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Abstract

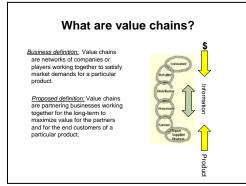
A value chain is a network of partners who work together to satisfy market demand for a particular product or service. In conventional chains, livestock farmers are often regarded solely as input suppliers and are required to shoulder most, if not all of the production risk. This may create an unsustainable situation for the farmer because low prices combined with production technology update costs often result in long-term mining of producer equity in the farm. Consumer demand for highly differentiated products such as pasture-raised beef, pork, poultry, eggs, and milk is increasing, offering farmers an alternative to low-cost commodity production. A number of producers are meeting the demand for these products through direct marketing to consumers, but as demand grows, more of the supply will likely need to come from value chains where another partner does the marketing. However, if the incentives are not in place to allow farmers to share equally in the risks and rewards with other chain partners, supply will not be able to keep pace with demand. This presentation will discuss new approaches for addressing challenges across pastured livestock value chains, and will explore business models that position the farmer in the role of partner rather than input supplier.

Editors Note:

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I would like to start by commenting on the range of different terms in the market place used to define grass-based systems, terms like pasture raised, grass fed, and free range. We have done a lot of consumer market research with those terms in lowa, and the upper Midwest. First on grass fed: Some consumers perceive that means that you are bringing grass to the animal, Pasture raised, signifies that the animal spent at least part of its life grazing on pasture. I remember one consumer's "smart alec" comments connected grass fed to feeding cannabis. My favorite observation on one of these terms was from a focus group we did in Chicago on pork. The consumers who participated were asked to give their perceptions on a number of terms - free range, pasture raised and grass fed. One person got visibly agitated about free range. "No, no that is not going to work for pigs". So the moderator asked, "Why isn't that going to work?" The man replied: "They are going to get away. It's going to be a problem. They are going to run down the street. They are going to block traffic!" This was in Chicago and it turns out this man was a downtown Chicago traffic cop. The idea of free-range pigs was a real problem for him. Remember, the perceptions of consumers are really important.

I am going to discuss the challenges and opportunities of sharing risks and rewards across partners in pastured livestock value chains. First I will give you a working definition, actually a set of definitions, about what we mean when we talk about value chains. Second, I want to characterize how farmers participate in these value chains. Third, I will discuss some possible business structures that will best allow farmers to more equally share in the risks and rewards in those chains. The fourth thing I want to do is talk about a current project that we have underway in lowa for the last two and a half years called Value Chain Partnerships for Sustainable Agriculture, where we are trying to develop several of these chains.



First of all, what are value chains? If we looked at a business web site, we would probably see the term value chain and supply chain being used interchangeably. We would find a definition something like this "Value chains are networks of companies or players that work together to produce a product to satisfy a particular market demand." This is a general definition for value chains. I want to share a more advanced definition that will frame the remainder of my comments today. This

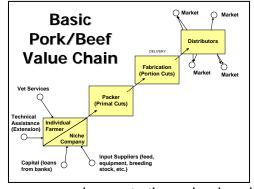
definition is embraced by another project called "Agriculture of the Middle". Steve Stevenson from the University of Wisconsin is one of the co-leaders of this project along with Fred Kirschenmann of the Leopold Center at Iowa State University. This definition is, "Value chains are partnering businesses that work together for the long term to maximize value for those partners and for the end customer." There is a big difference between this definition and the former definition from the standpoint of farmers and consumers. The basic way you look at this schematically is that dollars come from the consumers, product moves from the supplier (in this case the farmer), and information is supposed to be shared across all the different partners in the chain. But the thing is, in a lot of the commodity chains that's not what is happening. Information isn't being shared across partners in many of our supply chains. I want to characterize that extreme, between what we do have in commodity markets, and what we could have as we develop more pasture based livestock chains.

