Pasture-based Agriculture:
Opportunities for Public Research Institutions

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Pasture-based Agriculture: Opportunities for Pubic Research Institutions
Overview of Invited Presentations, Speakers and Discussion Groups

Introduction

Pasture-based animal production systems offer a great opportunity for public research institutions to help preserve family farms, create jobs and reinvigorate rural communities. These opportunities were discussed at the Animals in the Food System conference, held in Hickory Corners MI on November 3-4, 2005. This conference[1] highlighted the current state of knowledge on pasture-based agriculture, presenting innovative research from across the nation and discussing the current situation and prospects for expansion of this animal production strategy.

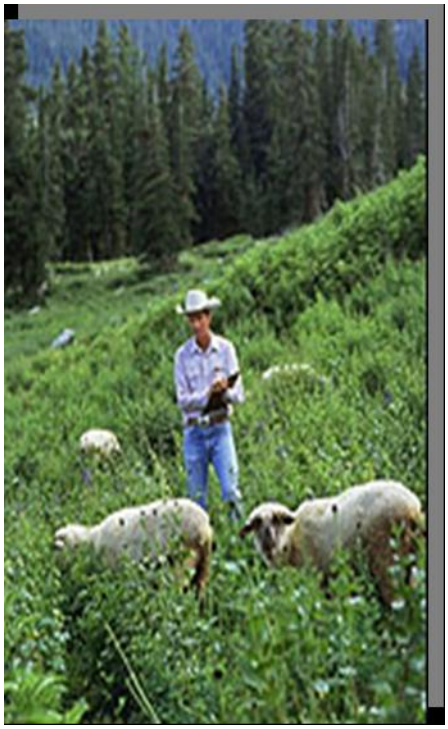
Pasture-based animal production is a growing form of agricultural production, one with great potential to help reinvigorate rural communities across the country by capitalizing on emerging trends in food demand. Land Grant Universities (LGUs), their State Agricultural Experiment Stations (SAESs) and their Cooperative Extension Services can play a critical role in developing strategies for production and value-chain development in the realm of pasture-based animal agriculture.

The presence of speakers from seven states' Land Grant Universities demonstrates that many institutions have contributed to knowledge of this subject. The many unanswered questions, on the other hand, indicate a need for more funding and priority to be allocated to pasture-based research, if the full benefits of this system are to be realized.

Growing consumer segments are placing value on food quality; increasingly, value is defined by process attributes, how and where products are produced, in addition to price, quality and convenience. Consumers are looking for ways to express their values and beliefs through their purchasing decisions. Concern for health, the environment and animal welfare translates into demand for sustainably and humanely raised food products. These emerging markets create opportunity for family farms of all sizes to provide differentiated products and thrive in an era of exodus from farming. These farms can provide a host of multi-functional benefits to their communities, including: improved economic opportunity for farmers; supporting other businesses; contributing to

[1] This conference was sponsored by Michigan State University, with support from: W. K. Kellogg Foundation, C.S. Mott Chair for Sustainable Agriculture at Michigan State University, Michigan Agricultural Experiment Station, Michigan State University Extension, North Central Region Sustainable Agriculture Research and Education Program. Full versions of each presentation can be found at www.mottgroup.msu.edu.

community social, economic, environmental and aesthetic well-being; creation and retention of jobs and open space; provision of other ecosystem services (e.g., erosion control, water quality, carbon sequestration, wildlife habitat); contribution to an atmosphere of opportunity and optimism in rural places.



Although pasture-based animal agriculture is not a major emphasis for many public research institutions, it is already a vibrant niche market, providing an opportunity for people to re-connect with their food and local farmers, helping to bring the broad benefits of sustainable agriculture to their communities. Partnerships creating links in the food supply chain have helped pasture-based products penetrate regional and national markets. With greater emphasis on and resource allocation to pasture-based animal production, public institutions could advance the production, processing and marketing of these products.

This paper summarizes the major themes and issues emerging from the Animals in the Food System Conference. Its purpose is to outline the current situation of pasture-based agriculture as identified by conference participants and as such may well be incomplete. The intention is to highlight emerging issues facing farmers, consumers, businesses, policy makers and communities; suggest opportunities for Land Grant Universities, Experiment Stations and Cooperative Extension Services; and open a dialogue nationally within the land grant system.

What is pasture-based animal production?

