compost pile made up of manure from their beef and poultry operations. Offal is a high-nitrogen product that needs to be mixed with high-carbon manures containing straw and waste hay if they are to decompose completely and without odor.

So far, they have been processing fewer than 1,000 birds each year and want to expand well beyond that. So far, government regulations have not been a problem for them, but they are concerned that at some point, regulations will become less flexible and tougher to meet. Will they have to enclose operations that are currently done outdoors? Will they have to build toilets and washing facilities in the plant, with all the added expense of new septic systems and drain fields, or can they continue to use those facilities in the house?

They are unsure. Doug says the food law itself seems "obscure" and "virtually useless," not necessarily prohibiting anything but undermining some of his confidence. For him, certainty would be an improvement.

SOMETHING THEY WANT TO DO

For Frank and Kay Jones, the lure has been long and strong. The couple has many interests, Kay in animals and Frank in construction. A few years ago, they decided they wanted to produce and sell a specially grown chicken broiler that everyone would love to eat. They have only 10 acres and keep a variety of animals, including chickens in moveable coops surrounded by net fencing.

On October 4, 2002, they hosted guests at their Earth Shine Farm home near Durand and served up a taste test. Three kinds of chickens were served, two of them their organically grown free-range birds of two different breeds and one from the supermarket.

Labeled 1, 2 and 3, it was obvious there were differences. Roasted the same way, two were firm and chewy and the muscle very distinct, one was softer in texture, juicier, and the muscle easily broke apart. Guests gave the best marks to the supermarket bird! Probably more familiar, it was rated juicier, tastier and softer in texture than the chickens produced the Joneses' way.

But on closer examination (as dinner proceeded), the guests saw that poultry raised outside had substance, muscle that was more like meat and didn't break up into bits like fish. And when MIFFS executive director Tom Guthrie held up two transparent beakers of fluid from the roasting pans, it was clearly evident there were other issues as well. The juices from the free-range poultry were more uniformly "juices," while those from the supermarket bird divided into two levels, juices topped by a floating layer of liquid yellow fat.

Frank and Kay's party was planned to show guests the building



they had constructed to process the broilers they raise. They rely on relationship marketing, selling to local people who know them and the manner in which they produce their chickens.

The couple worked closely with local and state officials in designing the facility. They wanted it to meet all necessary standards. They invited inspectors to review their plans. Inspectors from the Department of Environmental Quality, who deal in daily outputs of thousands of gallons of tainted water from large plants, saw very low levels of environmental threat in this facility that generates a few hundred gallons of scald and rinse water three or four times a year. The inspectors were often challenged as to whether the standards they enforced were even applicable

Frank designed the small building in which he plans to kill and process fewer than 100 broilers at a time. In constructing the building, he made extensive use of a material called reinforced fiberboard for interior walls. It is non-porous and easily cleaned, meeting the requirements of the law. They intend to increase production to levels above 1,000 birds per year.

Birds will be killed in four cones, transferred to a scalding tank, then to a four-bird-capacity picker, then hung

on shackles on a rail. There they will be eviscerated. The hanging carcasses will be rinsed inside and out, then sent into a cooler for chilling. The Joneses are convinced air chilling will produce a superior carcass, firmer and less hydrated than water-chilled birds. They also believe there is much less chance of cross contamination if birds are not plunged into a common

water bath, and of course they want to avoid the chemistry, taste, and odors associated with using chlorine as a sanitizer.

The process will generate very little wastewater and less than two pounds of offal and feathers per bird. Yet Frank and Kay wanted to be strictly legal. They built a 250-gallon holding tank for wastewater, which they plan to pump out and irrigate onto land, and they plan to compost the entrails and feathers.

In perspective, any farmer would probably ignore 250 gallons of mildly tainted water and just dump it on the ground. And a farmer could generate more guts from a good fishing trip or one dead hog than these folks will generate from a day of poultry processing. Yet the law that governs composting of bodies of dead animals, which can be done on farms, does not provide the same option for slaughterhouse wastes. The Joneses plan to compost, but if not they will bury or otherwise dispose of the wastes.

