

Dairy Growth and Development Study

**Legislative Bill 941, 103rd Legislature, Second Session
Signed into law March 28, 2014**

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Background and Study Overview

The Nebraska Department of Agriculture (Department) submits this report as required by LB 941, signed into law by Gov. Dave Heineman on March 28, 2014.

Legislative Bill 941 charged the Department with analyzing the state's dairy industry in terms of the quantitative and qualitative characteristics of milk production and milk processing, the relationship between milk supply and processing, opportunities for expanded milk production, and to examine Nebraska's effort and competitiveness in encouraging and maintaining milk production and processing.

The bill divided the study in two sections. Section 1 has seven specific subsections. To gather the data necessary for this task, the Department conducted a survey of the state's 195 licensed dairy producers. These are producers who are licensed by the Department under the Nebraska Milk Act. The Department also attempted to interview all dairy processors whom use Nebraska milk. There are 10 in-state processors as well as four key processors outside of the state's borders.

The Department contracted with the University of Nebraska-Lincoln for assistance in completing this study. They were consulted on methodology for surveying producers and aided in distributing the survey through their Rural Poll infrastructure. They analyzed the survey materials, the results of which can be found as an addendum to this report. UNL researchers also participated in the personal interviews with the processor representatives who agreed to participate in this effort.

All of the 195 licensed dairies were sent an eight-page survey; of these we received responses from 61 producers, or roughly a third of the licensees. For the study we divided farms by the number of cows; 1,000 cows and higher, 500-1,000, 100-499, and 99 or fewer. The respondents were asked to identify their farm size by this standard. From a Midwest Dairy study earlier in 2014 we gathered that there are 14 farms with 1000 or more cows (5 responses, 36%), 14 farms with 500-999 cows (6 responses, 43%), 66 farms with 100-499 cows (18 responses, 27%), and 101 farms with 99 or fewer cows (31 responses, 31%). In terms of overall response and response within each farm size, we were pleased with the participation and input.

The survey asked a variety of questions and was formatted to have multiple choice questions, as well as open-ended questions where producers could write anything they wanted. The survey was organized into questions about the producer's production, markets, current production capacity, future expansion plans, Nebraska business environment, support for the dairy industry, and future dairy growth. The survey has a total of 42 questions and can be found as an addendum to this report.

Because of the variety of products Nebraska dairy processors make and the diversity in how they operate, we decided to conduct interviews with processors rather than a paper survey. Of the 10 licensed in-state dairy processors, seven met with us either in person or via phone for interviews, one provided written feedback and two did

not respond. Three of the four out-of-state processors participated in interviews with us for this report. The questions for the processors were similar in nature to the producers; we asked about their current business production, their desire to expand, how they marketed their products, future expansion plans, Nebraska business environment, and future growth plans.

Other key sources of information for this study include Rod Johnson with the Nebraska State Dairy Association/ Midwest Dairy, and Jeff Keown, PhD, UNL Dairy Extension Emeritus.

Section 1 covers specific questions about the past and current state of the dairy industry in Nebraska as well as in neighboring states and national trendsetters. Throughout these subsections historical data is mixed with information from producer surveys and processor interviews.

Section 2 covers recommendations on how to move Nebraska's dairy industry forward.

Executive Summary

Five thousand dollars (\$5,000) per year; that is the economic impact that one dairy cow has on a Nebraska community, according to Nebraska Public Power District economists. Taken a step further, Nebraska's 55,000 dairy cows generate \$275 million annually in local economic activity, and this figure does not include the value added through activities at Nebraska's 10 milk processing plants.

The following study of the Nebraska dairy industry, as directed by LB 941, highlights dairy production trends and the value of the dairy industry, and compares those trends to other states. Ultimately, the study offers a current baseline for the industry in order to help evaluate possible next steps to support and grow dairy in the state.

Nebraska has 195 licensed dairy farms located, mainly, in the eastern half of the state. The farmers sell their milk through cooperatives or direct to a processor. The 10 in-state and four main out-of-state processors make a wide variety of products. These products are shipped to consumers in all parts of the United States and the world. While Nebraska does not have a "port" per se, our rail and interstate systems make our products mobile. The study highlights that with expected ongoing international export growth, there is room for Nebraska products to either move internationally or take market share that will open in the coastal states as products made in those areas increasingly are exported.

Because of Nebraska's population base, and current consumer trends, it is anticipated that market growth will more than likely be in milk-based products, such as cheese and yogurt, and not in fluid milk production. Almost all of the processors interviewed for this report indicated a positive outlook for the dairy sector, a positive outlook about dairying in Nebraska, and a desire to increase their production capacity, which means an increase in demand for milk.

In addition to opportunities for market growth, the study highlights the advantages Nebraska has for dairy farming as far as agricultural assets, such as feed resources, water resources and land for value-added use of livestock waste. Current dairy producers who were surveyed agreed these were critical advantages for the state. This point is perhaps supported by the survey data that indicates a number of farmers already are expanding their herds in Nebraska or are in the process of planning for an expansion.

Generally, producers and processors were positive about the future of the dairy sector in Nebraska. However, both also recognized some challenges, such as:

- A need for more markets for milk: Producers want more options for selling their milk; existing processors are in eastern Nebraska, so central Nebraska dairies are particularly challenged.

- Farm retention and growth: Dairying is a capital- and labor-intensive industry, and there is great concern about how to get the next generation involved to maintain and grow the sector.
- Farm expansion: There was some concern about the potential continued erosion of dairy infrastructure (such as equipment dealers, veterinary care) should dairy cow numbers continue to decline. Growth in the number of farms, whether it be from the expansion of existing Nebraska producers or recruitment of producers from outside of Nebraska, should help with this challenge.
- Incentives: More work needs to be done to raise awareness of the governmental incentives that are available, for both farmers and processors, even though many indicated this factor had a negligible impact on their decision to expand.

There has long been a debate about whether processing growth drives the addition of dairy cow numbers or whether growth in dairy cow numbers is needed before processors will move to the state. Those working on behalf of the dairy industry in Nebraska will tell you this conundrum has made it difficult to target efforts. However, based on the research conducted for this study, it appears the answer is that both must be pursued simultaneously if the Nebraska dairy industry is expected to slow the long period of decline in dairy cow numbers.

There is an opportunity to reverse this trend and grow the dairy industry. Existing dairies can grow and transition to a new generation and new farms can be built. All of that supports additional jobs and growth in rural communities and throughout Nebraska.

SECTION 1(a)

A quantitative and qualitative description of dairy production in Nebraska, including an overview on the numbers, sizes, and ownership characteristics of dairy operations in the state, current quantity and value of milk production, trends in milk production, and measures of productivity of dairy production in Nebraska.

The dairy industry in Nebraska has followed a path similar to other commodities. Once there were many small dairy farms operating mainly within their local trade area. As farms became more efficient and logistical challenges were solved, small dairies gave way to larger dairies and/ or the inefficient producers or those with no successor exited the industry. Nebraska dairy cow numbers peaked in 1934 with 820,000 cows producing 2.9 billion pounds of milk, with average milk production of 3,500 pounds of milk per cow per year. Today's dairy herd is much smaller, 55,000 head, producing just over one billion pounds of milk per year, but with an average production of over 21,000 pounds of milk per cow per year.

As a side note on dairy production, a gallon of milk weighs about 8.5 pounds and an average cow is milked about 300 days each year with about a 65-day dry period. An average cow produces about 70 pounds (8.2 gallons) per day that it is milked.

The dairy industry has some distinct infrastructure needs from other commodities. Milk cannot be stored for more than a few days and being mostly water, transportation is a challenge. As cow numbers have declined in Nebraska, some of the processing and other infrastructure pieces have disappeared. Rebuilding that infrastructure as cow numbers rebound will take time. Yet there is worldwide consumer demand for protein, including milk and milk based products. Nebraska is well positioned from a geographic and natural resource base to capitalize on this opportunity.

Overview of Dairy in Nebraska (Source: USDA NASS 2013)

55,000 cows

195 licensed farms

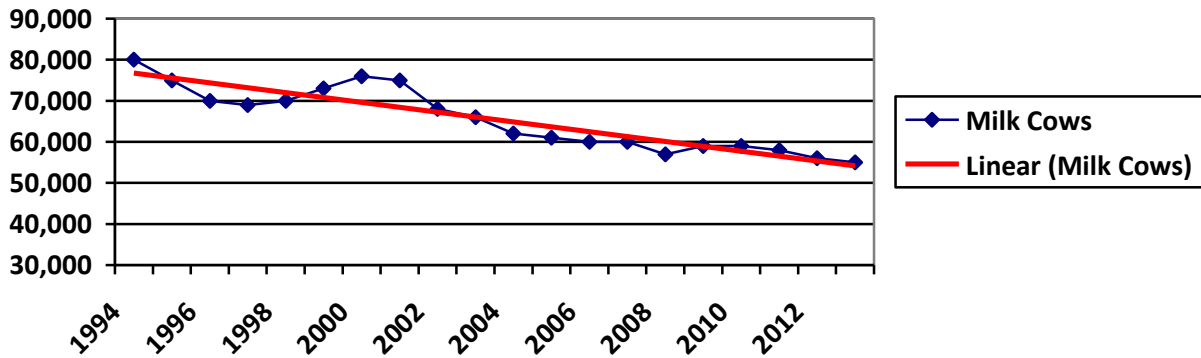
Total milk production – 1,165,000,000 pounds of milk

Total value of milk (farm value) - \$245,000,000

Dairy Cows in Nebraska

Since a peak of over 800,000 dairy cows in the state in 1934, Nebraska's dairy herd has shrunk steadily. In the past 20 years, there has been a 31% reduction in the herd. Many factors play into this from lack of profitability in past years to farms with no successor or high cost of updating facilities.

