

Introduction

The National Center for Appropriate Technology (NCAT) worked with the Montana Organic Producers Cooperative (MOPC) to undertake two tasks:

1. NCAT is responsible for the survey, evaluation and presentation of cost of production of MOPC members leading to recommendations about future target pricing.

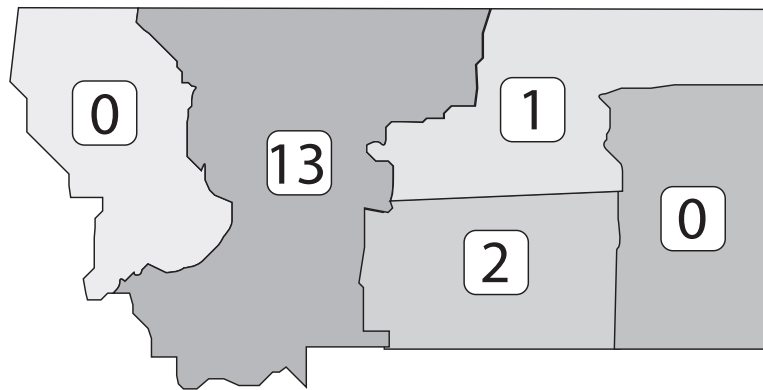
2. NCAT is responsible for the publication and presentation to members of a case-study assessment of regional and national organic grass-finished marketing efforts to date.

The report begins with the cost of production survey and then with a report on how MOPC members can better access regional and national markets. In a broader sense, this report provides an understanding of the value chain of the organic grass-finished beef market from the producer to consumer. This report does not directly examine either the certified organic grain-finished or grass-finished/fed beef markets.

Understanding the value chain for this relatively new but expanding beef market segment is difficult because it is not a mature market with established relations between the various parts of the value chain. For instance, similar earlier work in 2006 by Iowa State University identified only two producers/distributors of certified organic grass-finished beef while this report identified twenty-nine. This in itself partially demonstrates growth in this small segment of the beef market. However, these new market participants are mostly smaller operations selling directly to consumers.

| Table 1. General Questions | Yes | No | %Yes | %No |
|---|-----|----|------|-----|
| Do you have a mortgage on land or house? | 11 | 7 | 61% | 39% |
| Do you lease public lands for the production of beef? | 10 | 8 | 56% | 44% |
| Do you lease private land for the production of beef? | 10 | 8 | 56% | 44% |
| Do you require an operating loan almost every year for you cattle production? | 5 | 13 | 28% | 72% |
| Do you have the ability to irrigate most (>50% of land base) for forage production? | 2 | 16 | 11% | 89% |
| Do you have employees and/or family members who work on the cattle operation? | 16 | 2 | 89% | 11% |

Location of Respondents



2 — out of state

Cost of Production Survey

A survey in a spreadsheet format was developed by NCAT based on work by Iowa State University to better understand the cost of production of the members of the Montana Organic Producers Cooperative (MOPC). An early draft of the survey was tested with several members. After updating the survey given

¹One of these was Mesquite Organic Foods, which ceased business since the ISU study.

²The low value of 75 hours of total family and employee labor would appear to be the result of misunderstanding of the question, but the answer is reported.

responses from the early testers, the survey was mailed to all members of the cooperative. The survey was sent loaded on a CD by NCAT and results were either returned as print outs or sent electronically by email. Of the 27 mailed 18 were returned for a response rate of 67%. The answers to the questions are based on 2007 production year data.

General Questions

The first part of the survey asked several general questions and answers are reported in Table 1 and 2. A majority of those responding had mortgages on land or house, leased public and/or private land for grazing, did not have significant ability to irrigate forage and employed family and/or additional labor.

Family and employed labor averaged 2535 hours per year and survey respondents indicated that on average 27% of their time was engaged in what they self-defined as "management."² The average live weight price for cattle that respondents viewed as profitable was \$1.38 per pound. An average return on invested capital and assets of 9.6% was considered a "fair" return. An average of 47% of the total family income was derived from cattle operations. Finally, 13 of 18 respondents resided in region 2 of 5 identified regions of the state of Montana. Two respondents were members that resided outside the state. Table 2 and the map below present these results.

It is important to note the range of answers to these questions particularly in relation to the importance of family income from beef cattle

| | Average | Median | High | Low |
|---|---------|--------|--------|--------|
| How many total hours do family members and employees work per year? | 2,535 | 3,000 | 6,000 | 75 |
| What percentage of your total labor time is engaged in "management"? | 27 | 20 | 75 | 2 |
| What live weight price for your cattle would you estimate you need to be profitable? | \$1.38 | \$1.40 | \$1.90 | \$1.02 |
| What rate of return on invested capital and assets do you consider a fair rate of return? | 9.6% | 9% | 20% | 2% |
| What % of your total family income is derived from beef cattle operations? | 47% | 36% | 100% | 8% |