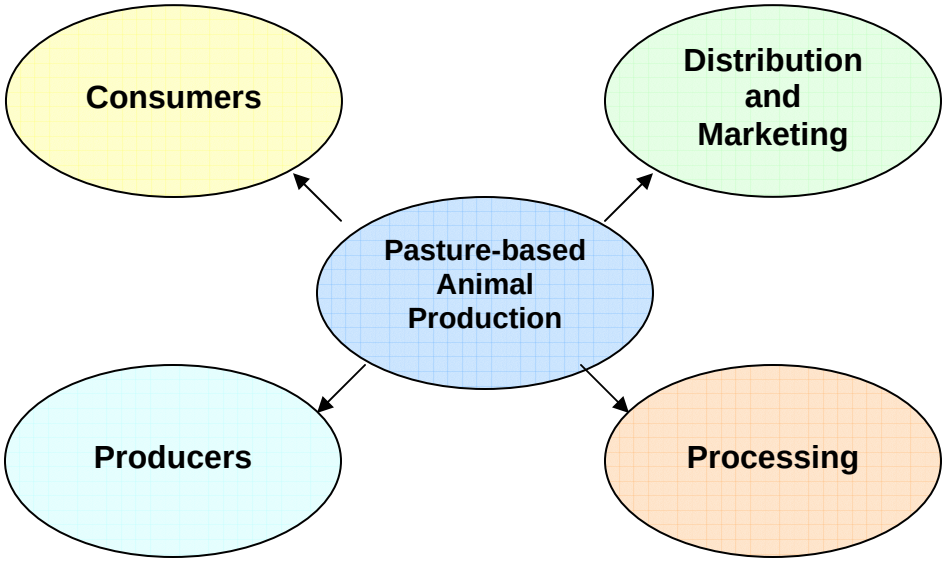
Pasture-based livestock production differs from more common methods in at least two key ways: where the animals live and what they eat. Livestock production systems encompass a continuum of options rather than one single method. At one end of the continuum might be a rotational grazing ruminant operation where no supplemental grain is fed, nearly 100% of the animals' diet comes from foraging in the pasture, and where only temporary seasonal shelter is provided. At the opposite end is a system where no pasture is used, such as a grain-based confinement system, with the animals kept exclusively indoors, a mixed ration delivered to them. Between these extremes are a variety of management strategies, where some amount

> ***Pasture based animal production*** *is defined by where the animals live and what they eat. Production methods may include rotational grazing with no supplemental feed for ruminants or supplemental grain for poultry.*

of grain is fed, perhaps during the winter, or to breeding stock, and where the animals are moved indoors during certain periods. Production of certain species, like swine and poultry, require some grain. Spending time outdoors also allows animals to exercise and satisfy basic instincts like rooting and scratching, and is seen by many as being a more humane environment.

In this paper, pasture-based refers to production systems that rely more on animals harvesting their own feed rather than less, and where animals spend the majority of their lifetimes outside. Lacking definite standards or boundary points, the emphasis is on degree, with more time spent outdoors foraging for a significant amount of the animals' diet, being the hallmark of a pasture-based system.

Finally, pasture-based production differs from range management. The emphasis of the conference was on the use of human constructed pastures; range management is a separate issue beyond the scope of this conference and paper.



Components of Pasture-based Animal Production

Key themes

This conference looked at pasture-based animal production within four components: consumers, distribution and marketing, processing and production. Within these components, dominant themes were identified:

Consumers

- Growing demand for locally-produced products, regard for animal and ecological stewardship

- Possible nutritional benefits, needs more research
- Lack of pasture-based products in mainstream markets inconvenient, limits growth potential.

Distribution and Marketing

- Value Chains present promising model to communicate attributes
- New and emerging business models need examination and evaluation
- Wide range of standards and labels may cause confusion
- Avoiding re-creating commodity markets may help insure continued viability for small and mid-scale farmers.

Processing

- Access to processing greatest barrier for small/mid-sized farms
- Audits can quantify humane standards in processing, create value
- Different scale processors may need differing regulatory treatments.

Producers

- Opportunities for new, transitioning farmers
- Embody local, humane, ecological, family farm
- Threat of rising land costs, development.