Nebraska Dairy Cow Numbers (source USDA NASS)

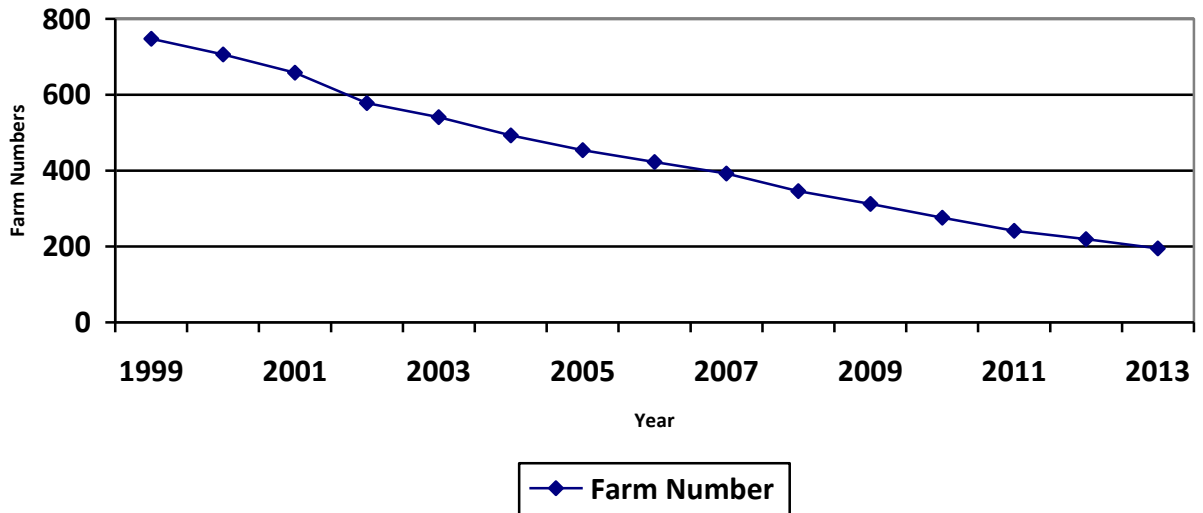


Dairy Farms

The number of licensed dairy farms in Nebraska continues a downward trend. USDA statistics from 1965 show 27,000 Nebraska farms that report having at least one dairy cow (earliest statistic in this category). That number has dropped steadily. In 2013 there were 195 licensed dairy farms. The past 15 years have seen dairy farm numbers drop by 553 farms, nearly a 75% loss.

Total number of licensed dairy farms and number change each year (source Nebraska Dept. of Ag (NDA))

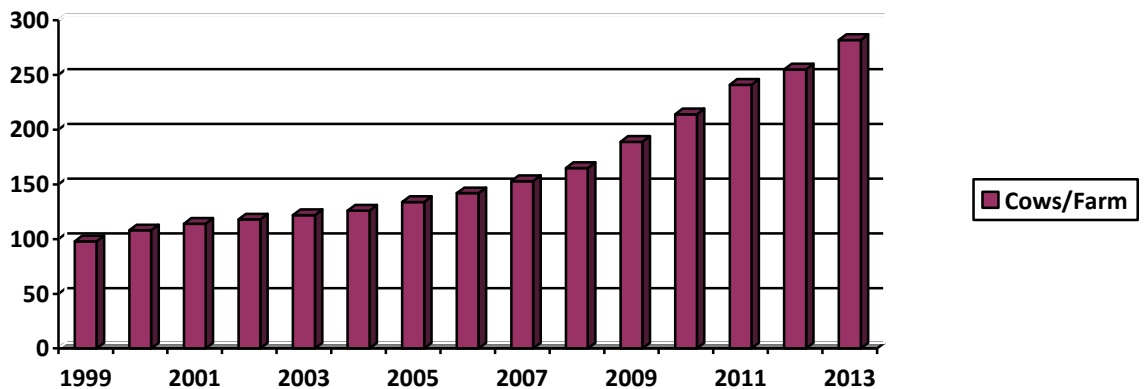
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
748	706	658	578	541	493	454	423	392	346	312	276	241	219	195
-42	-48	-80	-37	-48	-39	-31	-31	-46	-34	-36	-35	-22	-15	-20



At the same time dairy farm numbers and cow numbers have declined, the average number of cows per farm has increased. This reflects two trends, small dairies exiting the business and the construction of large dairies. Larger farms utilize modern genetics and intensive management practices to capitalize on improved cow performance and economies of scale in order to be profitable.

Average number of dairy cows/farm (source USDA NASS for cow numbers, NDA for licensed farm numbers)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
98	108	114	118	122	126	134	142	153	165	189	214	241	255	282



Nebraska's 195 dairies are comprised of many different sizes. There are a small number of large dairies, but they own the majority of the cows and produce over 50% of the milk.

Dairy sizes by number of cows (source Nebraska State Dairy Association)

Size Category	No. of Farms	% of total farms	total number of cows	% of total cow numbers	avg. cows/farm
1,000+ cows	14	7%	28,600	52%	2,042
500-999	14	7%	8,800	16%	628
200-499	23	12%	6,050	11%	263
100-199	43	22%	5,500	10%	128
99 or less	101	52%	6,050	11%	60
Total	195		55,000		282

Ownership Characteristics

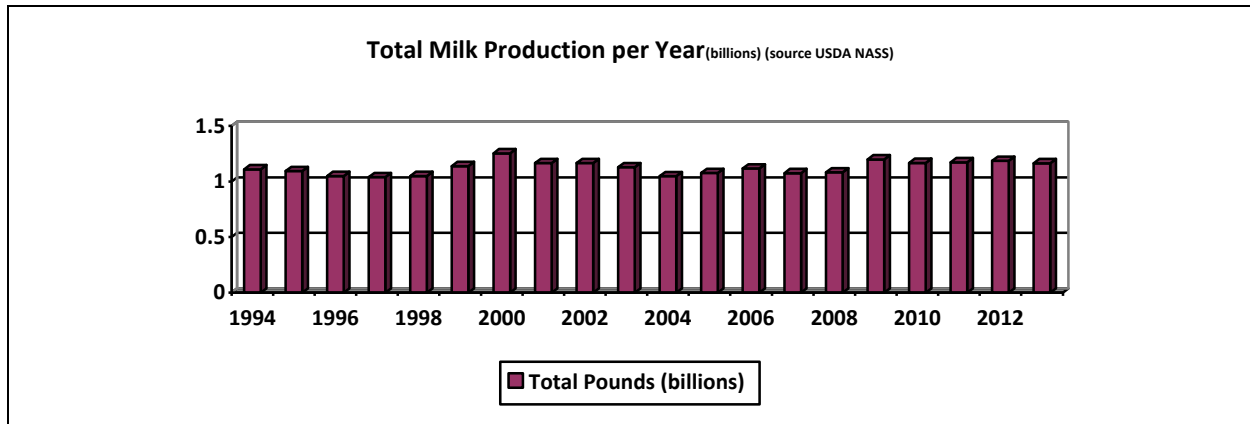
According to a 2014 report by Nebraska State Dairy Association, *The Dairy Industry in Nebraska*, all of the 195 dairy farms are owned by families that are actively engaged in the production and management of the farms. Organizational structures include corporations, limited liability corporations, partnerships, and sole proprietorships.

The average age of a Nebraska farmer, according to the 2012 USDA Census of Agriculture, is 55.7 years of age. In the dairy sector, the majority of principal operators are in the 45-64 age range.

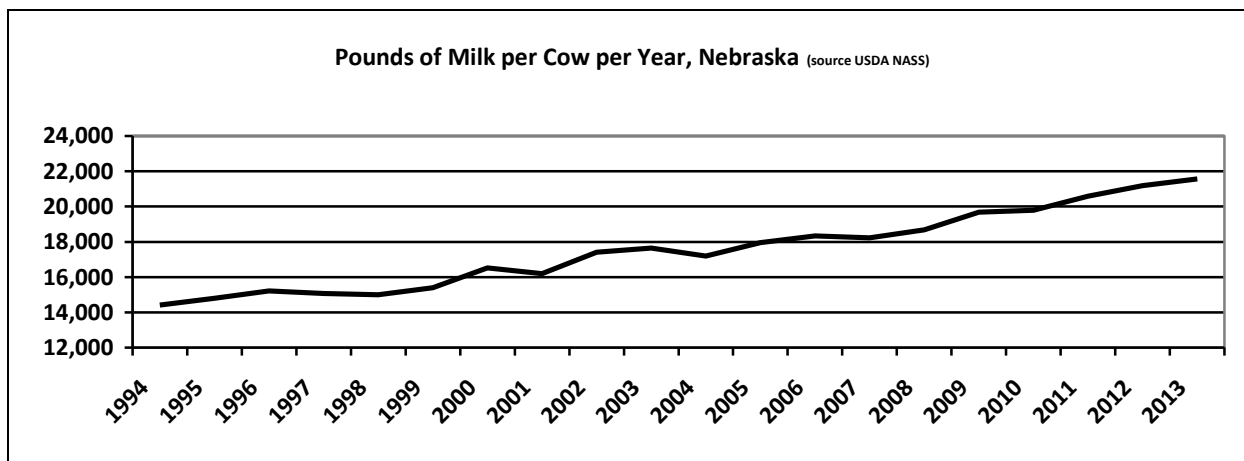
Age of NE Dairy Farmers	Number of Dairy Farms	Percentage (USDA NASS for ages, NDA for farm numbers) of all NE Dairy Farms
Under 25	0	0
25-34	8	4.3%
35-44	23	11.7%
45-54	73	37.0%
55-64	65	33.5%
65+	<u>26</u>	13.5%
Total	195	

Current Quantity of Milk Production

Total milk production in 2013 was 1.165 billion pounds. Total milk production has been stable and consistent for the past 20 years. Even as cow numbers have declined the productivity of the average cow has increased. This is due in large part to the improving management, minimizing stress, improving genetics, and improving nutrition.