The Joneses, while seeming cautious, are accurately reflecting the legal situation. When farmers venture into meat processing, they leave behind farming standards and enter the world of food processing. And the Joneses are comfortable with that.

A MOBILE POULTRY PROCESSING UNIT

In 1999 and 2000, 12 northern Michigan farm families came together to build a mobile poultry processing trailer to be used for on-farm processing of pasture-raised chickens and turkeys.

They obtained a USDA Sustainable Agriculture Research and Education producer grant. The goal was to create a facility designed with the guidance of a Michigan Department of Agriculture regional food inspector that would be licensed and become a prototype for duplication across Michigan.

There were no state laws governing a mobile processing facility, but in the end the project met its goals. It was licensed and is now in use by several small farms in northern Michigan, including that of Doug and Lee Kirkpatrick (who described its use in the chapter on the slaughter operation).

The project leader was Rick Meisterheim, manager of the farm at Wagbo Peace Center near East Jordan, who wrote the final report. Wagbo, a local, non-profit, sustainable agriculture education center, is the owner of the facility and members pay a per-bird fee of 25 cents to use it. Fees go into a trailer maintenance fund. Members schedule their production so they can use the trailer when their butchering date arrives.

“We began by meeting as a group of 12 producers discussing the roadblocks for processing birds for legal sale,” Rick wrote. “We determined that it was not reasonable for every farmer to build a processing facility at their farm, and that a much more practical way to approach processing would be to have a portable unit that could be state licensed and serve all the small farms in our area.”

The 12 farm families did the work of building the trailer, provid-

ing an estimated 360 hours of labor. “The main person involved with this project, other than the group of 12 farmers, was the MDA inspector. He provided guidance throughout the process, and went out on a limb to license the unit when there were no laws governing a mobile facility,” Rick said.

The group bought a trailer for \$4,200 and outfitted the interior with a wall dividing the scald and pluck area from the eviscerating area. Supplies there cost another \$1,000. Electrical wiring cost \$850 and plumbing and gas \$500.

They spent \$9,400 more for a water heater, scald and picker. Interior stainless steel sinks, killing cones, eviscerating tables, giblet pans, chill tanks, etc., were purchased used for \$1,500. Another \$500 went for miscellaneous equip-

ment like towel and knife holders.

The final tally was \$17,982 for the fully equipped, licensed, mobile processing trailer. The money came from the SARE grant and donations of cash, tools, time, labor, and mileage by the 12 participants.

A Saturday in late June, 2000, was scheduled for the first run. Twenty-five chickens were raised for the purpose. The MDA inspector came, as did all the farmers. The MDA inspector wrote the license that day. A Department of Environmental Quality permit for wastewater disposal was also obtained.

“The group of farmers considered this project a huge success,” Rick said. “The design proved efficient and functional. The financial indication is that it would be feasible for a group of 10 to 12 farmers to invest \$18-20,000 in such a facility.”



The evisceration area (above) is separated from the scalding and plucking area, which is set off in a screened area. Birds are killed and bled outdoors. Construction materials are easily cleaned, mostly stainless steel.

HEALTH BENEFITS OF PASTURED POULTRY

Money can't buy happiness, the adage says, and today that seems truer than ever. We live in an age of unparalleled prosperity and freedom from hunger and want. But despite our material success, many of us have a nagging sense of insecurity about food, one of life's fundamentals. Quantity is ample, but what about its quality?

So many people are obese. So many are plagued by "modern" diseases. Is it possible that in our quest for the security of food in abundance we have overlooked important quality factors or taken a completely wrong turn?

It is difficult to know. Human nutrition is complex. Theory and speculation are often not supported by research. There is very little research supporting the hypothesis that meat from pastured poultry is healthier to eat.

The popular hypothesis, however, goes like this: We have strayed too far from our paleolithic roots. We have refined the grains, extracted the oils, added sugar and fat and thrown out fiber. Animals themselves, fed in domesticated settings, produce products that are also different—and not as good for you.

In an effort to recover a more "natural" diet, some livestock farmers have shifted to production of less domesticated animals, such as bison and cervids, or to conventional domesticated animals raised in the more "natural" manner of herbivores on browse and pasture.