Enhanced Role of Scholarly Contributions

Through breakout sessions, attendees developed a list of opportunities for research. These opportunities include the need to:

- ❖ Develop clearer picture of demand for products from pastured animals
- ❖ Develop information to help consumers understand terminology
- ❖ Develop grading and labeling standards that can promote differentiation of products
- ❖ Clarify nutritional differences and any nutritional benefits of pastured products, incorporating breed differences and management factors
- ❖ Develop innovative business models, including alternative market and pricing structures, through partnerships with Colleges of Business
- ❖ Decrease cost of small scale processing while maintaining food safety
- ❖ Improve forage and animal health

- Evaluate totals costs (including grain subsidies) of pasture-based and feedlot livestock production systems
- Examine potential of "green payments" to reward ecological stewardship

Keynote

Why integrate animals?

Chuck Hassebrook, Executive Director, Center for Rural Affairs, Nebraska

Hassebrook argues that the predominance of the confinement model of livestock production is not inevitable, but rather the result of many policy decisions and research priorities. He argues that renewed emphasis on pasture-based systems can result in livestock production that is good for consumers, the environment and rural communities. Such a change would turn manure into a resource rather than a waste management problem, reducing greenhouse gas emissions, conserving phosphorus and reducing erosion. It would also create opportunity for family farmers by allowing for the substitution of management and labor for capital, improving the ability to make a living on fewer acres. The link between middle class family owned farms and rural community health is well established. Viable family sized farms, including pasture-based, are also keys to creating a society in which people have a stake in America's future.

What needs to be done to reintegrate animals into the agricultural model?

- *research is needed to optimize owner-manager models of livestock production*
- *consumer demand for meat products from sustainable small farms needs to be tapped*
- *policy biases against family farms need to be reversed: stewardship, not "bigness", should be rewarded.*

Hassebrook argues that this reintegration of animals can be accomplished in three ways. First, research is needed to optimize owner-manager models of livestock production, playing to the strengths of family farmers: knowledge, skill, motivation and experience of the owner operator. Second, consumer demand for meat products from sustainable small farms needs to be tapped, using "family farm" as a marketing standard and developing new institutions to connect consumers with farmers. Third, policy biases against family farms need to be reversed: stewardship, not "bigness", should be rewarded.

Issues for Consumers

Is better nutrition a justification for choosing pasture-raised animals?

Garry Auld, PhD, R.D., Associate Professor, Department of Food Science and Human Nutrition, Colorado State University

Auld voiced a note of caution about promoting pasture-base products on the basis of health claims. Most studies on the subject have too many variables to draw certain conclusions. First, there is no standard definition of pasture-based; few studies utilize 100% pasture-fed animals. Differences in species, muscle studied and lipid extraction method all yield different results. The most certain conclusion is that pastured products have less fat and calories. But while grass fed products tend to have relatively more vitamin E, CLA and N3 fat, the lower overall fat content means these nutrient levels are not high enough to dramatically impact health. Altitude, latitude and summer forage also positively impact these nutrient ratios, but the large variables impacting nutrient and fat content makes it hard to standardize recommendations. Farmers may wish to promote pasture-based products on ecological rather than health benefits.

Growing segments of consumers prefer pasture-based products for reasons of health, animal welfare and concern for environment. Lack of availability in mainstream markets limits purchases.

Guiltess not Meatless: Consumer Preference for Pasture-raised Animal Products.

Jennifer Wilkins, Ph.D., R.D.,Division of Nutritional Sciences, Cornell University

Wilkins reviewed studies that offer guidance on how to develop messages that will increase demand for pasture-raised products. She argues that this market is being developed in part by the pull of consumers expressing their values in the marketplace. Telling a story, making the consumer feel good about what they are eating and supporting, is key to reaching growing segments of these consumers. Freshness, taste, price and safety are important to all consumers but increasingly people are concerned about where and how it was produced as well. Benefits of pasture-based, such as animal welfare, health, environment and family farms need to be emphasized, while work to ensure it is safe and affordable should also be emphasized.

The markets for pasture raised livestock products.

Bill Knudson, Ph.D., Marketing Economist, Project Center for Agriculture and Natural Resources, Michigan State University.

Knudson outlined the two ways a business can be profitable: be the low cost provider, or offer attributes that gain a premium. He discussed the hierarchy of consumer wants and preferences, beginning with affordable, safe and nutritious, followed by convenient and healthy; green issues are important for more affluent people who are willing to pay

premiums for these traits. Knudson is optimistic about continued demand for meat, as only about 3% of Americans are pure vegetarians; Americans eat, on average, about half a pound of meat each day. The Atkins diet has a positive effect on meat demand.