Cow productivity, measured as pounds of milk per cow per year, has increased nationwide and Nebraska has been no exception. Nebraska farms have increased pounds of milk per cow by 50% over the past 20 years. Again, increases can be attributed to improvements in genetics, nutrition, and management.

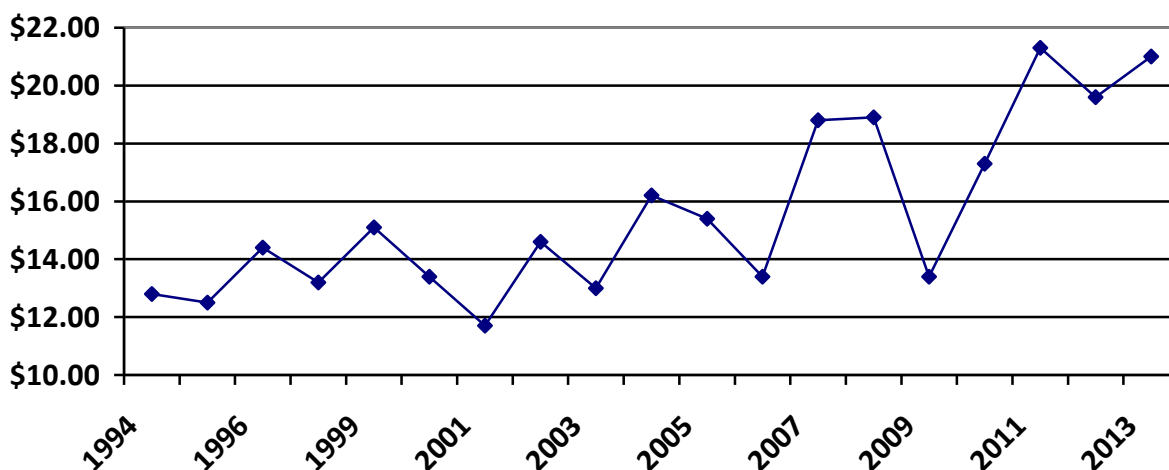


Current Value of Milk Production

Average milk price for 2013 was \$0.21 per pound or \$21.00/hundredweight (cwt). The total on-farm value of Nebraska's 1.165 billion pounds of milk in 2013 was \$245 million. The year 2013 was profitable for most Nebraska dairy farms. Like all producers of commodity products, some years are profitable and some years are not. For example, in 2009 the price of milk was \$13.40/cwt, well below the price of feed and other expenses. In those cases, a producer has to have enough cash reserve or equity to draw upon until they can get to profitable times or they run the risk of having to close the operation. On-farm milk prices over the past 20 years have been right around the average cost of production. As with most businesses, the more efficient farms will be profitable and less efficient farms will struggle to stay in operation.

The following graph shows milk prices in Nebraska over the past 20 years generally trending upward. What it does not show is the expense side of the equation. Feed, labor, and other inputs also have trended up over this same time period.

Price/cwt (source USDA NASS)



In recognizing the value of dairy on a local economy, it is important to recognize the intensive nature of a dairy. It is a cow/calf, feeding, and milking operation all under one roof. The labor needs and dietary requirements of dairy cattle are much higher than a beef operation.

The intensive nature of the dairy industry means that the economic impact on a local community is greater than with any other livestock operation. To see the full picture of how a dairy impacts a community, economists from Nebraska Public Power District have estimated that the average economic impact of a dairy farm on the local community is \$5,000 per cow annually. This means a 1,000 cow dairy has a \$5 million impact on their local economy every year. This analysis only includes local jobs, wages, purchases, and taxes.

In addition, economists with Iowa State University and with the University of Minnesota, in separate studies, have estimated the economic impact of a dairy cow at \$23,000 and \$25,000, respectively, when factoring in all the processing at a state-wide level. This would mean that a 1,000 cow dairy has between a \$23 million and \$25 million impact on the local and state economy every year. In researching for this report, NDA could not find existing economic data that quantifies the local and state annual economic impact in Nebraska.

Trends in Milk Production

An overview of dairy production trends is for fewer dairies with more cows in an enclosed environment barn and managed intensively. This has certainly played out in Nebraska, as well as nationally over the past decades, but there is a counter-culture to this trend. It is for small dairy farms to fill niche markets such as grass-fed and organic.

Dairy production in Nebraska has followed the national trend for fewer dairies with more cows. As previously noted, there are currently 195 dairies with an average of 282 cows on each dairy. This is a big change from 15 years earlier when there were 748 dairy farms with an average of 98 cows per farm.

However, changes in consumer preferences have given dairy farmers a different way to be profitable. Milk and milk-based products from grass-fed and/or organic dairies has grown in demand in the past decade. This gives a dairy an option to find profitability through marketing. In many cases, small dairies are in the best position to capitalize on this trend.

Dairies of all sizes utilize the latest technology to improve their profitability. One technology development that is showing merit is the robotic milking system (RMS). The RMS takes some of the human labor out of the milking chores. Cows are trained to come into the parlor on their own and are milked several times a day by the RMS. Human labor is still needed for feeding, management, and general health care of the animals, but automation reduces the overall number of employees needed. Labor is a challenge for all dairies, but a smaller dairy may not be able to justify hiring a full-time employee and in some rural areas there may not be anyone willing to do this type of work.

As the technology rolls out, the early adopters have mostly been the small-size dairies, under 300 cows. Small dairies generally rely on the immediate family to do the milking chores, every morning and every evening without fail. That is a lifestyle that more and more young farmers are less willing to take on. With the RMS taking care of the milking chores, the farmer is free to attend off-the-farm activities that they may not have been able to attend previously. That lifestyle flexibility makes continuing to operate the family dairy farm much more attractive.

The robotic technology is not a completely new development, just new to the United States. European dairy farmers have been utilizing this technology for over 20 years. It is estimated that there are around 20,000 units in operation on European dairies. By comparison, there are about 500 dairy farms using RMS technology today in the United States, including about 30 in Iowa.

There are not any robotic milking systems in operation in Nebraska today. It is not for lack of interest. There are several small producers who are attempting to purchase robotic systems and several more who have expressed strong interest. One issue is the companies that sell the systems do not have technology support staff in Nebraska and are hesitant to expand into Nebraska without proper support. However, there is still opportunity. Since there is a number of robotic systems operating in Iowa and Minnesota, equipment dealers in Nebraska are trying to work out arrangements that would bring the technology to the state.

The trend towards more milk per cow is holding true across all size operations in Nebraska. Management techniques, nutrition, technology, and genetics are all

improving. Big and small dairy operations can take advantage of the research that has supported this growth and improve their production.

Productivity

Measures of productivity for the dairy industry mainly involve how much milk a cow produces over a certain time period and the price given for that milk. This is generally going to address the income side of a producer's balance sheet. What doesn't get discussed as often is the expense side of the equation. This is partly because expenses vary from farm to farm based on a number of factors. It is also easier to talk about the production side because USDA collects and tracks production and price data.

One tool that was created by UNL Extension Dairy Specialist, Jeff Keown, PhD and UNL Animal Science Graduate Student, Kumud Dhakal, is a Dairy Farm Income and Cash Flow Calculator *NebGuide*. The calculator allows the dairy farmer to enter values for income and expenses to get a cash flow projection. The tool can be utilized across dairy sizes and across the country. A producer or a banker can use the tool to evaluate the feasibility of a new project. It is an especially useful tool in recruiting dairies from outside the state as they can compare the cash flow potential of a dairy in Nebraska with a dairy in another state. The *NebGuide* can be found at <http://www.ianrpubs.unl.edu/live/g2034/build/g2034.pdf> or by searching "UNL dairy cash flow".

The calculator has default numbers for income and expenses that can give a basic idea of a dairy's income projections. For example, using 2013 averages for Nebraska, milk sold for \$21/cwt. Operating expenses would have averaged approximately \$14/cwt. according to an Iowa State University study. This means that the average dairy farmer had a gross income of \$7/cwt. of milk produced. This number does not include mortgage or other capital expenses.

Overall measures of dairy profitability are difficult to gauge as expenses vary widely depending on the dairy's operational structure. Since feed makes up about 30% of a dairy's expenses, it is safe to assume that when feedstuffs (corn, alfalfa, soy, distillers, etc) are high in cost and milk prices are low, a dairy is less likely to be profitable as compared to when feed is low and milk is high. One advantage that Nebraska producers have for both positive productivity and profitability is access to plentiful feedstuffs. Availability of feedstuffs is discussed in more detail in Section 1(d).