There are three ways I can characterize how farmers participate in value chains. Direct markets are first; farmers perform all the roles themselves all the way through marketing. You will hear some examples of direct marketing later in the panel. I want to focus most of my comments on value chain relationships where farmers aren't doing direct marketing. As we increase supplies of highly differentiated products, some of the demand will be met by direct marketing, but some is inevitably

Value chains (animal-based) How do farmers participate?

- Farmer coordinates processing and distribution and does the marketing (direct)
- Farmer focuses on production and relies on other entity(ies) to do the marketing (co-ops, networks, integrator, distributor)
- Farmer invests in other parts of the chain (most likely processing)

going to need to be met by producers working together to supply grass-based or pasture-raised products through some kind of network. In this type of relationship, farmers could raise the product and somebody else would do the processing, distribution, and marketing. That could be a co-operative, or it could be used to describe vertical integration, where farmers raise the product and the integrator could be doing everything else. Another way that farmers participate in these value chains is by investing in other parts of the chain, most likely processing; these days we find a lot of these value added type ventures. So those are the three general types of farmer participation in value chains. I am going to talk about the latter two through several specific examples.



Before I do so, I'd like you to view a very basic commodity pork or beef value chain. This also could be the view of a pasture raised beef or pork value chain, where individual farmers or networks of farmers get the right inputs, the vet services, the feed, the capital from either a lender or their family or whatever. They develop a product; they sell it to a packer on the spot market or under the terms of a contract. In the case of pork and poultry it's all vertically integrated and it's mostly contract. The

processor harvests the animal and breaks the carcass down into primal cuts. Then the fabricator, which could be the same company as the processor, takes the primal cuts and makes pork chops, T-bone steaks, or whatever it is to be distributed to various markets, whether it is food service or retail. So that's how the basic pork or beef value chain works.

From here I want to characterize those buyer-seller relationships by first looking at the two extremes. One side you have the more traditional arm's length type of arrangements. This would be pretty common in commodity meat markets. The decision is made on price; there is basically no interdependence among members of the chain. Information is proprietary; players in the chain rarely share information. Farmers aren't sharing their production costs with the processor or the next part

Buying decision made on price Low interdependence Information is proprietary Most powerful dictate terms Act only in own interest No investments in relationship Adversarial; distrust Win-lose orientation	Buying decision made on value High(er) interdependence Information is shared Joint decision-making Act for mutual benefit Relationship-specific investmen Mutual respect and trust Win-win orientation
Farmer – input supplier	Farmer – strategic partner

of the chain because if they do, they believe they are going to be asked to lower their asking price. Those that have the power to dictate the terms, particularly those in vertically integrated chains, act only in their own interests. This forces the partners, particularly the farmers who do not have true countervailing economic power, to also act in their own interest. There is not a lot of investment in relationship. It is probably fair to say that farmer-packer relationships in the commodity markets are based on mistrust and to some extent animosity. And it is a win-lose kind of orientation. In these types of value chains, farmers are seen – for the most part - as input suppliers. They are in the chain, but not part of the team that gets the majority of the value.

Contrast that with the other side of the spectrum. I am going to spend more time talking about this other side, where decisions are made more on value, where there is interdependence among value chain partners, where information and risk is shared, and there is more acting for mutual benefit. If farmers actually found something that would help the processors, they could tell the processors, who would make the change in the process and it would benefit both partners. Mutual respect and trust in a win-win orientation would be the principles, where farmers are viewed as strategic partners in the chain. Those are the two extremes.

Buyer-seller relationships (general types)

- Spot market transactions
- Contracts
- Quasi and Tapered Vertical Integration
- Value-added/Joint Ventures
- Cost-Plus Agreements
- Strategic Alliances

Now I'd like to talk about the general types of buyerseller relationships in which farmers participate. The ones I will cover are not mutually exclusive. The first one is spot market transactions; they are commodity markets, including produce auctions. Producers have a lot of independence to sell what they want in spot markets, but there is no guarantee they are going to get the price they want. Contracts are next. There are different types of contracts and in vertically integrated poultry and pork we see

production contracts for the most part. What we don't want to see happen as we develop pastured livestock value chains is the situation where, at the beginning, farmers get fairly lucrative contracts meeting their fixed and variable costs. They are able to make a profit and a return on assets. But often over time, the contract changes. Farmers wind up having to mine some of their equity because the buyer lowers the offering price for that product. The commodity farmer in this type of contractual situation is often trapped, because there are few if any other choices other than that contract.