| | Average | Median | High | Low |
|--|-----------|----------|-----------|----------|
| Total organic acres grazed | 2,608 | 915 | 11,056 | 375 |
| Total current value of machinery used on whole farmer ranch (reasonable replacement value) | \$123,529 | \$80,000 | \$315,00 | \$15,000 |
| Total annual costs of machinery operation (fuel, repair, etc.) | \$13,802 | \$8,100 | \$40,000 | \$1,000 |
| Estimated value of fencing (replacement cost) | \$59,535 | \$20,000 | \$466,488 | \$1,500 |
| Estimated % of total labor hours on grass/pasture maintenance | 27% | 20% | 70% | 10% |

operations, range of beef prices and return on investment and assets. Clearly, the members that responded reflect a wide range of diversity and have varied expectations from their cattle operations. Finally the average live weight price needed to be profitable is below that received by members last year (\$1.38 vs. \$1.40/lb.). However, ten respondents had price expectations above the

³ This is indicated by a distribution of values that are not evenly dispersed as noted by the differences between the average and median values.

| | Average | Median | High | Low |
|---|---------|--------|----------|--------|
| Fixed machinery costs | | | | |
| Organic fertilizer application | \$0.02 | \$0 | \$0.13 | \$0 |
| Weed control | \$0.05 | \$0.03 | \$0.19 | \$0 |
| Variable/operating machinery costs | | | | |
| Organic fertilizer application | \$0.02 | \$0 | \$0.18 | \$0 |
| Weed control | \$0.07 | \$0.02 | \$0.37 | \$0 |
| Variable/operating soil fertility | \$28.03 | \$7.04 | \$171.08 | \$0 |
| Variable fence maintenance | \$6.07 | \$3 | \$48 | \$0.30 |
| Fixed land charge (rental rate) | \$33.55 | \$15 | \$125 | \$5 |
| Variable annual organic certification | \$2.12 | \$0.83 | \$17.14 | \$0.15 |

| | Average | Median | High | Low |
|---------------------------------------|---------|---------|----------|---------|
| Variable costs per acre per year | \$35.82 | \$7.34 | \$192.01 | \$0.26 |
| Fixed costs per acre per year | \$35.36 | \$17.14 | \$125.63 | \$5.20 |
| Total costs per acre per year | \$71.76 | \$55.53 | \$207.03 | \$5.46 |
| Grass productivity | 2,829 | 2,000 | 11,000 | 300 |
| Dry matter (DM) lbs per acre per year | | | | |
| Grass price, DM \$ per lb | \$0.05 | \$0.02 | \$0.30 | \$0.006 |

live weight price received last year (\$1.40/lb.).

Cost of Grass

The second part of the survey was designed to understand the cost of producing grass which then becomes part of costs of producing calves and/or raising calves to finish weight. Table 3 indicates the range of diversity represented by the respondents' enterprises.³ The range of values between respondents is quite wide. This seems to suggest a diversity of operations between those with extensive land operations and those who raise cattle more "land" intensively. The range of current values of machinery is probably accounted for in part by the fact that some of the respondents are mixed operations of cattle and crop enterprises. Thus crop farms probably carry

more and higher valued machinery assets that can be used in both crop and cattle operations. Finally, there is a wide variation in how respondents view their allocation of labor time between different aspects of their livestock enterprises.⁴

Further calculations estimated total annual costs per acre of producing grass. These were divided into fixed and variable cost categories. Fixed costs were calculated for machinery used in land fertility effort and weed control. Also, the opportunity cost of land based on respondent estimates of land rental rates for grazing are reported.

Variable costs of producing grass include annual operating costs of machinery for pasture management, fertility management, weed control and fence maintenance. Table 4 provides information of these calculations.

There is substantial variation between respondents' costs. Part of the differences can be explained because these are per acre estimates.

For instance, organic certification costs spread across larger farms and ranches gives a lower per-acre cost of certification. The average cost per farm was \$1,215 (median \$672, high of \$6,000 and low of \$500). Also, one might expect that larger farms or ranches may not undertake extensive fertility and/or weed control. Indeed, there were eight enterprises that did not have fertility expenses in 2007 and two that did not undertake weed control of any kind. Fence maintenance varies also because the cost was calculated based on the respondents' value of the labor for this activity which varied from a low of \$8.00 per hour to a high of \$30.00 per hour. The variation in land rental rate is surprising though it may reflect the fact that some respondents' farms/