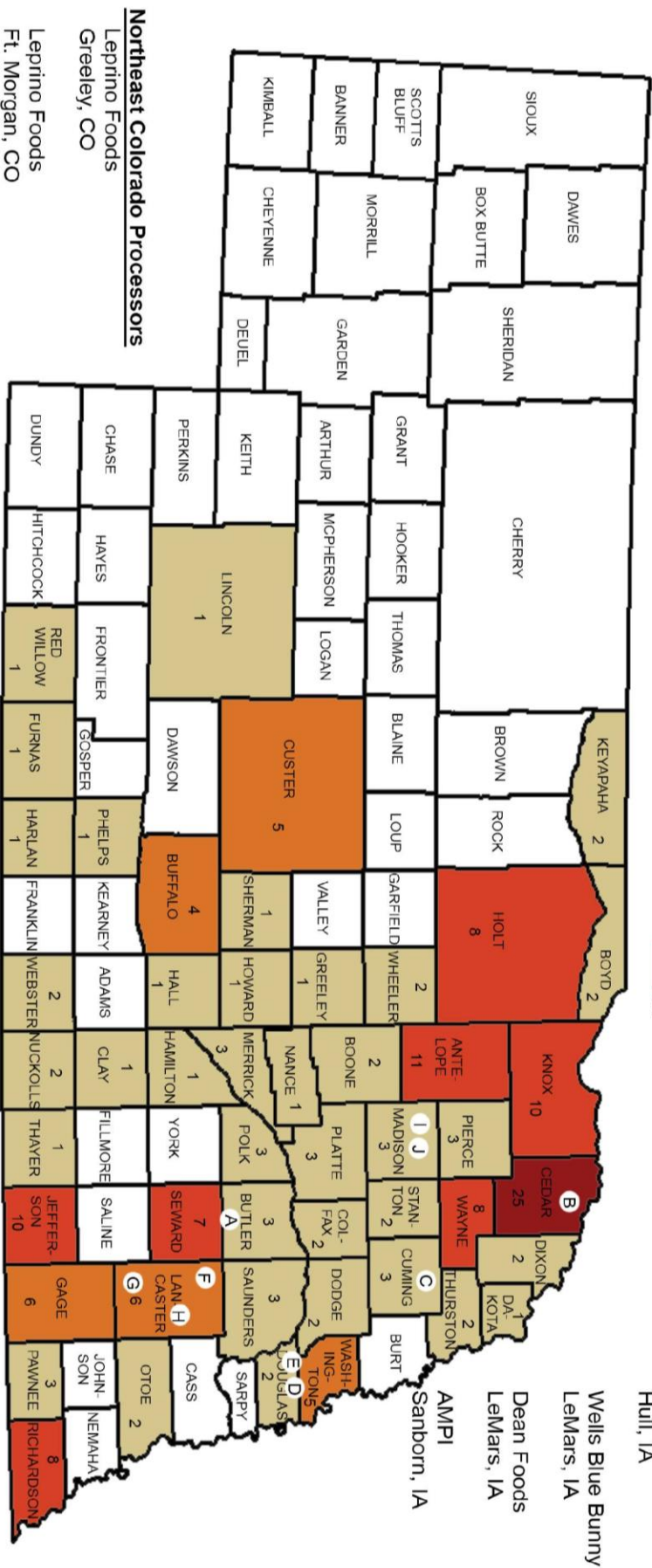
The following map shows the number of licensed dairy producers in each county. Counties in white do not have any dairy farms. The map also marks out where processors are located. There are 10 in-state processors and four processors in northwest Iowa that use Nebraska milk. There are two processors that are relatively close to Nebraska in northeast Colorado, but we aren't aware that these two receive milk from Nebraska farms at this time.

One other note on the 10 Nebraska processors, four of them, Jisa (A), Countryside Dairy (B), Farmstead First (F), and Prairieland Dairy (G), only process their own milk and are not a market for other dairy farms to sell their milk. Additionally, UNL Dairy store only sells their products on the UNL East Campus.

The remaining processors that do purchase milk and do serve as markets for Nebraska dairy farms are West Point Dairy (C), Hiland Dairy Co (D), LaLa Dairy Products (E), Milk Specialties Global (I), and Hiland Ice Cream Co (J).

Locations of Licensed Processors

Number of Licensed Dairies per County



Northeast Colorado Processors

- Lepirno Foods, Greeley, CO
- Lepirno Foods, Ft. Morgan, CO

Nebraska Processors

- A- Jisa LLC**, Brainard, NE
- B- Countyside Dairy**, Hartington, NE
- C- West Point Dairy**, West Point, NE
- D- Hilland Dairy Co.**, Omaha, NE
- E- Lala Dairy Products**, Omaha, NE
- F- Farmstead First**, Raymond, NE
- G- Prairieland Dairy**, Hallam, NE
- H- University of Nebraska**, Lincoln, NE
- I- Milk Specialties Global (MSG)**, Norfolk, NE
- J- Hilland Ice Cream Co.**, Norfolk, NE

SECTION 1(b)

A comparison of volume and value of milk production and trends in milk production in Nebraska to that of neighboring states and nationally.

With few exceptions the number of dairy cows has declined in every state, and in the United States as a whole, over the past 20 years. Of the states bordering Nebraska, only Kansas and Colorado have seen increases in cow numbers over that time period. However, in the past 10 years all of the other states bordering Nebraska, except Missouri, have reversed the trend and started rebuilding dairy cow inventories.

Dairy processing along the Interstate 29 corridor has been a significant driver in the growth of dairies in Iowa and South Dakota. The I-29 corridor technically stretches from Kansas City, Missouri to Fargo, North Dakota but most of the milk processing growth has been in the area between Omaha and Brookings, South Dakota. The corridor includes eastern Nebraska, western Iowa, western Minnesota, and eastern South Dakota. There are 15 processors in this area, and most of them are expanding production or attempting to do so. The newest plant is the Bel Brands cheese plant in Brookings, South Dakota, which opened in the fall of 2014. There has been a great deal of effort by agencies and organizations within these I-29 corridor states to attract, expand, and retain dairies in their states.

Dairy growth in Colorado has largely been centered in Weld County, in the northeast part of the state. In 2011 the Leprino cheese company opened a mozzarella cheese plant in Greeley that requires 7 million pounds of milk each day. Leprino is the largest mozzarella processor in the world, and the Greeley plant is one of the largest. When the decision to build the plant was made, there was not enough milk in all of Colorado to adequately supply the plant, let alone available milk in the immediate vicinity. A 7 million pound per day plant needs milk from around 100,000 cows (70 pounds of milk per cow per day). At the time the Greeley facility opened, there were about 50,000 cows in the vicinity and about 120,000 cows in the entire state. State and local efforts to recruit and expand dairies in the area largely have been successful, as evidenced by a 38% increase in cow numbers in the past 10 years. Local groups are still working to add to those numbers.

The following chart shows the number of cows in Nebraska, our neighboring states, some traditional dairy states, and nationally over the past 20 years. California, Wisconsin, and New York are representative of traditional dairy states; Idaho represents an emerging state.

Number of Cows (source: USDA NASS)

State	1994	2004	2013	% Change from 1994 to 2013	% Change from 2004 to 2013
NE	80,000	62,000	55,000	-31%	-11%
SD	122,000	79,000	92,000	-25%	+14%
MO	200,000	125,000	93,000	-54%	-25%
KS	77,000	110,000	132,000	+71%	+20%
CO	80,000	98,000	135,000	+69%	+38%
IA	265,000	196,000	205,000	-23%	+4.5%
MN	620,000	465,000	465,000	-25%	0.0%
ID	193,000	412,000	580,000	+200%	+41%
NY	725,000	658,000	610,000	-16%	-7%
WI	1,500,000	1,245,000	1,270,000	-15%	+2%
CA	1,320,000	1,700,000	1,780,000	+34%	+5%
U.S.	9,507,000	8,987,500	9,217,900	-3%	+2.5%

The total amount of milk produced in Nebraska and each of the surrounding states has increased over the past 20 years, except for in Missouri and Minnesota. There are two factors in increasing milk production: the number of cows and the productivity of the cows. Nebraska is the only state, in the past 10 years, to have negative cow growth yet still manage to increase the overall amount of milk produced.

Total Milk Produced (billion pounds) (source: USDA NASS)

State	1994	2004	2013	Percent change from 1994 to 2013
NE	1.110	1.049	1.165	+5.0%
MO	2.715	1.847	1.349	-50%
SD	1.589	1.347	2.032	+2.8%
KS	1.125	2.216	2.932	+160%
IA	3.960	3.851	4.606	+16%
CO	1.553	2.184	3.322	+114%
MN	9.342	8.102	9.140	-2.1%
ID	3.754	9.093	13.431	+258%
NY	11.400	11.650	13.469	+18%
WI	22.412	22.085	27.572	+23%
CA	25.234	36.465	41.256	+63%
US Total	153.602	170.832	201.218	+31%

One measure of cow productivity is the number of pounds of milk produced per year. Farmers in Nebraska and all surrounding states have increased the per cow output over the past 20 years. Improved management, genetics, and nutrition have all played a part in the increase.

Pounds of Milk/Cow/Year (source: USDA NASS)

	1994	2004	2013	Percent change from 1994 to 2013
NE	14,416	17,197	21,574	50%
SD	13,242	16,838	21,521	63%
MN	15,340	17,499	19,698	28%
IA	15,529	19,953	22,144	43%
MO	13,782	15,139	14,663	6%
KS	14,423	19,611	21,881	52%
CO	19,173	21,412	24,248	26%
CA	20,203	21,139	23,178	15%
ID	18,048	21,446	23,440	30%
WI	15,001	17,796	21,693	45%
NY	15,877	17,786	22,080	39%
US	16,179	18,960	21,822	35%

Milk prices paid to farmers have risen over the past 20 years. While prices are higher, there has still been a struggle to be profitable as input costs have risen as well, including a spike in feed prices due to the 2012 drought.