Next there is quasi and tapered vertical integration. When I first saw these terms, I wondered, what the heck would that be? Quasi vertical integration is where two different partnering firms come together for a fixed period, they both invest resources but it's to produce a particular product for a fixed period of time. Tapered vertical integration is where a firm receives part of its supply through backward integration. An example of tapered vertical integration would be a beef firm that does all the processing and owns some of the cattle they process, but then they buy the rest of the cattle on the spot market or under contract. But they do not own two pieces of this chain, you have to have at least two to be vertically integrated, they own part of another part of the chain. Then there are value added joint ventures. That's where farmers are going to more likely own another part of the chain, in most cases this will be processing. It's where we see some new generation co-ops.

The two specific, but not mutually exclusive, buyer-seller relationships that I want to talk about in a bit more depth are cost plus agreements and strategic alliances. So we start to think about pastured livestock systems beyond direct marketing, these are two things that I think would be very useful for producers and communities to think about.

Cost plus agreements allow the producers to receive an agreed upon rate of profit, within which their fixed and variable production costs are met. The buyer receives either a lot of information, or perhaps a guaranteed level of quality that no other supplier can match.

Cost-Plus Agreements

- Producers receive an agreed-upon rate of profit above fixed and variable costs
- Yakima Chief Hop Growers
 - In exchange for detailed product traceability and supply guarantee, producers are paid a margin above cost of production that is calculated using a formula (adjusted every year)

I will give you two examples of cost-plus agreements. The first is Yakima Chief Hop Growers Cooperative; we just had these folks in lowa in July. Do you drink beer? Do you know where the hops in that beer are coming from? Yakima Chief is one group of thirteen growers of hops in the Pacific Northwest. They also own the hop processing; they are not just growers. In exchange for giving their best customers, a set of European brewers, transparency and traceability on the hops back to the grower's fields, guarantees of food safety and supply (if they can't grow it themselves, they can buy it on the spot market from other growers), they are paid a margin above their costs, realizing a return on assets. Production is figured by formula, based on a three-year average that is adjusted on a yearly basis. With this contract, these producers know that they are going to get paid a fair price. We would like to see more of this kind of agreement in all of agriculture.

Another example is a company called Asda, a large European retailer in the U.K. and Scotland that is a division of Wal-Mart in Europe. Since 1999, Asda has a cost-plus agreement with a group of carrot producers in Scotland. They are producing under contract; they get a guaranteed return for producing carrots. This arrangement is subsidized a bit by the government who wants to see Scotland grow more of their own food. So there is a government subsidy pushing this, and I imagine that might be why they are taking advantage of that.

Partner	Benefits	Disadvantages
Farmer	Secure/stable market	Give up some independence
Processor	Quality specified, improved traceability, consistent supply	Increased relationship costs, must share information
Retailer	Quality specified, improved traceability	Higher cost
Consumer	Traceability, products that have a "story"	Higher cost
Community	Sustainable practices used	Chain must be competitive to succeed

Other buyer-seller relationships include strategic alliances. We work a lot with the Iowa State University College of Business at the Leopold Center, through our Kellogg Value Chain Partnerships project. We recently received a report that discussed strategic alliance relationships. The report, written by Dr. Rhonda Lummus, is very specific to bio based value chains, but you can apply the relationship concept to any type of value chain. In particular, Dr. Lummus has set up the

report to look at the benefits and disadvantages. In strategic alliances, both partners, buyer and seller, share risk, they share information, they learn from each other, there is more information sharing. We often see strategic alliances in family based business relationships, when things start up with a handshake between partners. There usually are not contracts in strategic alliances. In order to fully participate in strategic alliances, farmers have to give up some level of independence and the processor has to be willing to share information. It is likely the product is going to cost more.