The greatest opportunity lies in bundling desirable traits into a single product, like health and convenience. This requires farmers being marketers as well as producers, creating new supply chains or working with existing ones; working in partnerships will increase farmers' ability to get a premium price for their products.

Participant Discussions of Consumer Issues

Participants were generally optimistic about the prospects for increasing consumption of pasture-raised animal products, tying it to increasing concern about health, animal welfare and the environment. The lack of availability of pasture-based products in retail stores presents a barrier to wider consumption. Many consumers lack awareness of the labeling terms and relevant issues. Grading standards favor the heavy marbling common to grain fed meats.

A top priority of academic research is species-specific analysis comparing the health benefits and nutrient levels of pasture-based versus grain-based products, accounting for factors such as elevation, latitude, animal diets, climate, etc. More detailed demand analysis, including consumers' willingness to pay, is needed across different species and geographic regions. A better understanding of consumers' attitudes and awareness of labeling terms and issues will guide more effective promotion activities.

Issues for Distribution and Marketing

Sharing risks and rewards across partners in pastured livestock value chains
Rich Pirog, Marketing and Food Systems Program Leader, Leopold Center for Sustainable Agriculture, Iowa State University

Pirog focused on the use of pastured livestock value chains as a way to bring these foods to broader markets and share risks and rewards among partners. He began with a working definition of value chains: networks of companies or players that work together, they come together to produce a product to satisfy a particular market demand. These partners share information throughout the supply chain to maximize long term value to them and their end consumers. Farmers can participate in these

chains perhaps via a cooperative, hiring someone to market for them, or by actually buying into another link in the supply chain, such as a processing plant.

Pirog outlined a number of business structures conducive to value chains - including contracts, vertical integration, and subsidiaries - where decisions are made more on value, there is interdependence and mutual benefit, and information and risk are shared. Operating on a cost-plus basis helps to establish trust and guarantee costs are met. The Leopold Center at Iowa State University is working to research new business models that benefit farmers using sustainable methods, and increase University capacity to work on these types of issues, forming partnerships with other units within the University, growers, processors, distributors, etc. Critical issues for pastured livestock systems include pricing, volume and quality, capitalization, competent management, standards, and certification mechanisms.

Innovative business partnerships, such as Value Chains, can communicate the attributes of pasture-based products to consumers. Research is needed to guide formation, governance of these partnerships and avoid re-creating commodity systems that decrease value to consumers and returns to producers.

Organic pasture beef

Eric Meili, Farm Consultant, Extension Service at the Research Institute of Organic Farming, Switzerland

Meili discussed the partnership he has formed in Switzerland , linking organic pasture-based farmers with the nation's largest supermarket chain, Migro. Switzerland has unique challenges that are well addressed by pasture, including relative abundance of high altitude grass land. Meili claims that pasturing is more energy efficient than grain-based methods, and utilizes land and plants that cannot directly feed humans.

Migro, who has a national supermarket market share of 50%, supplies the slaughter facility, charges 10% more in store for the organic beef but provides farmers a premium of up to 20%. Cattle are required to be outside at least eight hours per day in summer and have a daily run outdoors in winter. About 15% of all Migro beef sold is organic grass fed. Migro insisted on buying the label from Meili's group and having exclusive rights to sell the product; in exchange they provide transparency, price stability and a market for 30-50 cattle per week.

On-farm processing and local marketing

Francis Thicke, farmer, Iowa.

Thicke described his pasture-based dairy farm, on farm processing and distribution efforts. He described his dairy as a community icon, where people come to milk cows and make homemade ice cream. He described broad ecological benefits of pasturing, such as soil and energy conservation and providing wildlife habitat.

Agreeing that on-farm processing needs to be a niche market rather than compete in commodity markets, Thicke operates a low cost processing facility, making a variety of dairy products he sells at three local retail outlets. He believes his price, set slightly below that of organic products like Organic Valley and Horizon, is fair because it reflects the true cost of food, unlike confinement-based dairy products which benefit from grain subsidies and exact a variety of external ecological costs.

Participant Discussions of Marketing and Distribution Issues

Key opportunities in the market for pasture-based animal products are centered on developing alternative business models that distinguish pasture-based products from undifferentiated grain-based commodities, particularly value chains. The Fair Trade model, a value chain that brings higher prices to farmers in developing nations, was cited as having aspects that can be applied to domestic products as well. The idea of new partnerships was appealing to conference participants. Examples included collaboration between University Colleges of Agriculture and Business to explore new business models for agricultural products, innovative cooperatives, and alliances with distributors (e.g., Sysco) and retailers (e.g., Wal-Mart) to get pasture-based products into institutions, restaurants and retail markets. Value chains have potential for farms of all sizes, and are seen by many as being critical to the survival of mid-scale farms.