All Milk Price/cwt (source: USDA NASS)

	1994	2004	2013
NE	\$12.80	\$16.20	\$21.00
SD	12.80	16.50	21.10
MN	12.93	16.70	20.40
IA	12.90	16.30	20.50
MO	13.20	16.40	20.50
KS	12.80	15.40	20.20
CO	13.60	15.90	20.20
CA	11.52	14.73	18.48
ID	12.30	15.00	19.20
WI	12.99	16.90	20.30
NY	13.30	16.80	21.20
US	13.01	16.13	20.12

The total value of milk for Nebraska and all neighboring states, except Missouri, has risen over the past 20 years. Increased milk production, mixed with higher farm gate prices has made the overall payments to farmers higher. As noted previously, this is only figuring income and not taking into account increases in expenses.

Total Value of Milk (farm sales, millions, USDA NASS)

	1994	2004	2013
NE	\$142	\$170	\$245
SD	203	222	429
MN	1,208	1,353	1,865
IA	511	628	944
MO	358	303	277
KS	144	341	592
CO	211	347	671
CA	2,906	5,371	7,624
ID	462	1,364	2,578
WI	2,911	3,732	5,597
NY	1,516	1,957	2,855
US	19,984	27,555	40,485

SECTION 1(c)

A listing and description of milk processing facilities in Nebraska and a description of marketing affiliations and final consumer markets and destinations, including self-processing and direct marketing, for milk produced in Nebraska.

There are 10 milk processing companies in Nebraska. Five of them purchase milk to make the products they sell. The other five are dairy farms and processors at the same time. These self-processors use their own milk to produce the dairy products they sell. All of these processors are located in the eastern third of Nebraska.

In addition to the in-state processors there are four large processors in Northwest Iowa that purchase Nebraska milk. They are included in this study since their purchases support demand for Nebraska milk. There are also several milk processors in Colorado. At this time, we are not aware of milk being shipped from Nebraska to Colorado, but we believe there is potential for that to develop.

The dairy processors highlighted here complement each other, and in some ways, form a symbiotic relationship. Milk is broken into a variety of parts as it goes through the processing chain. Milk from the farm has the butterfat skimmed off to make butter, then the remaining milk can then be used for fluid milk, cheese, yogurt, ice cream, and many other products. Even the whey, which was once considered a waste product, is processed into whey protein products. This diversification means that all parts of the milk are used efficiently.

The following is an overview of each processor.

Nebraska Processors - Milk Purchasers

Hiland Dairy Company operates two locations in Nebraska. One is in Omaha and one is in Norfolk. The Omaha facility produces fluid milk and the Norfolk plant makes ice cream. Hiland markets its products through large merchandisers (grocery stores and super centers) in the Midwest region. Hiland Dairy Company is owned as a joint venture between Dairy Farmers of America Cooperative (DFA) and Prairie Farms. DFA is the largest milk purchasing cooperative in Nebraska and is based out of Kansas City. Prairie Farms is a Midwest processor based out of Illinois.

LALA Food-USA is located in Omaha. LALA produces yogurt, crème Mexicana (Mexican style sour cream), and drinkable yogurt. These products are marketed to the Hispanic markets in the south and southeastern part of the United States. LALA's U.S. headquarters are in Dallas, and the corporate headquarters are in Mexico. LALA does not actively market their products in the Midwest market at this time.

Milk Specialties Global (MSG) is located in Norfolk. MSG makes specialty protein products from milk. MSG is based out of Minnesota and sells products to consumers, as well as to other food manufacturers. MSG has a national and international sales footprint.

West Point Dairy Products, LLC is located in West Point. They make butter and condense milk at this facility. West Point Dairy is owned by Grassland Dairy, based in Wisconsin. Grassland is a family-owned company. West Point makes butter for several companies, and markets their products across the United States and in some international markets. According to Grassland Dairy, the company as a whole is the largest butter-maker in the United States and one of the largest in the world.

The University of Nebraska – Lincoln Food Processing Center also processes milk. They make a wide variety of ice cream and cheese. They market their products from the dairy store on East Campus. The Food Processing Center has been instrumental in assisting all of the self-processors get started. For several of the self-processors, they began by using the Food Processing Center facilities to make their products until they could build their own processing facility. The Food Processing Center helped them develop recipes and business plans.

Nebraska Self-Processors

Prairieland Dairy is located near Firth, Nebraska, and sells fluid milk, cream, ice cream, and cheese. Prairieland sells milk and cream in grocery stores, convenience stores, and schools in the southeast and central parts of Nebraska. They also have an on-farm store where they sell cheese and ice cream in addition to milk and cream. Prairieland began bottling milk in 2008.

Jisa's Farmstead Cheese is located near Brainard, Nebraska, and sells cheese. Jisa sells in grocery stores, farmers markets, and to some institutions in the Iowa, Nebraska, Kansas, and Missouri region. It is typically placed in the deli section or specialty cheese section of most grocery stores. Jisa started selling cheese in 2005.

Burbach's Countryside Dairy is located in Hartington, Nebraska, and sells fluid milk and cheese. Burbach's sells in grocery stores in Nebraska, Iowa, and South Dakota. Burbach's began bottling milk in 2006.

Farmstead First, LLC is located near Raymond, Nebraska, and sells cheese and some milk. The farm side of Farmstead First is called Branched Oak Farm. The farm and the cheese are certified organic. Their main focus is artisan cheeses, which are marketed through on-farm sales, farmer's markets, restaurants, and grocery stores in southeast Nebraska. Farmstead First started making cheese in 2005.

Clear Creek Organic Farms is located near Spalding, Nebraska, and sells cheese, butter, and ice cream. Clear Creek is a certified organic operation and all products are certified organic. Clear Creek began making cheese in 2009. They built

an on-farm processing facility in 2012. Their products are available for sale on the farm and in grocery stores in the northeastern and central parts of the state.

One other self-processor to note is McCarty Farms. They are based out of northwest Kansas and have a condensing plant in Bird City, Kansas, where they condense their own milk to be shipped to the Dannon yogurt plant in Texas. This family-owned operation recently purchased an existing dairy farm in south-central Nebraska. The milk from that farm is shipped back to Kansas for processing.

Iowa Processors

In addition to in-state processors, there are four large processors in northwest Iowa that utilize Nebraska milk. These processors are important to our dairy farms as they use a great deal of milk, and, according to interviews with company representatives, are almost all in a growth phase and are looking for more milk to support that growth.

Agropur is located in Hull, Iowa. Agropur's Hull plant makes cheese, but as a company they make ice cream, butter, yogurt, sour cream, milk powders and fluid milk. Agropur is based out of Canada but has plants in South Dakota, Minnesota, Iowa and other parts of the Midwest, as well as Canada. The facility in Hull opened in 2008 and is considering expansion in the future. Agropur makes products for many companies nationally and internationally.

Dean Foods is located in Le Mars, Iowa. Dean Foods mainly produces fluid milk for several national brands including Land O'Lakes, Meadow Gold, and TruMoo. According to Dean's website, they are the nation's largest milk processor and distributor with facilities across the country.

Well's Blue Bunny is located in Le Mars, Iowa. Wells makes ice cream and sells in grocery stores and through food service nationally. According to the Well's website, they are the country's largest privately-held and family-owned ice cream manufacturer.

Associated Milk Producers, Inc (AMPI) is located in Sanborn, Iowa. AMPI makes cheese at this location, but also makes butter and powder milk products at other locations. AMPI is a dairy cooperative and processor based out of Minnesota with 10 locations throughout the upper Midwest. AMPI sells their products across the nation.

Colorado Processors

Currently, we are not aware of any milk being shipped from Nebraska into Colorado. However, this opportunity should not be overlooked. Western Nebraska has the natural resources that a dairy would need, including ample feed, water, and space. There are 12 processors in the state of Colorado. Several are located on the Eastern

Plains and Denver area. Perhaps the biggest obstacle would be the distance to these processors as it is about 200 miles from western or southwestern Nebraska to Denver.

A few of the large dairy processors in Colorado include:

Leprino Cheese has locations in Fort Morgan and Greeley, Colorado. Leprino makes mozzarella cheese with sales throughout the world. Leprino has other plant locations throughout the United States.

Dean Foods has facilities in the Denver metropolitan area. As noted above, Dean Foods mainly produces fluid milk for several national brands, including Land O'Lakes, Meadow Gold, and TruMoo. According to Dean's website, they are the nation's largest milk processor and distributor with facilities across the country.

Kroger's has facilities in the Denver metro area. These facilities produce fluid milk and ice cream which is sold in their King Soopers grocery stores.

In addition to the large processors there are several small processors that target specialty markets, like home delivery, glass bottles, and organic. Most of these operations are self-processors that utilize milk produced on their own farms.

Cooperatives

There are three cooperatives that operate in Nebraska. The function of a cooperative is to serve as an aggregator of milk from the farm and distribute to processors that need it. Processors pay the cooperative for the milk and the cooperative pays the dairy farmer.

Dairy Farmers of America (DFA) – is a cooperative based out of Kansas City, Missouri. DFA operates across the entire nation and covers all of Nebraska. DFA's membership in Nebraska is 123 of the 195 licensed farms. DFA is a processor of dairy products, including being a partner in the Hiland plant in Omaha.