One proponent of pastured livestock production is Jo Robinson, who co-authored "The Omega Diet" in 1999 with Artemis P. Simopoulos. Robinson maintains an Internet Web site, www.eatwild.com, on which she presents her ideas.

"Products from pastured animals are ideal for human health," she

says on her site. "Very similar to wild game, they contain the amounts and kinds of nutrients that our bodies 'expect' to be fed."

She says research "suggests" that switching to grass-fed products could reduce the risk of diabetes, obesity, cardiovascular disease, and cancer. Some research has been done on the effects of pasture on beef and bison meat, but not on poultry.

Robinson also sees an omega connection. Animals that eat grass take in chloroplasts of green leaves, where omega-3 fatty acids are formed, she says. Grass-fed meat is low in total fat and in "bad" saturated fat, she says, and has two to six times the level of omega-3 fatty acids. These "heart friendly" fatty acids are related to lower blood pressure and less irregular heartbeat and a lower likelihood of heart attacks, she says. She also says, "People with a diet rich in omega-3's are less likely to be afflicted with depression, schizophrenia, attention deficit disorder or Alzheimer's disease."

"When chickens are housed indoors and deprived of greens, their meat and eggs also become artificially low in omega-3's," she said. "Eggs from pastured hens can contain as much as 20 times more omega-3's than eggs from factory hens.

"Switching our livestock from grass to grain is one of the reasons our modern diet is deficient in these essential fats," she said.

Meat and dairy products from grass-fed ruminants are the richest source of another type of good fat called conjugated linoleic acid (CLA), she writes. "When ruminants are raised on fresh pasture, their products contain from three to five times more CLA than products from animals fed conventional diets." CLA, she says, has been linked to

defense against cancer.

Meat from grass-fed animals is also said to be higher in the antioxidant vitamin E.

Another web site that collects and disseminates information on fats, oils and diet is www.mercola.com. Joseph Mercola tracks polyunsaturated fats and omega fats in the American diet.

Mercola quotes Simopoulos extensively. "Western diets are deficient in omega-3 fatty acids compared with the diet on which humans evolved and their genetic patterns were established," he quotes Simopoulos as saying.

Simopoulos reported measurements on eggs produced on a farm in Greece where chickens ate purslane, a weed high in omega-3, compared to eggs from the supermarket.

North Dakota State University conducted a study, Mercola says, on the nutritional difference of grass-fed and grain-fed bison. Like the eggs, grass-fed bison contained Omega-6:Omega-3 ratios of 4:1, compared to 21:1 for the grain-fed bison. University of Guelph reports similar results on a study on forage-fed versus grain-fed beef, he said.

When people consider the health benefits of pastured poultry compared to other kinds, it isn't just a matter of what is in the meat, but also of what isn't. Generally, those who pasture poultry use few or no antibiotics.

It is readily evident that poultry raised outdoors and in small lots, when prepared in the kitchen, looks and tastes different from the kind purchased in the supermarket. Is it healthier to eat? Other than containing less fat, the claimed health benefits have not been proven and would be difficult to include on a product label.

PRODUCING PASTURED POULTRY

While poultry virtually disappeared 40 years ago as a viable farm enterprise for independent farmers, information on how to produce poultry is very much available.

The reason, in part, is that poultry are small animals, easy to handle, cheap and fun to raise, and thus ideal for young people entering farming or learning how to raise livestock and looking for a 4-H or FFA project they can participate with at the county fair. Information about how to raise poultry on a small, farmstead manner is easy to find.

Most of the land grant universities now have standard publications on small-scale poultry production that can be accessed online via the Internet. Michigan State University is no exception. Six basic publications, including “The Small Poultry Flock” and “Raising a Few Broilers,” can be read in PDF format and/or printed from their location at www.msue.msu.edu/poultry. These Extension bulletins are also available through county offices or by contacting Sam Varghese in the MSU Animal Science Department.