All of these partnerships must avoid re-creating the commodity system which exerts downward pressure on farm gate prices and leads to consolidation and exodus from farming. Value chains, with their ability to communicate information about how and where the good was produced, create value by promoting the uniqueness of products.

Policy initiatives to open the market include a system of grading and labeling that promotes product differentiation and branding rather than homogenization and commoditization. Greater anti-trust enforcement in the heavily consolidated agri-food industry would lower entry barriers to smaller actors. Country of Origin Labeling and more specific place-based labels would give consumers more information for purchase decisions.

Research must address many unanswered questions about value chains. What have been the experiences of participants in existing value chains? How should partnerships

be governed? What are price, quantity and quality requirements? What degree of capitalization is needed and how should it be financed? How are value claims best verified?

Issues for Processing

Identifying & developing appropriate processing locations

Louise Hemstead, Chief Operating Officer, Organic Valley

Hemstead described the origins and operations of CROPP and Organic Valley, a co-operative and its marketing arm, based in Wisconsin; best known for dairy products, it also sells eggs, vegetables, orange juice and other products, to markets nationwide. She described the location of processing plants, based on producer location and market demand.

CROPP utilizes 45 dairy processing plants throughout the nation. Most cheese plants are based in the Midwest, while fluid milk plants are nearer to the markets on the coasts. CROPP partners with existing plants, paying a co-processing fee, while financing milk purchases themselves.

Hemstead described strategies for finding processing: use the internet and USDA or find out what other producers use by reading their labels; personal visits to prospective partners often work better than phone calls. It is important to be concise and know what you are going to say before a meeting takes place.

How well do current laws fit local/regional processing needs?

Kate Clancy, Senior Scientist, Union of Concerned Scientists

Research to reduce processing costs and develop small scale processing alternatives would increase access and spur business creation. Animal welfare audits can create market niches and save money.

Clancy discussed a range of issues that stand as barriers to small scale processing and its potential for rural economic development: disproportionately high costs imposed on small firms by Hazard Analysis and Critical Control Point (HACCP) regulations; “Not In My Backyard” opposition; and lack of infrastructure. Processors often benefit from the time, interest and technical assistance paid by state inspectors; those in areas with only federal inspection have more difficulties. Pasture-based products do not necessarily add value to processor’s business because there is no premium for the by-products (hide, offal) which are critical to processors’ margins.

Clancy concluded with a list of recommendations and issues critical to small scale processors: broader state inspections and allowing out of state sales; lowering HACCP and inspection costs; plant refitting funds; and food safety research. Specific pasture-

based standards and nutrition information would assist the marketing of these products. Clancy also cautioned that two potential pieces of legislation, the National Uniformity for Food Act and proposals to develop a single safety food agency, would pose a danger for small processors.

Farm animal audits: Meat processors

Temple Grandin, Associate Professor of Animal Science, Colorado State University

Grandin spoke of the use of animal welfare audits to identify problems in animal handling, which can then be addressed by farmer or processors. Good audits are specific, yes or no measures (e.g., use of electric prod, vocalizations) that are clearly worded. They can measure a multitude of problems. The American Meat Institute uses five critical points (measuring percentages: stunned on first attempt, slip and fall, rendered insensible, vocalize, prodded with electric prod). Grandin added that some problems (e.g., dirty bedding and ammonia smell for chickens, lame or skinny cows) should result in a failing grade no matter the auditing scores.

Failing scores, such as the over use of a prod, may indicate other problems. Grandin believes pigs are not afraid of slaughter, but are afraid of the dark, moving equipment and shiny reflections. Simple changes in lighting, preventing air flow in animals' faces, or flooring traction, can prevent big problems. Continued auditing can prevent "bad becoming normal."

Participant Discussions of Processing Issues

Processing was commonly cited as the greatest barrier facing livestock farmers who wish to sell their products outside of commodity channels. The lack of facilities, especially USDA inspected ones, often results in high transport costs, long travel distances and the need to schedule processing months in advance.