Associated Milk Producers, Inc (AMPI) – is a cooperative based out of New Ulm, Minnesota. AMPI has operations in the Midwest and southern parts of the United States. AMPI has 48 members in Nebraska, mainly in the northeast corner of the state. AMPI is a milk processor, including a plant in Sanborn, IA.

Land O'Lakes, Inc – is a cooperative based out of St. Paul, Minnesota. Land O'Lakes has one member in Nebraska. Land O'Lakes has operations in the Midwest. Land O'Lakes also is a dairy processor, but recently sold all of its upper Midwest fluid milk processing facilities to Dean Foods. Products will still carry the Land O'Lakes brand name.

SECTION 1(d)

An evaluation of the potential for expanded milk production in Nebraska with respect to:

- (i) **the ability of agricultural, institutional, and commercial assets within the state to support expanded production;**

Agricultural Assets

When analyzing Nebraska's agricultural capacity to serve expanded dairy production, there are three primary components that must be addressed: grain and forage feeds, water, and manure disposal. All three of these components can have a large impact on a dairy's ability to operate. Nebraska is in the unique position of having abundant supplies of feed, water, and fields for applying manure for fertilizer. Even with the scale of the state's animal enterprises, Nebraska does not come close to utilizing these resources to their full potential.

According to a 2014 University of Nebraska-Lincoln study, surrounding states have seen recent growth in their livestock industries, particularly pork and dairy, while Nebraska has not, leading to the conclusion that Nebraska's agricultural assets could be further devoted to value-added livestock rather than being exported nationally and internationally (Aiken, Brooks, Jansen, et al, 2014).

a. Grain and Forage Resources

The above mentioned University of Nebraska report concluded that Nebraska's feed crop production could easily support expanded dairy production given the recent history of the crop and livestock sectors. The general theme has been increasing crop production due to improved irrigation, genetics, and biotechnology while livestock production, as a whole, has plateaued or declined. This has resulted in a greater portion of Nebraska's crop production leaving the state and opening up the opportunity for feeds to be used for dairy production. By examining recent developments and historic production, the outlook is positive for four of the main feeds used in Nebraska dairy production: corn for grain, distillers grains, corn silage, and alfalfa. From the surveys completed by current Nebraska dairy producers, these four categories of feed were the most commonly purchased by operations with more than 500 cows.

Nebraska is the third largest corn producer in the nation, and it is the largest cattle feeding state in the country, so it is vital to take into consideration the impact that additional dairy production would have on existing feed supplies and other livestock sectors. In another 2014 report analyzing the impacts of expanded livestock production in Nebraska, the University of Nebraska-Lincoln examined the corn feeding capacities of 18 different counties if a new 2,500 head dairy built in the county. The report concluded that all counties, except for one, were corn-surplus counties, meaning that

they produced more corn than was currently being consumed by livestock feeding. These surpluses were considerable even in 2012, when drought conditions severely impacted corn production. The report concluded that corn surpluses in 17 of the 18 counties were large enough to accommodate an increase of at least 2,500 dairy cows in each county. The sole exception to this finding was Cuming County, one of the largest beef cattle feeding counties in the nation (Johnson, Thomson, et al, 2014).

Dairy cattle require a greater portion of their diet to be forage based as compared to beef cattle. Those forages must be of higher quality than those found in beef cattle diets. As a result, hay that is fed to beef cattle is largely insufficient for dairy needs and dairy forages must be specifically grown. Two of the major forages are corn silage and alfalfa, both of which Nebraska excels in producing and whose production can be increased in the event of increased demand from new dairy production.

Corn silage is typically harvested when the corn crop is still green and has a high moisture content. Silage is stored either in bins or under plastic sheets where it goes through a fermentation process. Over the past 25 years, silage production in Nebraska has been variable with an annual average of 3.7 million tons. In 2013, Nebraska farmers produced 4.16 million tons of silage, enough to rank Nebraska in the top ten of corn silage producing states in the nation (NASS). While silage-specific varieties of corn are available, any corn crop can be utilized for silage, allowing corn producers to readily shift production from grain to silage should demand increase from expanded dairy production. This capacity was made evident in 2012, when farmers opted to harvest drought damaged corn for silage rather than for grain, resulting in a 52.8% increase in corn silage production from the year prior.

The other major dairy forage, alfalfa, has historically been a major crop in Nebraska, but recent shifts in global demand for soybeans have lead to shifts in production away from alfalfa. Like soybeans, alfalfa is a legume that is often grown in rotation with corn to replenish nitrogen in the soil. Acreage formerly planted to alfalfa has transitioned to soybeans over the past few decades as demand for alfalfa decreased with declining in-state dairy production and growth in domestic and global demand for soybeans. Alfalfa production in 2013 was 2.42 million tons compared with 4.76 tons in 1985. Despite this decrease, Nebraska is still the eighth largest producer of alfalfa in the nation (NASS). Given the identical role that alfalfa and soybeans play in crop rotations, Nebraska farmers may choose to shift soybean acres back to alfalfa should the market signals from any increased dairy production make it a more profitable alternative. This may be especially true if global shifts in soybean production and demand make soybeans a less attractive option for Nebraska farmers.

b. Water Resources

Perhaps the most notable asset Nebraska possesses is the Ogallala Aquifer. While the aquifer stretches from South Dakota to Texas, it is at its widest and deepest in Nebraska, with 70% of the aquifer's total water within the state. Nebraska's portion of the aquifer contains 14 trillion gallons of water, five times the capacity of Lake Erie.

Compared to other livestock production systems, water plays a particularly important role in the dairy industry, due to the water needs for feed crops, animals, and cleaning processes inside the dairy parlor.

While Nebraska has similar production capacity for grains and forages when compared with other major dairy states, the availability of water gives it an excellent competitive advantage over those states when it comes to the quality and consistency of those feedstuffs. Nebraska has more acres of crops under irrigation than any other state, making its crop production less susceptible to the effects of drought than neighboring states. The year 2012 again provides an excellent example on the significant mitigating effect irrigation can have in a major drought year. Illinois, with most of its corn production reliant on rain, saw its total corn production fall by 33% after 81% of the state fell into the worst two drought categories and 8% in the worst category. Nebraska, with 58% of its acres under irrigation in 2012, only saw total production drop by 16% (NASS) with 98% of the state in the worst two drought categories and 77% of the state in the worst drought category.

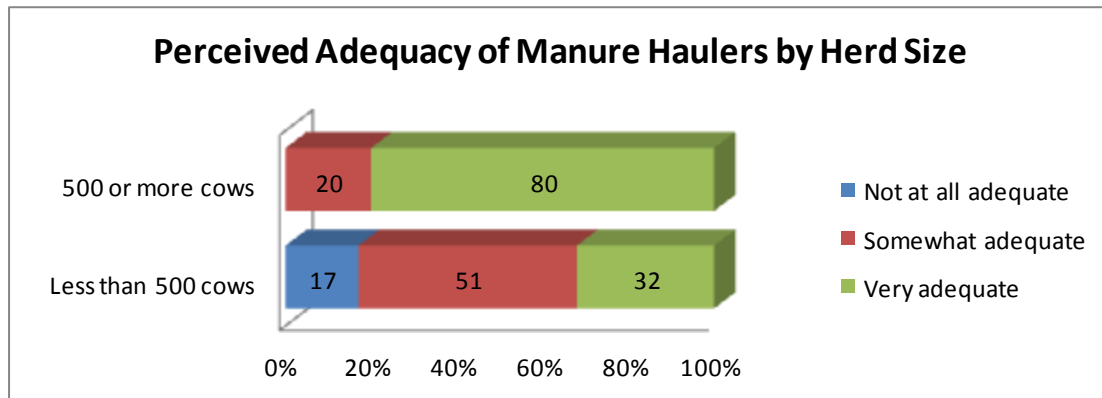
Producing the premium quality alfalfa required by dairies requires either abundant rainfall or irrigation. In fields that rely on rainfall, the effect of drought is quickly evident by reduced yields and quality. For producers that irrigate with surface water, like in California or Nevada, the impact of long-term drought means little water in reservoirs for irrigation. Nebraska's position is unique in that while it is a major irrigator of alfalfa, irrigation supplements rainfall rather than providing the majority of water (Arens, 2011). Ninety percent of Nebraska's irrigation comes from groundwater rather than surface water, and in years with sufficient rainfall very little, if any, irrigation is required, allowing the aquifer to recharge. This results in an alfalfa crop that consistently receives the ample supply of water necessary for dairy quality forage.

Another major source of water demand in the dairy industry is direct consumption of water by dairy cattle and water used for cleaning parlors. An average dairy will use 40-70 gallons of new water per animal per day. Water is consumed by cows, used for cooling milk, for cleaning parlors, flushing manure, and cooling cows in the summer. Dairies typically re-use water at least three times before it is used to irrigate and fertilize crop fields. Water efficiency is paramount to improving sustainability and a key component for improved efficiency. According to the Innovation Center for U.S. Dairy, dairies in the United States use 65% less water to produce a gallon of milk than they did in 1944.