⁴The high estimate of 70% of time spent on grass management appears to be a misunderstanding of the question, while the low value could be accurate as there are a few operations in the cooperative measurement that are quite small in terms of number of cattle produced and acres

| | Average | Median | High | Low |
|---|---------|--------|------|-----|
| How many cow-calf pairs did you raise? | 102 | 100 | 205 | 37 |
| How many calves did not make it to weaning (deaths)? | 4 | 3 | 15 | 0 |
| How many replacement heifers did you raise? | 22 | 20 | 74 | 1 |
| How many days to raise calves to weaning? | 223 | 222 | 300 | 145 |
| What is your average stocking rate (how many cow units per acre)? | 1.46 | 2 | 2 | .06 |

| | Average | Median | High | Low |
|---|-----------------|-----------------|-------------------|-----------------|
| Variable costs per cow unit | | | | |
| Pasture | \$76.76 | \$77.11 | \$336.26 | \$0.08 |
| Supplements and minerals | \$11.94 | \$4.33 | \$50 | \$0.43 |
| Fed hay | \$137.18 | \$114.36 | \$461.25 | \$1.77 |
| Veterinary | \$10.21 | \$6.88 | \$27.03 | \$4 |
| Machinery operation | \$19.48 | \$5 | \$72 | \$1.50 |
| Insurance | \$15.73 | \$10.71 | \$116.63 | \$0 |
| Property taxes | \$11.78 | \$6.43 | \$26.06 | \$0.32 |
| Interest (opportunity cost at 5%) | \$13.96 | \$8.89 | \$52.34 | \$2.76 |
| Labor | \$214.37 | \$180 | \$486.49 | \$140 |
| Total variable costs | \$511.56 | \$367.92 | \$901.26 | \$239.92 |
| Fixed costs | | | | |
| Machinery, equipment, fences | \$46.62 | \$31.11 | \$201.80 | \$0.56 |
| Bull depreciation/replacement | \$10.27 | \$2 | \$60 | \$0.56 |
| Total fixed costs | \$57.09 | \$38.92 | \$211.26 | \$4.06 |
| Total all costs | \$568.65 | \$461.87 | \$1,093.53 | \$253.99 |
| Expected average calf weaning weight (lbs) | 528.67 | 550 | 425 | 650 |
| Break-even price for all costs (\$/lbs) | \$1.07 | \$0.89 | \$1.82 | \$0.60 |

ranches are in areas feeling pressure on land values from non-agricultural interests.

Table 5 presents average variable and fixed costs and an estimated grass price. It is important to note the wide variation in grass productivity between respondents. The survey asked how pounds of hay per acre their pastures or range would produce. For farms and ranches that are

land extensive (large total acreage) the lower per acre productivity is compensated by more acres. For the relative land intensive (smaller total acreage) farms and ranches it appears the grass productivity is higher. Two of the respondents did indicate that they had the ability to irrigate more than 50% of their pastures and this seems to account for some of the higher average grass productivity. The average grass price suggests a cost of production of about \$100 per ton of organic hay which is realistic to local prices of organic hay.

The higher grass cost producers are very high and certainly skew the average. One of the higher cost farms did have a very high opportunity cost of land as well as fairly high fertilization expenses. The second highest cost producer in the sample also had high fertility

cost as well as high costs associated with fence maintenance. These could be errors in the respondents understanding the questions or unique situations where a major fertilization or fence repair (replacement) was undertaken in the 2007 fiscal year.

Costs of Raising a Calf to Weaning Weight

Members of the cooperative in 2007 raised and sold calves at weaning (cow-calf), bought calves and raised them to finish (feeders) or did some of both (mixed). Of those responding, 11 were cow-calf operations, 5 were mixed operations and 2 were only feeders.

Table 6 provides information on the cow-calf operations. The most striking figure is the stocking rate which, again, demonstrates the differences between members of the cooperative which operate land extensive operations (low stocking rates) versus those that raise cattle in a relatively land intensive way (high stocking rates). Again the highest stocking rate (4 cow units per acre) is a member who has the option of using irrigation to gain high grass productivity.

The variation in days to raise calves to weaning seems high given that most of the respondents are in generally the same region of Montana and perhaps raise similar breeds. Table 7 provides information on the cost of production of calves divided in to variable and fixed costs. The data is presented in per cow unit (mother and calf) and thus some variation is related to costs spread over various herd sizes. Again, there is a very wide variation between respondent costs. With a break even cost that ranges from \$ 0.60 to \$1.83 per lb.

The wide variation on the cost of pasture seems

| | Average | Median | High | Low |
|--------------------------------------|-------------------|-------------------|-------------------|-----------------|
| Variable costs | | | | |
| Feeder calf | \$863.70 | \$863.70 | \$1,171.64 | \$593.77 |
| Feed | | | | |
| <i>Fed hay</i> | \$153.99 | \$144 | \$270 | \$28.69 |
| <i>Pasture/grazing</i> | \$176.87 | \$208.14 | \$249.89 | \$73.18 |
| <i>Supplements</i> | \$22.13 | \$12 | \$90 | \$0 |
| Interest on feeds - opportunity cost | \$15.21 | \$13.03 | \$25.21 | \$11.16 |
| Interest on calf - opportunity cost | \$38.60 | \$39.16 | \$64.87 | \$38.04 |
| Veterinarian | \$6.19 | \$1.39 | \$42.86 | \$0 |
| Machinery operation | \$6.33 | \$1.39 | \$35.71 | \$0 |
| Property tax | \$25.65 | \$6.61 | \$134.45 | \$0 |
| Insurance | \$6.46 | \$1.59 | \$35.71 | \$0 |
| Marketing and misc. | \$3.66 | \$0.27 | \$21.43 | \$0 |
| Other | \$5.34 | \$0 | \$35.71 | \$0 |
| Labor | \$183.49 | \$85.95 | \$642.86 | \$4.99 |
| Fixed costs | | | | |
| Machinery and equipment | \$64.65 | \$25.45 | \$285.71 | \$1.09 |
| Total all costs | \$1,549.45 | \$1,372.49 | \$2,934.65 | \$992.20 |