Despite these obstacles, conference participants see opportunities in partnerships between farmers and processors. Humane treatment of animals, seen as a strong point of pasture-based systems, is becoming an important issue throughout the meat processing industry and can result in calmer animals, fewer losses due to bruising and higher quality products. Composting of offal can result in cost savings and possible new revenue sources for small meat processors. Finally, community developers can be educated about and assist in creating and retaining new processing businesses that would aid community development by circulating money within rural communities.

Many barriers confront development of processing opportunities. Farmers currently lack access to processing facilities, especially poultry producers. Most processors are set up to deal with large quantities of commodities, not small batches. HACCP and other food safety regulations are extremely expensive, especially for smaller scale businesses with fewer units over which to spread these costs and fewer employees to do paperwork. There is a particularly acute lack of certified organic facilities.

Research is needed to separate regulations that ensure food safety from those that increase cost without enhancement of food safety: the focus of regulations should be on product standards ensuring the outcome (safety of the end product) rather than process standards prescribing how to get this result. This needs to be considered in the context of an animal life cycle approach. Alternative uses of offal, such as composting in socially and environmentally acceptable ways that ensure consumer and livestock health, can be developed and tested to generate new revenues (sales of soil amendments) and cut costs (of hauling waste to rendering facilities) for small processors.

Issues for Production

From Green Grass to Cash

Margot Rudstrom, Assistant Professor, University of Minnesota, West Central Research and Outreach Center

Rudstrom discussed her research into the viability of grazing, which she has conducted since 1996. Agriculture lenders need to be educated that grazing is viable. Like conventional dairying, grazing dairies can be profitable or unprofitable, depending on management: good managers in confinement operations tend to be good managers in grazing ones too. Her research, pooling data from farms in 5 states, including 100 grazing farms, shows that pasture-based dairies are more profitable per cow than confinement, at each income level. She advises farmers wanting to make this switch to work backwards, deciding how much income is needed, how many cows they wish to milk and seeing if that profit per cow is possible. Success depends on keeping debt low and managing pasture like any other crop. Rudstrom also found that raising heifers on pasture earned more than corn or soybeans in all three study years and hay in two of three years.

Pasture-based agriculture creates opportunity for new and transitioning farmers, but research is needed to guide management practices. Pasture-based farms would be eligible for many "Green Box" payments.

Keeping Animals Healthy on Pasture

Ben Bartlett, Livestock Specialist, Michigan State University Extension

Bartlett began with a caution that animals on pasture are not necessarily healthier than those in confinement: one can find examples of better health in each system. He noted

two overall indicators of animal health: absence of disease and performance; performance, however, must be maintained over a reasonable life span of the animal.

Bartlett outlined the most important health problems pastured animals face: parasites, flies, pink eye and bloat. Other common problems include toxicity (both from human made and plant sources) and milk fever. Knowledge, prevention programs (e.g. avoiding mature grass, flies and dust; mass herd treatment), products and services, and performance measures are the key tools to maintain animal health. Performance measures can identify a problem before disease or death hits. In general, keeping animals healthy is not having the right answers but knowing the right question, Bartlett says.

Husbandry and Animal Welfare of Livestock in Pasture-based Systems

Janice Swanson, Professor, Department of Animal Sciences and Industry, Kansas State University

Swanson began with results from a Gallup poll showing that people want strict laws guaranteeing animal welfare despite their overall support for hunting, and using animal product and medical testing. Telling people that how animals are treated is none of their business is particularly counterproductive. Animal welfare has many stakeholders, including farmers, consumers, veterinarians, handlers and government, who must be engaged. People tend to be most concerned about big issues, such as chronic disease and pain, as well as ability to move.

Grazing does not guarantee humane treatment: overstocking, poor water quality, poisonous plants and lack of shelter and protection from predators may all pose welfare problems. A lack of land confounds body condition issues. Good practices guaranteeing sustainability should offer assurances to the public that animals are well cared for via protocols measuring body condition, health and locomotion.

Grazing ecology: Conservation Benefits of Ruminant Agriculture

Laura Paine, Agriculture Agent, University of Wisconsin Extension Service

Paine discussed the opportunities and challenges of using pasture land to achieve broad conservation goals. The upper Midwest has much highly erodible land that must

be in pasture to be used agriculturally. She noted that well-managed pasture and native grasslands have similar ecological functions, such as percentage of biomass consumed by herbivores; in each system, grazing is critical for cycling nutrients and promoting growth.