Groundwater is regulated by the state's 23 Natural Resource Districts (NRD). New wells are required to be registered with the NRD and a new commercial well would have to be approved prior to being drilled. For livestock purposes, any new well that provides water to an enclosed housing system is considered a commercial well and would need to apply for a commercial well permit. However, if a dairy were to build on land with an existing commercial well, like an irrigation well, they could simply access water through that well.

c. Manure Disposal Resources

Manure management is a daily function of all livestock production. Having access to companies or equipment for hauling and spreading manure, as well as land for spreading manure are vital for the success of livestock operations. With one of the nation's premier cattle feeding industries, manure hauling services, equipment, and infrastructure for bovine animals already exist in a capacity not present in recently emerging dairy states like Idaho. When dairy producers in the state were surveyed, 86% responded that manure hauling services were adequate, with 80% of dairies with more than 500 head perceiving the services to be very adequate. For dairies with less than 500 head, only 32% felt that manure hauling services were very adequate and 17% did not feel that they were adequate at all, leading to the conclusion that utilizing the services of manure haulers is less problematic for higher volume dairy operations.



Manure disposal requires an adequate quantity of farmland surrounding the dairy. Due to recent improvements in management of organic-based fertilizers and the long-term rise in commercial fertilizer prices, grain farmers increasingly look at manure as an attractive option for adding nutrients to the soil (Johnson, Thomson, et al, 2014). The Nebraska Department of Environmental Quality sets guidelines for manure disposal.

Institutional Assets

For the purposes of this study, institutional assets were defined as governmental and non-governmental bodies which regulate, provide assistance to, or supported the dairy industry but are not for-profit businesses. As such, the institutions that are defined and examined here include the Nebraska State Dairy Association, Nebraska Dairy Industry Development Board, Midwest Dairy Association, University of Nebraska, Nebraska Department of Agriculture, Nebraska Department of Environmental Quality, and county boards and county zoning boards.

The Nebraska State Dairy Association (NSDA) works to promote dairy interests in the state of Nebraska. NSDA is a membership organization for Nebraska dairy producers and allied businesses. NSDA is supported solely by membership dues and

the leadership positions are dairy farmers elected by dairy producer members. Of the producer survey respondents, 74% said they have a good to excellent working relationship with NSDA.

Nebraska Dairy Industry Development Board (NDID) is authorized by the legislature through the Dairy Industry Development Act. This is the Board that collects and directs checkoff funds for Nebraska dairy producers.

Midwest Dairy Association is the entity the NDID Board contracts with to utilize Nebraska's checkoff dollars. Its responsibility is to use the funds for national and regional dairy product promotions and other statutorily approved functions. Midwest Dairy is based out of Minnesota but maintains an office and staff in Nebraska.

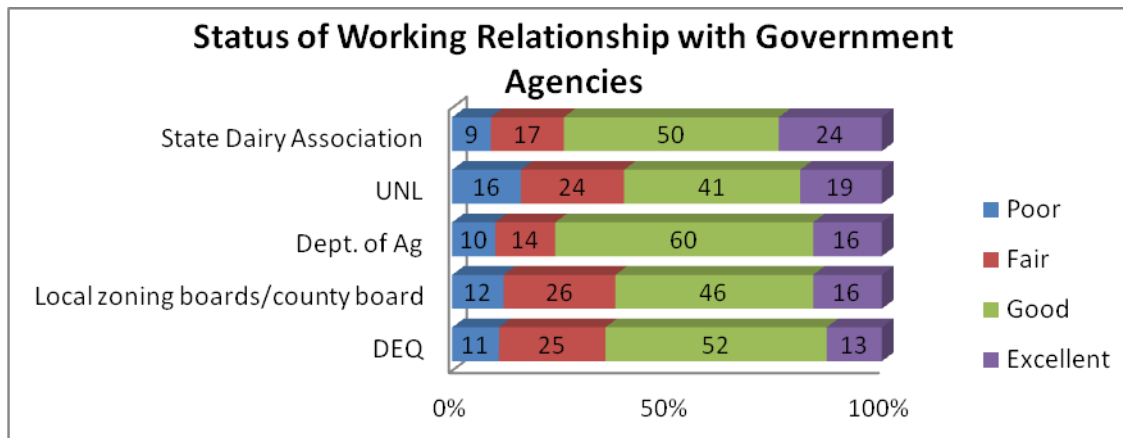
The University of Nebraska has three main ways of impacting a dairy operation, through research in both the Animal Science Department and Livestock Manure Management, through Extension services, and through the Food Processing Center. Sixty percent of survey respondents indicated a good to excellent rating of their working relationship with UNL.

The Nebraska Department of Agriculture (NDA) enforces the Nebraska Dairy Act, which involves testing milk quality on farms, in transit, and at processing facilities. NDA also enforces the Pure Food Act, which can be applicable to dairies involved in self-processing. Seventy-six percent of respondents said they had a good to excellent working relationship with NDA. Additionally, NDA's Ag Promotion and Development division works with the dairy industry to promote and support growth in all sectors of the dairy industry.

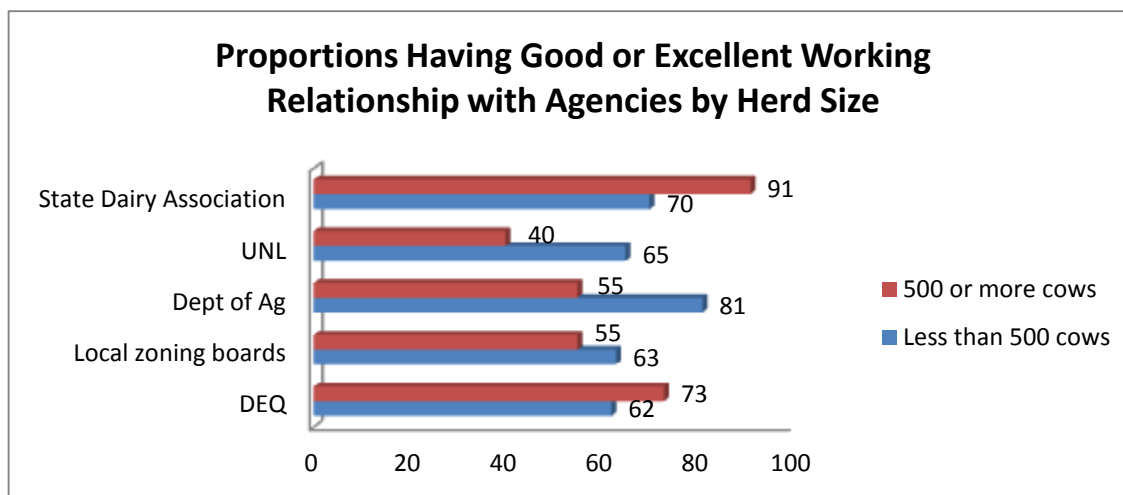
One program that NDA utilizes to promote growth of all livestock, including dairy, is the Livestock Friendly County program. This program allows the counties to ask to be evaluated on a set of criteria, established by the Legislature, and then designated as a Livestock Friendly County, if the standards are met or exceeded. For the counties it helps them to establish goals towards livestock development and it creates a partnership with NDA to help them accomplish those goals.

Nebraska Department of Environmental Quality (NDEQ) is tasked with enforcing clean water standards. As such, they regulate livestock operations to ensure proper control of manure and wastewater. Sixty-five percent of respondents indicated they have a good to excellent working relationship with NDEQ.

County boards and county zoning boards have the authority to enact zoning regulations that guide how and where a dairy operation can locate their dairy farm. Each county operates independently and so county zoning regulations vary from county to county. Respondents indicated that 62% felt they have a good to excellent working relationship with their county board.

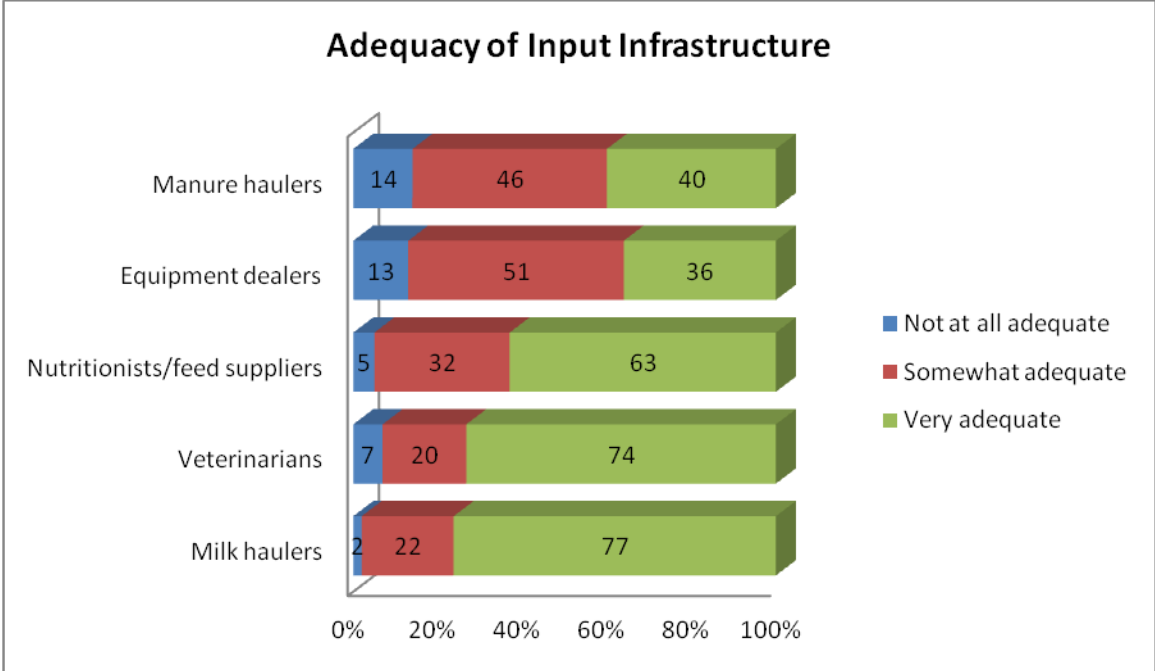


Responses to the type of working relationship a producer has with different institutions was further distilled by size of operation as can be seen in the following chart.