to, in part, relate back to the land intensive versus land extensive operations in the sample. The highest pasture cost is associated with one of the smallest operations (number of cattle raised and acreage) and one of the lowest stocking rates and lowest weaning weights. Thus it appears that pasture costs are high because of low productive grass and costs spread over limited acreage. However, there are significant differences in costs of fed hay, insurance and labor. Labor differences were wide with estimates of per hour labor costs ranging between \$6.00 to \$18.00 dollars. Insurance variation seems to have been skewed by one survey that estimated total farm insurance to be almost a total of \$24,000, significantly higher than the average cost per farm of \$2,369. The low fed hay costs appears to be an error where the respondent claimed only 1.1 tons of total fed hay for the year and may have meant 1.1 tons per cow unit per year.

| Table 9. | | | | |
|---|-------------------|-------------------|-------------------|-----------------|
| Cost of raising calves per calf minus high-cost producer | | | | |
| | Average | Median | High | Low |
| Variable costs | | | | |
| Feeder calf | \$825.21 | \$815.35 | \$1089.65 | \$593.77 |
| Feed | | | | |
| <i>Fed hay</i> | \$140.74 | \$144 | \$270 | \$28.69 |
| <i>Pasture/grazing</i> | \$168.45 | \$174.34 | \$249.89 | \$73.18 |
| <i>Supplements</i> | \$23.64 | \$14.25 | \$90 | \$0 |
| Interest on feed - opportunity cost at 5% | \$13.96 | \$12.89 | \$23.52 | \$11.16 |
| Interest on calf - opportunity cost at 5% | \$35.32 | \$38.75 | \$54.48 | \$29.69 |
| Veterinarian | \$1.61 | \$1.20 | \$5 | \$0 |
| Machinery operation | \$2.66 | \$1.32 | \$12.50 | \$0 |
| Property tax | \$19.48 | \$5.40 | \$134.45 | \$0 |
| Insurance | \$2.81 | \$0.69 | \$16.25 | \$0 |
| Marketing and misc. | \$1.44 | \$0.18 | \$7.50 | \$0 |
| Other | \$1.54 | \$0 | \$35.71 | \$0 |
| Labor | \$126.07 | \$60.48 | \$640.00 | \$4.99 |
| Fixed costs | | | | |
| Machinery and equipment | \$37.01 | \$21.75 | \$128.42 | \$1.09 |
| Total all costs | \$1,376.30 | \$1,273.87 | \$1,911.71 | \$992.20 |

Cost of Raising Calves to Slaughter Weight

There is considerable variation in the costs of raising calves to slaughter weight among the cooperative members. Table 8 provides information regarding variable and fixed costs per calf raised. Of course, one of the major costs to raising a calf to an adult animal is the cost of the calf. While the median and average cost of a calf are close implying a normal distribution of calve costs, the high cost of calves for some feeders were significantly higher than the average. The costs of fed hay, pasture/grazing, property tax, insurance and labor show significant variation. The variation can in part be attributed to one respondent who raised the smallest number of calves (14) yet had

significantly higher across the board expenses than the other respondents.

If this high cost producer is removed from the sample we see the variation reduce significantly (Table 9). Having one member of the cooperative with particularly high costs is important information for the cooperative to know. However, for the remaining analysis we excluded this producer. Even with this producer removed from the sample it is important to note that variation still remains. It is important for the cooperative members to explore the sources of these variations

in costs and seek educational programs to assist members to further reduce costs.

The average and median profitability of the cooperative members who raise feeder calves in 2007 was \$163 and \$266 per head respectively (Table 10) based on the average price the cooperative received for live-weight slaughter cattle (\$1.40 per lb.). This amounted to between a 17 to 21 % return on all costs. Still, two of the cooperative members that raised feeder calves operated at a loss. For all members who raised feeder calves a price of at least \$1.74 per lb. would have been needed to assure that all members at least covered costs. It is important to note that this profitability level includes opportunity costs related to ownership of land,

interest on feeder cattle and feed. Therefore, estimates that are true economic profits and not simply profit as defined as cash income related to cash costs. For example, if the opportunity costs of land, interest on feeder cattle and feed were removed, average cash return for cooperative members would raise to \$213 per head.

Summary

The responses from this sample of the MOPC membership reveal important information for future price planning. First, at last year’s live weight price of \$1.40 per lb. most members were making a profit. Also, organic calves provide a return to cow-calf operations if they on average can sell their calves for somewhere between \$0.89 and \$1.07 per lb. Feeder operations in the coop were buying organic calves at an average price of \$1.28 (\$1.42 median) per lb. so the market for organic calves seemed profitable in 2007.