The MSU information has not been revised or updated in two decades but still gives the facts about the needs of broilers and laying chickens, ducks, turkeys, and geese for all who want to raise them for a fair project or household use. They include information on slaughter and processing for home use and even information on how to successfully grill chicken. In recent years, these publications began to serve those who have found new markets for poultry raised in novel ways.

Another good publication containing production information is called “Managing Your Small Flock” and comes from Purina Mills, the feed company. In 20 pages of easy reading, it tells how to select

the right breed, what you need to get started, how to raise chicks, how to feed, how to manage laying hens, how to kill and dress poultry, and how to keep a flock healthy.

SARE—the Sustainable Agriculture Research and Education arm of the U.S. Department of Agriculture—also has a publication containing success stories from producers, along with many production tips. The publication is called “Profitable Poultry: Raising Birds on Pasture.” The 16-page color bulletin can be obtained free by calling (301) 504-5236. Or it can be viewed on the web at www.sare.org/bulletin/poultry.

One of the best information sources about pastured poultry can be found at the National Center for Appropriate Technology’s ATTRA (www.attra.org) Internet web site. ATTRA is the acronym for Appropriate Technology Transfer for Rural Areas. The organization is based in the Ozark Mountains near Fayetteville, Arkansas. Its primary mission is to help rural people who are poor and short of resources to achieve a higher standard of living using the resources available to them. ATTRA sees pastured poultry as a new opportunity.

Both the SARE and ATTRA publications focus on pastured and free-range poultry, offering more than just the basics of raising the birds. ATTRA is blessed with a dedicated agricultural specialist, Anne Fanatico, who has compiled volumes of information accessible through the web site. In a publication she authored, “Sustainable Poultry: Production Overview,” she notes that most available poultry information is aimed at either large-scale or backyard production, and it is hard to find current information on small commercial flock production in the new style.

By producing pastured poultry, producers are telling their customers there is something better and different about their birds and that these differences are related to the way in which they are raised. Thus, production and marketing are closely intertwined, and producers may want to describe salient parts of their production method as part of their marketing effort. Those things producers do that set their products apart from those found in supermarkets probably involve practices that depart from the nuts-and-bolts production tips offered in publications from feed companies and universities.

In raising birds for this market, producers often use one or both of the following themes.

Theme One: The poultry is better because it tastes better, is healthier and is raised in a more humane manner. Theme Two: The poultry is better because it is produced within a more sustainable system. Sustainable agriculture is defined by practices that are environmentally sound, economically viable, and socially just

In the first theme, the taste factor is related to production attributes such as access to fresh air and open space; access to diets that contain insects, worms and forage in addition to grain; more exercise from being able to range freely, run and fly; and greater maturity or from being fed to gain in a slower manner.

The health factor is related to production attributes such as allowing birds to eat forage and being fed in ways that result in less fat and more muscle. In addition, the birds may be fed special feeds such as flax seed and fresh grass, both of which are said to increase omega-3 fatty acids and decrease undesirable fatty acids. Birds are also considered

healthier to eat if they are not fed growth-stimulating hormones or are kept healthy without using of coccidiostats and other antibiotics. It may also mean, for some consumers, rejecting technologies such as use of genetically modified crops.

The humane factor is related to production attributes such as access to fresh air and open space, not being caged or kept in enclosed space saturated with manure odors and fumes, and even being kept in a closer, less detached relationship with their human owners. If birds are raised so they do not require debeaking to control cannibalism, that, too, is considered more humane.

Farmers who seek a sustainable path want to use practices that do not degrade the environment, that provide them enough income to continue farming, and that do not engage in social practices that prey on others for survival.

Farmers who work with customers who understand the long-term need for sustainability of the farming sector are better able to price their products based on cost and quality of production, rather than on value on commodity markets.

“Range poultry production systems, like other production systems, should provide fresh air, clean feed and water, and protection from predators; shelter from cold, rain, wind, and sun; and a source of heat when birds are young (brooding),” Fanatico writes. “Birds need to be able to grow, sleep, and lay eggs in comfort. In a good production system, birds need to be free from stress and disease. Alternative systems also emphasize enabling the birds to behave in a natural way? pasture-rearing is a cornerstone of this approach.”