Paine explained how pasture management could be used to control invasive species and provide wildlife habitat (especially grassland birds). Pasture provides better habitat than buffer strips; the best practice may be to set aside an area in the middle of pastures, with native plants that provide nesting habitat in spring while faster growing grasses elsewhere provide forage; this area can then be grazed once birds are done nesting. Paine concludes that well-managed pasture meets most conservation goals (water, wildlife, eco function and restoration) while still generating income from agricultural products.

Participant Discussions of Production Issues

Pasture-based systems are potentially more profitable than grain-based systems, especially if pasture is managed like a crop. Lower capital investment (e.g., fencing is cheaper than machinery) allows for start up farms and lower debt loads, especially when compared to systems incorporating row crop production. This implies opportunity for beginning farmers or those wishing to transition or diversify to pasture-based systems. Well-managed pasture provides habitat for wildlife, permitting multiple uses of land. In many ways, a pasture-based farm can embody the kind of agriculture many consumers most want to support: vibrant and thriving local family farms with high animal and ecological stewardship standards.

Production is hindered by high land costs and competition from development and deer hunting land. Animals in pasture face a number of health threats, such as weather, wetness, plant toxicity, predation and bloat. Research, addressing health concerns and improving the genetics of animals so that they more efficiently utilize forage, is needed to improve the economic competitiveness of pasture-based agriculture.

In addition to research addressing on-farm production issues, pasture-based systems would benefit from an examination of the impacts of public policy on its competitiveness. Conference participants saw grain subsidies as creating major disincentives for the adoption of pasture-based systems. On the other hand, graziers would be eligible for many ecological stewardship payments, such as Conservation Reserve Programs,

Conservation Security Programs and Environmental Quality Incentives Program. These subsidies comply with the World Trade Organization's "Green Box" rules but are currently dwarfed by commodity support payments. Broader and/or stronger animal welfare guidelines may also favor grazing systems.

Producers would benefit from studies that guide better breeding, forage, seasonal management, nutrient management and cycling, animal nutrition and health practices. The successes of pasture-based farming, despite the relative paucity of assistance and attention from public agricultural research institutions, suggests great gains are likely should these institutions devote greater resources to pasture-based systems.

Dinner Address

Getting to the (Grassfed) Meat of the Matter: Preparing and Enjoying Grassfed Meats

Shannon Hayes, author and farmer, Schoharie County, New York

Hayes outlined six tips for preparing and enjoying grassfed meat, with a brief explanation for each. She believes that people learning to cook is a key part of a transition to a sustainable food system.

1. Buy a Meat Thermometer. Grassfed meats are variable in size, texture and fat content; a thermometer is needed to ensure proper cooking conditions.
2. Embrace the variation in flavor and size that comes with grassfed meats raised by small, locally based producers. Differences in forages and genetics produce differences in taste, texture and size. The only consistency should be consistently high quality.
3. Understand the real cost of food. People complain about her products price while paying $5.59 per pound for Count Chocula breakfast cereal. Hayes calculated prices at her local farmers market for a meal of roasted chicken, steamed broccoli and potatoes, enough for at least four people, with leftovers for chicken salad and soup stock. It cost $17.25. Frozen chicken dinners for four cost $13.92. Four meals at Burger King would cost around $18.57 before taxes.

   Shannon Hayes believes that people learning to cook is a key part of the transition to a sustainable food system.
4. Find the time to cook. Preparing and sitting down over a meal is a great way to get quality family time.
5. Learn where the different cuts on the animal come from. Parts from muscles that do the work, like chuck roasts from shoulders, have more collagen and need longer or moist cooking conditions. Loins are tender and do better with grilling. Pointing to parts on one's own body to describe various cuts may turn some people off, but it reminds them that meat comes from animals and that animals need to be treated humanely.

6. Get to know your farmer. It is the only way to know if the animal is really grass finished, and what the farmer's animal and land stewardship practices are. It also brings a personal touch into an increasingly impersonal world.

Conclusions

Pasture-based animal production holds great promise for small to mid-sized farms and rural communities. These opportunities can be realized more readily with broad research and education efforts and partnerships involving consumers, farmers, extension personnel, Natural Resource Conservation Service, etc. Developing political skills among voiceless farmers is crucial to any rural revival efforts.

Conference participants called for a new model of agricultural education, one friendlier to sustainable agriculture, emphasizing holism and systems management, supported by sound business and finance knowledge. Some advocated that each university have an endowed chair in value chains. These chairs could be charged with, among other tasks, modeling successful mid-scale systems with realistic assumptions.