There is significant variation in costs between members. As noted, some of these costs are less amenable to change than others. For example, land costs are hard to change because moving the operation to places where land costs are less expensive is not easily done. Other differences are explained by those who run land extensive operations (few cattle on lots of less productive range) and land intensive operations (more cattle on less relatively more productive range/pasture).

Variable costs associated with machinery operation, fertilization, weed control, fed hay, supplements seem to be more controllable and could be the basis of future discussion among members. One of the distinct advantages of a cooperative is that, with growing trust and openness, members can share their different approaches to cattle production and how they may lower costs.

| | Average | Median | High | Low |
|--|----------|----------|----------|------------|
| Profit per head | \$163.07 | \$266.13 | \$547.80 | (\$376.71) |
| Break-even selling price for all costs (\$/lbs) | \$1.25 | \$1.16 | \$0.90 | \$2.67 |
| Percentage return on all costs at \$1.40 per pound | 17% | 21% | 56% | (20%) |

Comparison with Other Studies

Table 11 offers a comparison of the results of this study with that of work by Acevedo et al. (2006). It is important to note that the Acevedo study is largely not based on actual farm data but rather is based on a simulation model.

However, despite this difference in approach, it is significant to note the broad similarities in outcome. There are however, important exceptions:

- Feeder weights and cost of production are higher for the MOPC members than conventional and Midwest organic grass-fed beef producers.
- Total feed costs are much lower than Midwest organic grass-fed producers and much closer to Midwest conventional costs.
- Operating machinery costs are much less for MOPC members.
- Labor costs are much higher for MOPC members. This may be because MOPC members were asked what they would pay themselves to this work and the hour average was \$17.25 per hour. The Midwest ISU study does not provide information on per hour labor costs.
- Marketing costs were much less for MOPC members and is probably due to the fact that the cooperative is largely responsible for the marketing which is done for all members.
- The expected price (the actual price received by members in the cooperative) was higher for MOPC members than for the Midwest organic grass-fed producers.

The Evolving Market

The certified organic grass-finished beef market is a small but expanding market segment.

⁶Alternative beef incorporates grass-fed and finished and organic grain- and grass-fed beef.

⁷ See the USDA Web site <http://www.ers.usda.gov/Data/Organic/> to review this data.

| Table 11. Cost comparisons | Midwest | MT | Midwest |
|-------------------------------------|----------------|----------------|----------------|
| | ISU-OGF | NCAT OGF | ISU-CON |
| 1. Variable costs | | | |
| Feeder weight (lbs) | 425 | 559 | 475 |
| Feeder cost of production (lbs) | \$1.43 | \$1.47 | \$1.29 |
| Total feeder cost | \$607 | \$822 | \$614 |
| Days post weaning | 366 | 322 | 303 |
| Total feed costs | \$610 | \$323 | \$294 |
| Interest on feeder at 8% | \$49.32 | \$66 | \$41.32 |
| Interest on feed at 8% x 0.5 | \$24.81 | \$33 | \$9.90 |
| Veterinary and health | \$3 | \$6.19 | \$15 |
| Machinery and equipment | \$10.50 | \$2.66 | \$7 |
| Marketing and misc. | \$16 | \$1.44 | \$16 |
| Other costs | \$3.89 | \$1.54 | \$2.59 |
| Labor | \$20.59 | \$126 | \$17.04 |
| Total variable costs | \$1,345 | \$1,382 | \$1,017 |
| 2. Fixed costs | | | |
| Machinery, equipment, housing * | \$22.88 | \$37.01 | \$18.94 |
| Total all costs | \$1,368 | \$1,419 | \$1,036 |
| 3. Income | | | |
| Expected slaughter weight (lbs) | 1029 | 1100 | 1401 |
| Minus death loss (transport) | 0.75% | 0.75% | 0.75% |
| Dressing percentage | 61% | 61% | 63% |
| Carcass weight (lbs) | 623 | 666 | 876 |
| Expected carcass price (\$ per lbs) | \$2.18 | \$2.18 | \$1.26 |
| Gross income | \$1,358 | \$1,452 | \$1,103 |
| Profit per head | (\$10) | \$33 | \$67 |
| Price needed to cover total costs | \$2.20 | \$2.33 | \$1.18 |

*NCAT study did not include housing costs

According to Gwin (2006, p.5): “alternative beef is ... a tiny fraction of total beef production, accounting for fewer than half a million cattle per year, approximately 1.5% of the 33 million head conventional market. Alternatives are limited to specialty markets for an elite consumer base living in only certain regions or willing to pay for expensive mail-order beef.”⁶ According to the most recent data available from the USDA, there

were 36,113 certified organic beef cows in the United States in 2005.⁷

This is up from 6,796 certified organic beef cows in 1992. However, it is difficult to know just how many of these cattle were ultimately sold as grass-finished.