In general, she says, poultry are raised in three main ways:

—In confinement, keeping the birds indoors. Confinement is the

production model used by the conventional industry, but there are some applications to alternative poultry production, Fanatico says. In the conventional industry, broilers are raised on litter-covered floors, and layers are kept in cages. In a style called free-roaming, chickens are not kept in cages but rather on floors in buildings.

—Outdoors, containing and protecting foraging birds within a fence, field pen, or netting. Yarding—using a stationary house with a fenced yard—is one way. To avoid build-ups of manure, pathogens, and worms, and to provide fresh forage, range poultry producers use methods that rotate pastures and provide multiple yards. These include floorless “pastured poultry” field pens or shelters moved daily; “chicken tractor” field pens used in gardens for fertility and tilling; and net-range systems. Small portable houses may be used with moveable net fencing. Or stationary houses can be used with net fencing to make multiple yards, much as paddocks are used in rotational grazing of ruminant livestock.

—Outdoor, not containing the foraging birds. Birds range freely during the day — usually in a pasture — and return to a portable house at night. The house is moved regularly to a fresh site.

“Please note that the terms classifying these systems are not legally binding terms, but rather popular-usage terms in the U.S.,” Fanatico says, “except for the term ‘free-range.’ However, the USDA definition for “free-range” livestock is vague: “free access to the out-of-doors for a significant portion of their lives.”

While Michigan and American farmers are struggling to move pastured poultry to a new higher plateau, they should know there is a

program already in existence that could serve as a model for us. In France, range poultry are marketed under the Label Rouge certification system, and these “red label” birds command 30 percent of the poultry market there.

Once again, we turn to Ann Fanatico for an explanation. In 2001, she and Holly Born, also from ATTRA, and Diane Kaufmann of the American Pastured Poultry Producers Association, traveled to France to study the Label Rouge system and gain ideas by which to create a similar system in the U.S

Label Rouge was born 40 years ago in France, an early reaction to the rise of industrial-style chicken. It is not surprising this reaction occurred in a country renowned for its cooking and high standards of food flavor and quality.

While it began as a grassroots movement, it was soon institutionalized under a nationwide structure that ties together regional groups of producers with feed mills, hatcheries, breeding companies, processors, and distributors. The French National Commission for Labels and Certification sets production and processing standards and collects a checkoff fee to fund national consumer education and publicity.

Standards include access by birds to the outdoors, natural feed rations containing no animal byproducts, limitation on number of birds on a farm and space requirements for birds, and specifications for the genetics and breeds of birds.

Regular taste-testing is a part of the certification. To achieve a mature taste, Label Rouge broilers must be grown out for 81 days instead of the standard chicken’s 45 days.

Label Rouge birds are processed using air chilling instead of water chilling. Besides reducing water uptake that can add 8 to 12 percent water weight, it reduces cross

contamination. Salmonella contamination for Label Rouge poultry averages about 3 percent, compared to 20 percent for standard chicken in the U.S., Fanatico said.

While American farmers rarely look outside their own country for production models, they should know that in this case the French have been there, done that, and arrived at the same conclusion 30 years before the idea first began to glimmer here.

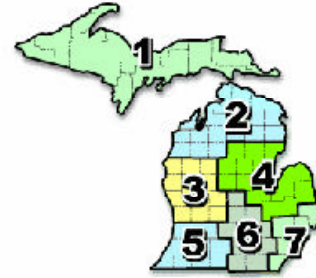
“Certification programs can help with consumer education and promote niche markets,” Fanatico said. The USDA’s National Organic Program could also provide a model for pastured poultry producers.

“Working together in cooperative groups and coordinated efforts will be key as the range poultry movement grows and provides regionally produced food,” Fanatico said.

Michigan producers should know they can join with others in the American Pastured Poultry Producers Association. APPPA may be contacted at P.O. Box 1024, Chippewa Falls WI 54729 or by calling (715) 577-5966. The organization is also on the internet at www.apppa.org or via e-mail at Grit@apppa.org.

Membership is \$20 a year and includes a newsletter.

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