Goldsmith and others have reported on a specific type of strategic alliances called fuzzy strategic alliances. When I first saw this, I was reminded of the 2000 presidential debates, and the comments about fuzzy math. Strategic fuzzy alliances don't have contracts; they are usually based on family type partners. The boundaries between the partners are flexible, and they are not well defined. There is shared control and knowledge between the various partners in the relationship and as I said

"Strategic fuzzy alliances"
Adams and Goldsmith, 1999
Trust-based relationships with these characteristics

- Boundaries between partners are flexible and less defined
- Shared control and knowledge between partners
- · Innovation and learning encouraged
- Exit costs are low
- Stakeholders are not always the shareholders

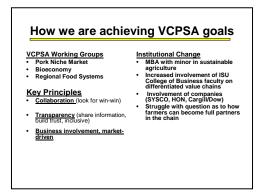
earlier, if someone learns something, they share it with the partners for the benefit of the whole chain. Exit costs can be low. This is kind of interesting, I have not done the research to give you specific examples, but stakeholders are not always the shareholders. You could have two parties coming together, say a farmer and a processor, producing a product for somebody else. During that period they have this strategic fuzzy alliance, sort of a handshake agreement, without a contract for this period of time.

These are some types of buyer-seller relationships. That's sort of the background, a Value Chain 101 of the various ways that we can look at buyer-seller relationships.

Now I'd like put this background on value chains and buyer-seller relationships in context and talk about the work we are doing in Iowa called Value Chain Partnerships for a Sustainable Agriculture. For the last two and a half years we've been working on this project, with two overall goals. Our primary goal is to find new ways of collaborating to discover how best to address challenges that are found in value chains that would benefit small and mid-size producers that produce sustainably.



Secondly, we want to be able to further develop, expand the university (ISU and other institutions) capacity on how they help these kinds of value chains. We have funding from Kellogg, from Leopold Center of the College of Agriculture, and the SYSCO Corporation. We have five core partners, several are right here in this room: the Leopold Center, Practical Farmers, Iowa State University, the Wallace Chair Office and the Extension Service at Iowa State.



How are we achieving these goals? We have three working groups. A pork niche market group, active for 2 ½ years, is the oldest. It has diverse representation including Farm Bureau, Farmers Union, five niche pork groups including organic producers, and representatives from the lowa Pork Producers that are conventional producers. We have a bioeconomy group looking to develop value chains for corn stover as the feedstock to make a biodegradable plastic-type material called PLA.

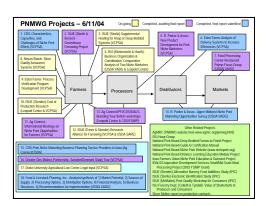
That group is also looking at kenaf as a fiber based substitute for fiberglass used in office furniture. Third, we have a regional food systems group that is not "product" based but is looking at how we can better document economic, community, and environmental impacts for local and regional food systems, to increase investment in those systems both locally and state-wide. We are also looking at place-based type foods, where the quality and reputation of the food is based on where and how it was grown.

All three working groups have principles of collaboration and transparency, all are market driven, and all directly involve businesses. When you start looking at relationships between the University and private partners, when you work in value chains, you need to involve the College of Business. We have a graduate program in Sustainable Agriculture at Iowa State, and so we worked with the College of Business at ISU to develop a Masters of Business Administration (MBA) with a minor in Sustainable Agriculture. Our Kellogg grant and SYSCO contribution provided funds for two assistantships. We have our first two students, and they are working directly with two of these working groups.