Maverick Ranch (one of the larger organic beef producer/distributors) related that they sell about 10,000 lbs. of organic grass-finished ground beef and steaks a week. If we assumed an approximate 330 lbs. of meat sold per live animal delivered (as we do below) this might represent approximately 30 head of cattle per week and 1560 head per year. Thus, since Maverick Ranch is one of the few large distributors to major retail stores of certified organic grass-finished beef, this is suggestive that the certified organic grass-finished market segment is quite small compared to total organic beef available to market.

In order to get a better handle on the smaller segment of the certified organic beef market that is exclusively grass-finished, an Internet search was undertaken to identify producers/distributors, wholesalers/retailers of certified

organic grass-finished beef.⁸ This effort resulted in the identification of twenty-nine such entities. Of those 29, 16 provided some pricing data on their beef as sold directly to consumers. Following the identification of these entities a brief (4 question) email survey was undertaken from which only 5 responses were received. Table 12 provides the price data for the seventeen that offered direct sales over the

⁸Obviously, this is a limited survey because one cannot make the assumption that all sellers of organic grass-finished beef have an Internet presence.

**Table 12.
List of producers/buyers**

| Company | NY strip | Tenderloin | Rib eye | Hamburger | Stew/ stir fry | Roasts | Quarter | Half | Whole |
|------------------------------|---------------------|------------|---------|-----------|-------------------|--------|---------|--------|--------|
| Eel River Organic Beef, Inc. | P, D, R \$30 | \$40 | \$21.40 | \$21.40 | \$6.99 | \$6.99 | | | |
| Genese Valley Organic | P, D \$28.65 | \$44 | \$25 | \$7.50 | \$8.75 | | \$5.57 | \$8.32 | |
| Golden Valley Natural | P, D, DR \$20 | \$25 | \$18 | \$7 | \$6.79 | \$3.72 | \$5.99 | \$5.89 | \$8.77 |
| Masut Organic Farms | P, D | | | | | | \$8 | | |
| Maverick Ranch | P, DR, B | | | \$4.54 | | | | | |
| Nick Ranch Gourmet Beef | P, D | | | \$6.75 | | | | | |
| PL Bar Ranch | P, D, DR \$12.25 | \$16.25 | \$15.50 | \$3.50 | \$4.25 | \$4.75 | | | |
| Pure Prairie Organic Beef | P, R | | | \$9.50 | | | | | |
| Rocky Mountain Custom Cuts | P, D \$25.38 | \$28.76 | \$25.60 | \$5.25 | \$9.77 | \$7.89 | \$8 | \$8 | |
| Skagit River Ranch | P, DR \$6.11 | | | \$6.11 | | | \$6 | \$5.75 | \$4.58 |
| Wallace Farms | P, D, DR \$5.50 | | | \$5.50 | \$8 | \$7 | | | |
| Walnut Creek Organic Ranch | P, D \$15 | \$18 | \$14 | \$5.50 | \$3 | \$4 | \$3.10 | \$3 | |
| West Wind Farms | P, D, DR \$20 | \$22 | \$19 | \$4 | \$6 | \$8 | | \$5.65 | \$2.98 |
| Wholesome Harvest | P, D \$18.75 | | \$20.70 | \$8.55 | \$9 | \$8.62 | | | |
| Kezialain Farm | P, D \$5.50 | | | \$5.50 | | | \$4.25 | \$4.24 | |
| Backbeyond Farm | P, D \$3.90 | | | \$3.90 | | | \$3.90 | \$3.90 | |
| Averages | \$21.23 | \$27.72 | \$19.02 | \$5.90 | \$6.95 | \$6.37 | \$6.03 | \$5.60 | \$5.44 |
| # reporting prices | 8 | 7 | 8 | 13 | 8 | 8 | 9 | 8 | 3 |

Table 13.
Pricing a single certified grass-fed beef

| | Lbs. | Price/lbs. | Total value |
|---------------------------|-------|------------|-------------|
| Live animal weight | 1,000 | | |
| Tenderloin steak | 13.2 | \$26.75 | \$353.10 |
| New York strip steak | 15.4 | \$21.24 | \$327.10 |
| Rib-eye steak | 26.4 | \$19.02 | \$502.13 |
| Stir-fry/cubes | 8.8 | \$6.95 | \$61.16 |
| Round roast | 75.9 | \$6.37 | \$483.48 |
| Ground beef | 190.3 | \$5.90 | \$1,122.77 |
| Total meat | 330 | | \$2,849.74 |

Based on average prices

Table 14.
Pricing a single certified grass-fed beef

| | Lbs. | Price/lbs. | Total value |
|---------------------------|-------|------------|-------------|
| Live animal weight | 1,000 | | |
| Tenderloin steak | 13.2 | \$44 | \$580.80 |
| New York strip steak | 15.4 | \$28.65 | \$441.21 |
| Rib-eye steak | 26.4 | \$25.60 | \$675.84 |
| Stir-fry/cubes | 8.8 | \$9.77 | \$85.98 |
| Round roast | 10 | \$759 | \$483.48 |
| Ground beef | 190.3 | \$8.55 | \$1,627.07 |
| Total meat | 330 | | \$4,169.89 |

Based on highest prices

Internet and provide price information.