The findings and suggestions of this report are limited to those of the conference participants, filtered though the interpretations of the authors of this report. The conference was attended, for the most part, by people with a favorable view of pasture-based systems. Countervailing opinions, e.g., from those working in and researching confinement operations, are largely lacking.

Many trends indicate a need for more emphasis on pasture-based production in public agricultural research institutions: rising fuel prices and increasing fiscal deficits portend rising grain prices and diminished commodity subsidies in the future. Growing community opposition to large scale confinement operations, consumers' desire to connect with their food supply and buy food with a farmer's face on it will spur demand for local alternatives to mass produced commodities. It is vital that public institutions be pro-active, expanding choices for producers and consumers, fostering well-informed decisions with research and outreach based on sound scholarship. These institutions must seek creative funding options and partnerships to maximize the depth and scope of outcomes.

A critical role in public educational institutions is to encourage and support informed dialogue and debate. For several decades the livestock conversation has been one-sided, with proponents of grain-based, concentrated, confinement systems holding the floor. This report does not call for silencing these voices but for listening to other perspectives.

It is not up to the Land Grant system to decide which type of livestock systems is to be used. It *is* up to the Land Grant system to investigate and report on the entire range of livestock systems and their impacts on consumers, the environment, and the creation and retention of jobs in rural communities.

Appendix One:
Overview of Social and Economic Benefits to Increasing Pasture-based Farming

An increase in pasture-based agriculture would bring a broad array of lasting benefits to farmers, consumers and communities. It would benefit the environment by turning manure, a pollutant in its current concentration in confinement-based operations, into a resource, a soil fertility asset, when widely spread over the landscape. Whereas farming within the commodity based system requires ever increasing numbers of acres just to make a decent living, the economies of scope in integrated crop/pasture/livestock system may lead to sufficient income for family farms on fewer acres[2]. Rudstrom's study, detailed in her talk at this conference, indicted that net returns per cow were, on average, higher for grazing than for confinement dairies. Studies by Gloy et al. (2002), Dartt et al. (1999) , Dartt (1998) and Kriegl (2003) find that grazing dairy operations have higher economic profit per animal, as well as higher asset, labor and operating efficiency (Dartt, 1998) than confinement operations. More profit per animal implies that smaller scale farms are economically viable under pasture-based practices.

The social and economic implications of making family-sized farms viable again would be staggering. Numerous studies (Goldschmidt, 1947; MacCannell, 1988; Lobao, 1990; Durrenberger and Thru, 1996; Welsh and Lyson, 2001; Lyson, et al., 2001) indicate that the existence of small and mid-sized farms is vital to healthy societies in rural communities. Along the same lines, there is a clear link between smaller, more numerous farms and positive contributions to local economies (Chism and Levins, 1994; Abeles-Allison and Connor, 1990; Foltz et al., 2002; Lawrence et al., 1997; Marousek, 1997, Ikerd, 1994; Gomez and Zhang, 2000). Residents and travelers will be captivated by the aesthetic charm of rolling pasture dotted with animals enjoying the fresh air and sunshine. Consumers can benefit from the healthier ratio of fats in pastured products. People concerned about animal welfare will be able to support a system that better matches their values.

[2] Chuck Hassebrook 's keynote address emphasized this point.

Appendix Two: Conference Details and Logistics

This paper summarizes the major issues emerging from the Animals in the Food System Conference, held at the Kellogg Biological Research Station in Hickory Corners, Michigan November 3-4, 2004. The conference was attended by about 100 people, including farmers, extension educators, government personnel, University faculty and researchers, and leaders of non-governmental organizations. The purpose of the conference was to consider pasture-based alternatives and challenges for research, outreach and development.

The conference was organized into a series of panel presentations followed by break out discussion sessions, one each devoted to the following topics, in the following order: consumption, marketing and distribution, processing, production.

The breakout sessions were organized by having people self select an issue discussion group to which they wished to belong. The issue groups were as follows: systems development; value chain and economic development; ecological, environmental and public health; social issues and community development; ethics; training (which changed its name to “learning”). Individuals remained in the same group throughout the conference. Following each panel, groups would discuss the panel’s topic (e.g., consumption) in the context of their topic areas (e.g., systems development). Specifically, a discussion leader asked each group to identify opportunities, barriers, policy implications and scholarship needs. Notes were kept and summarized at the end of the conference. Summaries of the breakout sessions are available at http://www.mottgroup.msu.edu.

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