We have a number of faculty in our value chain work from the College of Business. Given the issues that must be addressed in value chain work, it is extremely valuable to involve colleges of business with expertise in marketing, transportation logistics and supply chain management. Over the years the sustainable agriculture community has overlooked these people within the university community. They are there, they have the expertise we need and if you can engage them and work with them, they can increase the chances that these new value chains producing highly differentiated, sustainable products such as grass-fed beef will be successful. I am very happy that the College of Business has been so cooperative at lowa State. It has really been a rewarding relationship.

We have also involved a number of large companies like SYSCO, HON (an office furniture maker), and Cargill Dow makes the PLA from corn stover. The key issue we all struggle with in these working groups is how do farmers better share in both risk and reward? How do we build those collaborative structures for the long term? As we have seen with local food, there is increasing customer demand for highly differentiated products such as antibiotic-free pork raised in deep-bedded systems, or pasture-raised beef. We know that we must do something beyond just direct-market food delivery for a lot of these systems; a lot of consumers will not be reached through direct markets. We need to increase supply in a way that will safeguard the farmers' ability to make a living without having to scale up and go further into debt.

We developed a chart to show how we address challenges across the value chain in our pork niche market working group. As complicated as the chart looks, you would think that what we did is develop a new branch of the Federal Government. You can see that the projects we work on are tied to very specific challenges that have been identified in the value chain by producers or processors.



We often speak about where the "table" is, a metaphor to describe the place where parties come together to do this work. This power in our working groups is outside the University and not tied up within the departments and colleges that make up a university bureaucracy. The University faculty goes outside of the University to do the work with us. We try and bring everybody together, we try to become the place where technical and financial resources come together to address all the challenges for that particular set of markets. Through performance – saying we will do something and then delivering on that promise - we have been fairly successful in the niche pork group. After two and half years of work, we have found that we cannot increase supply fast enough to meet

Integrated Assistance Program for Niche Pork Production

A collaborative, integrated program involving niche pork farmers, niche pork groups, private practice vets, and public and private agencies and organizations

Three main parts:

- 1. Herd health diagnostic assessments,
- 2. Production performance analysis
- 3. Participation in education/training driven by niche pork companies

Program tied directly to Pork Niche Market Working group

demand. I believe that this is currently and will continue to be an issue for pastured livestock value chains. We cannot really address the challenges by remaining at the margins of the university and state agencies, as has been the case for work in sustainable agriculture over the years. What we need to do in the case of our work in pork is to be able to have a more integrated program of farmers, niche pork groups, nonprofit groups, vets, researchers, and public and private agencies. We need to develop the level of support for niche pork –

based on its sales – that is commensurate with the support the commodity pork receives. We are going to need to address herd health issues so that we can understand how best to characterize the disease problems of pigs raised in deep-bedded structures and on pasture without subtherapeutic antibiotics. We need to really understand from a diagnostic standpoint where we need to make adjustments to lower our production costs. Our production costs in niche pork, and the same could be said to be true for other alterative livestock production systems, are all over the board. We don't really understand how to best characterize the solutions in lowering these costs, and we will need to be able to do so to get the loans needed to increase production to better meet demand. Why should a lender take the risk for an alternative system with only anecdotal evidence of success when the conventional production system seems like more of a sure thing? In our Value Chain Partnerships project we are bringing the lenders on board as well.

The third important part of our work in niche pork that I believe has direct relevance to pasture-raised beef, lamb, or poultry is a comprehensive education and training program for the producers. Our work in pork needs to be driven by the niche pork companies, not Extension, the University or the Leopold Center. If the companies do not drive quality and performance improvements, the changes experienced will be as short lived as the grant funding that comes and goes to help the alternative producers. The niche companies have to get the producers involved and provide incentives for them to improve their operations and their bottom line.