As our survey and market research has indicated, organic certified grass-finished beef producers need a price for their animals of somewhat greater than \$2.20 per lb. hanging or carcass weight. However, this price is prior to costs of slaughter, cutting, packaging, labeling, marketing and transportation of a “finished” product ready for the end consumer. Also, as cattle leave the farm or ranch they are “fabricated” into several cuts (steaks, hamburger, roasts, etc) each with a different per pound prices (not to mention other valuable ‘co-products’ such as leather, offal, bone, blood, etc.).

Direct Market Value-added

If we assume (as we have above) that the farmer/rancher delivers an 1100-lb animal for slaughter and the farmer/rancher receives \$2.20 per lb. of hanging/carcass weight then the producer receives \$1,452 for the animal. We are assuming as above a carcass/hanging weight of 660 lbs. For those in our Internet sample that offered whole animals for sale the average price was \$5.44 per/lb. of hanging/carcass weight. With an assumption of a 660 lb. carcass, that would be a gross income of \$3,590. This added-value does not include the costs of slaughter, cutting, wrapping, freezing, storage, etc. Thus, it is hard to say how much of the additional \$2,138 of gross income represents additional profit.

If the farmer/rancher were to sell the beef by “cuts” directly to consumers, Table 13 provides insight into what gross income could potentially be garnered. By selling “cuts” vs. whole animals directly to consumers based on the average cut prices found in our survey (Table 12), the gross income is \$2850 which is less than selling whole animals because with cuts we are assuming that only 330 lbs. of the 1100-lb. live animal actually ends up as various cuts.¹⁰ Hence, 330 lbs of the carcass not ending up as “cuts” is not accounted in the total value of the carcass, which we assume has additional values (for instance if the direct marketer sells leather, bones, blood, etc.). Also, it is important to note that the average price used is based on a sample of three values which vary widely.

On the other hand, if we were to assume that the farmer/rancher that is direct marketing could achieve the highest prices based on our Internet survey and if all cuts were sold, then the gross income from sales of all cuts from one animal would be \$4,170 (Table 14). This is a higher value than the whole animal value based on average prices offered.

In addition to this analysis of direct marketing

¹⁰This 30-percent of live-weight estimate and distribution of cuts is drawn from “How to Direct Market Your Beef” by Jan Holder. It is part of the Sustainable Agriculture Network Handbook Series Book 8, and the information appears on pages 12 through 17.

to consumers, we also did garner limited information from our email survey (only 5 respondents):

1. In general those who purchase organic grass-finished beef for later re-sale to retailers or consumers do not want to share information about what price they pay for organic beef. For example, the response from Dakota Beef (who are organic grain finished beef producers) was “not interested”.

2. All expressed the idea that the volume of business was growing.

3. Three of the five respondents did suggest that a slowing economy was forcing customers to cheaper products (organic steaks to organic hamburger as well as to non-organic products)

4. One respondent who only buys the “top Round Cap” off of certified organic grass-finished beef to make organic deli meats noted a rise in price paying \$2.65/lb. last year and \$3.35/lb. four months ago.

5. Maverick Ranch said that its organic grass-finished ground beef is selling for \$6.99/lb. in Safeway, Kroger and Publix supermarkets and this is a 30 to 40 % mark-up over their price (~ \$4.54 lb.)

6. Verde Farms, which sells certified organic beef that is “pasture-raised” under its own brand (Verde Farms) both on-line and to retail stores, sources product from processors both domestic and international (Uruguay and Australia) and is experiencing growing demand.

Tentative Value Chains

The diagrams below provide what might be called tentative value-chains for certified organic grass-finished beef.

1. Farmer/Rancher → whole beef → “Market”

Can profitably sell live animal for \$1,402- \$1,405 (based on this and ISU study)

This is what MOPC did last year more or less. “Market” is any entity that can buy live animals off the farm/ranch.

2. Farmer/Rancher → whole beef → consumer

Farmer/Rancher direct sells whole animal to

consumer for an average price of \$ 3,590.

This price represents gross income returned to Farmer/Rancher which assumes it represents a profitable return. This is based on only three data points.

3. Farmer/Rancher → “retail cuts” → consumer

Farmer/Rancher direct sells retail cuts to consumers and receives gross income from sales estimated to be \$2,850 to \$4,170 per whole beef. This value is gross income and does not represent value of co-products (hides, blood, offal, bones, etc.) which are generally not sold as retail cuts.

4. Farmer/Rancher → Processor/Distributor/Wholesaler → retail store → consumer

We don’t really have good data for this value chain. With the information from Maverick Ranch we can construct this value chain for organic grass-finished hamburger.

Maverick Ranch sells its burger to retail stores for about \$4.54/lb. and the consumer pays \$6.99/lb.. We don’t know what Maverick Ranch pays for whole beefs or for hamburger from its farmer ranchers. However, if we assume that a producer can sell a whole organic grass-fed beef at a profit for \$1,403 (value chain 1 above) and that hamburger represents about 17% of the value of the beef then the burger represents about \$239 of the total (17% x \$1403). Since that represents about 190 lbs of burger, then the value of the burger to the farmer/rancher is about \$1.26/lb. So the final value chain is the Farmer/Rancher gets (profitably) about \$1.26 for its burger, the “processor/distributor/wholesaler gets \$4.54/lb. (gross value, not profit) and the retailer gets \$2.45/lb. (gross value, not profit) and the consumer pays 6.99/lb.

Summary

According to USA Today, organic industry executives believe that the loyalty of core organic consumers will keep the organic market strong overall, even if sales growth has slowed compared to past years. Slowed growth in organics reflects not only cuts in spending by current organic consumers but also a slower

rate of adoption by new organic consumers. However, a May survey of 1,000 people by Information Resources found that 52 percent were buying fewer organics because of cost. (Jill Richardson, AlterNet, August 29, 2009)

Though we do not have sufficient information, it is probably safe to assume that the organic grass-fed beef market segment is largely occupied by those who direct sell to consumers either in larger volumes (quarters, halves, wholes) or as cuts (value chains 1-2) or a both. There are very few businesses that have entered into providing organic grass-finished beef through the existent retail store infrastructure (Maverick Ranch and perhaps Whole Foods are the exceptions).

Part of what is called value-chain analysis, has a lot to do with understanding where value is extracted or more simply, “who makes the money?” In terms of the MOPC, we generally have confirmed that the average member is making a profit, but that there are some members who aren't. If the “market” could provide a price above \$1.40/lb. live weight for animals off the farm/ranch, which would be ideal for members as reflected in 2007 cost structures. From our value chain analysis the “market” should be able to provide that level of pricing.

Looking at the limited “hamburger” analysis, it is interesting to note that the farmer/ rancher gets about 18% of the value of the final consumer product, the “middle-men” get about 47% of the value and the retailer gets about 35%. Is this a fair distribution of the value? Is one segment able to exert more value from the total chain than another? Considering that the 18% of value to the farmer/rancher appears to be a roughly profitable level and because we don't know how profitable the other segments in the chain are, and then it is very hard to know fair distribution without more and better information and further study.

Recommendations

1. The cooperative should continue to monitor its members' costs of production. This study

shows wide variation in costs (and hence profitability) among members, some of which can be changed through self-education and sharing of information. Using and improving the “survey tool” as a means to do this is one future avenue of activity.

2. Use this information as a means to improve your bargaining power with potential buyers. Insist on prices that at least keep members in generally profitable. Try to get buyers to justify their prices.

3. Expand your efforts with OFARM. This small analysis suggests that Midwest organic grass-fed producers are less profitable than MOPC at a given price. Does this mean you “steal” their market or you band together to insist on prices that makes all of you profitable? It is obvious that OFARM would push the latter.

4. Continue to monitor the market generally. In this research we only found two business entities that openly suggested it sources product from international markets. However, Whole Foods did not respond to our inquiries and we did find competition from some entities that sell natural, pasture-raised but not organic products from international sources.

5. Watch the larger actors in the organic beef market. It appears that the larger actors in the organic beef market are those that sell grain finished beef. The recent alliance between Dakota Beef and Organic Valley in the grain-finished beef market will mean that these actors will have a strong influence on market price even in the grass-finished market.

6. Watch what happens in the grass-finished and natural beef markets. While there is some segment of the market that will insist on organic and grass-finished product, there is also a segment that will easily shift to “natural” product given prices.

7. Try to better understand the geographic focus of your efforts. Does MOPC want to sell its product regionally, nationally, internationally? While this may not be a concern currently for MOPC, in working with OFARM this may become a larger issue.

This is an exciting and dynamic market segment and there does appear to be paths to a better share of the meat dollar going to the producer if this market is carefully developed. While Gwin (2006) wrote an excellent thesis on the alternative beef market her words and questions pose important thought for MOPC members' future consideration:

"In 10, 20, 50 years, what will the alternative beef sector look like? Though there will likely always be some independent producers, marketing their beef through local and direct channels like farmers markets and subscription programs, it is possible that natural, organic, and grass-fed beef could be largely taken over by today's conventional beef producers. Natural is the most likely of the three to go this route – indeed, that steer is already out of the barn. What are the implications of this trend?"¹¹

¹¹ Gwin, Lauren 2006. *New Pastures, New Food: Building Viable Alternatives to Conventional Beef*. Unpublished dissertation, University of California, Berkeley.

Building a Montana Organic Livestock Industry

Montana Organic Producers Cooperative

Final Report Growth Through Ag Project

Jeff Schahczenski, Program Specialist, NCAT
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