The other important point I want to mention as we think about developing new pastured-based livestock production and marketing systems is the need to look at sustainability for all partners in the chain. The bioeconomy group has developed matrices of sustainability characteristics, providing a framework to look at sustainability from ecological, economic and community based perspectives. We brought every partner in a bioeconomy value chain together and asked them what they need to be

	Economic	Ecological	Community
			(Social)
Farmers			
Primary			
Processors			
Secondary			
Processors			
Distributors			

sustainable economically, ecologically, and within their communities. They worked within their part of the chain and then the partners in the chain came together and shared their sustainability needs. What was really fascinating was how we got back to that question of farmers truly being partners in the chain. It was hard from a business perspective for companies to view farmers as being anything but input suppliers when we talked about the chain's ultimate success.

For effective product differentiation and pricing, we have to decouple the way we price

Challenges for pastured livestock value chains

- Strategies for product differentiation and pricing
- Achieving sufficient volume and quality
- Adequate capitalization and competent management
- Consistent standards and certification mechanisms

products in the commodity market from prices in the pastured livestock value chain. We know that we have to look at some different strategies for pricing that allow the farmers to remain attached to the value of the product; thus if farmers are efficient and then the cost of production rises, then the cost of the product needs to rise. Volume and quality, capitalization, competent management, standards, certification mechanisms, these are all critical issues that we have to deal with for pastured livestock value chains.

In summary, what we are learning from our value chain efforts in lowa can be applied to other pasture-based livestock systems. First of all, farmers are not going to increase production to supply growing demand unless there is an appropriate set of incentives in place. We have a lot of companies coming and saying they want these products. If these companies can decouple the way they have asked for commodity products from the differentiated products, this may allow us

What are we learning from existing regional value chain efforts?

- Farmers will not increase production to supply the growing demand for highly differentiated and sustainably produced foods, unless there are appropriate incentives
- Incentives must provide adequate premiums (COST PLUS) and business structures that share risks of increasing supply in the longterm

to put different business structures in place. We need to have incentives that include cost plus agreements, business structures that share risks and rewards with farmers in the long term, not just short term. We need to develop R & D hubs where technical and financial resources can come together to grow the whole niche and address challenges at each juncture. Land grant universities need to cooperate with all these partners to support these systems without helping to commoditize them. Last, if you are beginning a new chain and you go through the process among the chain partners to develop a sustainability matrix, you are more likely to at least open the door for alternative business structures. You can have something closer to a cost plus agreement rather

What are we learning from existing regional value chain efforts?

- Producer groups involved in highly differentiated markets benefit from engagement in R&D hubs (working groups) that facilitate comprehensive assistance to address their challenges;
- Land grant universities can cooperate with NGO, agency, and business partners to establish and operate value chain working groups as SOP
- Economic, ecological, and social benefits successfully incorporated into the planning process for emerging value chains can open the door to new business structures;

than a fixed contract where farmers get the lowest possible price. If the only issue driving these pasture-based livestock systems is price then you get into the cycle again, increased volume making supplies abundant, which lowers the price. Then you wind up with fewer farmers. This issue of being careful not to "commodify" these differentiated products is why we are also looking at things like place-based products with certification marks, where farmers have an influence over the amount of product that is supplied in a particular area.

Fair trade labeling is another thing I think is worth mentioning because of all the reasons it has worked with growers in other countries. Could we develop fair trade labels for pasture-based products raised in the U.S.? Another useful change would be for farmer companies to invest those profits back into communities for more R&D, not only to raise the product more efficiently, but to better integrate the community into an ownership position of the product's value. Perhaps some of the profit would

Fairtrade Labeling Can we use the concept with U.S. farmers.?

- Consumers support concept and willing to pay higher price
- Producers receive "cost-plus" price
- · Up-front payments and loans offered
- Portion of premium can be invested in community and R&D for sustainable production

be given to non-profit groups who in turn would go back to the university with that money to fund specific research that will benefit the community. That would bring Land Grant Universities back to their mission, and perhaps connect a new agriculture with rural economic growth.

For more information go to:

Leopold Center Marketing and Food Systems Initiative

Value Chain Partnerships for a Sustainable Agricultre

For more information about value chains and our Value Chain Partnerships for a Sustainable Agriculture project, you can go to www.valuechains.org

Thank you very much.