Commercial Assets

The dairy industry depends on a network of commercial service providers to meet the different input needs of dairy operations. From the producer survey, the overwhelming majority of producers felt that the availability and adequacy of manure haulers, equipment dealers, nutritionists/feed suppliers, veterinarians, and milk haulers were either somewhat adequate or very adequate. If the dairy industry in the state were to expand, it is logical to conclude the businesses providing these goods and services would expand as well with the potential for cost savings to be realized by achieving higher economies of scale.



While there is satisfaction with the general dairy commercial infrastructure, there are shortcomings in the state when it comes to more specialized technologies. One of the emerging technologies in the dairy industry is robotic milking, which reduces labor requirements on the operation and can give dairy owners more flexibility in work-life balance. This technology is being steadily adopted in other states, but there currently aren't any robotics operations in Nebraska. According to one dairy equipment dealer, companies that sell robotic milking systems are hesitant to come to Nebraska until there is sufficient demand for their units to justify dedicating service personnel to the state. Expanded dairy production could alleviate this issue as an increase in producers enhances the viability of dedicated robotic milking service staff.

In reviewing commercial assets, we felt it important to point out critical transportation assets, because with Nebraska's relatively low population dairy products will continue to be shipped out of state for consumption. Some of these products would be consumed domestically while others would be shipped to Canada, Mexico, South American, or overseas markets. Geographically, Nebraska is well positioned for shipping products by rail or by truck.

Major rail lines through Nebraska include the BNSF and Union Pacific (UP). Both companies have class 1 rail networks that cover territory west of the Mississippi River and hit major cities and ports on the west coast and gulf coast. Rail transport to the east coast could be accomplished through transfers to other lines moving through the eastern United States.



The other transportation asset that Nebraska has is the Interstate 80 highway. I-80 stretches from San Francisco, California, to the New York City metropolitan area. Nebraska sits about 1,200 miles from either coast and about 800 miles from the port in Houston, Texas. Nearly all parts of the United States can be reached from Nebraska within two days.



SOURCE: Nebraska Department of Roads

(ii) the capacity of in-state processors to utilize increased in-state milk production;

There are five processors in Nebraska that utilize purchased milk to make their products and five processors that utilize their own milk to produce consumable products. These 10 processors, together, utilize about 500 million pounds of milk per year. Nebraska dairy farmers produce about 1.2 billion pounds of milk per year. Currently, over half of the milk produced in Nebraska is shipped to other states for processing. Most of this milk goes to four large processors in Northwest Iowa, but some milk is shipped farther as demand dictates.

At first glance, these numbers would imply that Nebraska has an excess supply of milk, but the competition for milk from the out-of-state processors makes the market competitive in Nebraska. Milk is marketed in a regional area rather than as a state product. Milk from Nebraska is drawn into the Interstate-29 corridor milk shed. This milk shed includes Nebraska, South Dakota, Iowa, and Minnesota. This milk shed has some of the highest prices for milk in the country, which indicates strong demand and high competition in purchasing milk. In fact, several Nebraska processors, who were interviewed for this report, spoke of the difficulty of getting Nebraska milk, and that they have purchased milk from Kansas and Missouri dairies to keep up with production demand.

In the course of this study, an attempt was made to interview all ten in-state processors. Seven of the ten participated and were very open about the state of the industry and the direction of their companies. A majority of the seven processors expressed a strong desire to expand their operations. A majority expressed very optimistic sentiments about the future of the dairy industry. They believed that both domestic and international markets could be served from Nebraska. They listed Interstate 80 and the rail system as two advantages Nebraska had in moving products, as compared to other states. They also noted our central location, with an ability to move products to both coasts as well as south with relative ease.

If all of the Nebraska processors doubled their milk usage they would still not use all of the milk currently produced in the state. However, this doesn't factor in growth in processing outside the state that draws milk from Nebraska.

The out-of-state processors who receive Nebraska milk also were contacted for this study, and three of the four provided comments. All three agreed with the majority of Nebraska processors that there was room to grow their business and the entire dairy industry. These companies were interesting to visit with as they have an "outsider" view of Nebraska. They all viewed Nebraska in a favorable light from a business standpoint. They also felt Nebraska was ripe for expansion and that with a little nudging and support the industry would expand quickly.

While the majority of the processors felt optimistic about the future, there were some that were not so enthusiastic. The consumption of fluid or beverage milk has

declined steadily over the past 20 years. At the same time, the consumption of other milk-based products like cheese and yogurt has increased. As one would expect, the processors that process beverage milk were less optimistic about future growth. These processors did not feel like this consumption trend would change dramatically in the near future. One processor was very negative about the future of the fluid milk sector. Another felt like they could still grow their company, but it would be by expanding into other regions rather than a growth in local consumer demand.

The self-processors all spoke of the difficulties of being a small company. Access to markets and capital were both challenges. Yet they also noted the advantages of being able to adjust quickly to new trends. They spoke of marketing advantages, such as being able to produce a specialty product, direct sales with consumers, producing a very local product, as well as being able to get certified as organic or sustainable and using that to reach more consumers. They all noted the local foods movement has helped them to break into more traditional consumer markets like grocery stores. The majority of them spoke of plans to expand either their product line or their geographic footprint.

One question asked of all the in-state processors was what obstacles there were to expanding the production capacity in Nebraska. There were two parts to this question: first, what obstacles are there for your company, and second, what obstacles are there for the industry in general.

The biggest obstacles they named to expanding Nebraska processing included access to capital, lack of labor (both skilled and unskilled), and need for more milk. The processors mentioned that securing capital was challenging but they thought that programs that assisted in securing capital would be helpful; this challenge was especially mentioned by the self-processors. Nearly all of the processors mentioned labor and finding employees as a challenge. Several of the processors are located in rural areas with low populations. Some mentioned workforce development and recruitment programs as possible aids for this problem.

The last obstacle, the need for more milk, might seem out of place when current in-state processing only handles about 40% of the Nebraska produced milk. However, it is important to remember that milk is not like corn; it cannot be stored until local prices or local demand draws it into the market. As a highly perishable product, milk is shipped regionally to plants that need it immediately. Thus, the constraint of “not enough milk” has to be evaluated on a regional basis. For Nebraska, the key region is the I-29 corridor, including processors in Iowa and South Dakota. The overall desire from regional processors is to expand. This expansion, along with the new Bel Brands plant that started processing this fall, means more milk is needed in this region. One processor stated that if they expand they will need milk from 50,000 cows. If other processors expand operations, as they expressed a desire to do so, the number of cows needed will be considerably higher.

In general, processors did not feel like regulations or taxes were overly burdensome. Most felt that Nebraska's regulatory agencies worked very well with them and were helpful in making sure they did things the right way.

The processors mentioned that programs that helped with feasibility studies, site selection and development, and other programs that would help them make good decisions on how to expand, would be valuable to them and could be a deciding factor in making the decision to expand or build a processing facility in Nebraska.

(iii) the potential for expansion of self-processing and direct marketing of Nebraska milk and dairy products;

There are five dairy operations in Nebraska that process their own milk and sell direct to consumers: Prairieland Dairy, Jisa Cheese, Branched Oak Farms, Countryside Dairy, and Clear Creek Organic Farm. These five businesses sell a variety of products including fluid milk, cheese, butter, and ice cream. As a group, they sell both direct to consumer (farmer's markets and on-farm sales) and through grocery stores. They have a geographic footprint that covers the eastern half of Nebraska, western half of Iowa, into South Dakota, and south as far as Kansas City.

As part of the interview, the self-processors were asked if there was room for additional self-processors in the existing market. Their answers varied based on which product was being discussed. In the cheese industry, there was belief that a new self-processor could find room as long as it was in some way different from the current products being sold. This would mean either targeting a different consumer group or producing a unique product. Their optimism also goes with the trend of increased cheese consumption. The self-processors that are producing fluid milk were more negative toward new entrants into the market. Fluid milk consumption continues to decline so a new processor of fluid milk would be taking market share from an existing processor, either large or small.

In the survey that was conducted of current dairy farmers, 21 of 61 farmers responded favorably when asked if they believed opportunities existed for self-processing. A few named themselves as being interested; the rest suggested that there were opportunities for "someone". The biggest challenges they listed to actually self-processing included access to capital, labor, and distance to markets. Of the 40 respondents that indicated no interest in self-processing, they noted that cost was a big factor, as well as distance to markets.

The five self-processors were asked about the potential for internet sales. Overall, they responded that only cheese would be viable for shipping, and there were some major challenges in shipping the product. The main concern was the cost and the time it would take to handle small packages. According to them, the cost of shipping is very high compared to the cost of the product; in some cases, the shipping expense

was more than the cost of the cheese. Because of the high cost and limited interest, most of the five were not offering their products on the internet.

(iv) serving new or expanding markets outside of Nebraska;

The past ten years have seen a couple of major new demand sectors develop for dairy products outside of Nebraska. For the modern American and international consumer, fresh liquid milk no longer commands the market share that it once did, as per capita consumption for fluid milk is down 25% since 1975, and continues to fall. Instead, various processed milk products have increased in popularity, in particular the domestic markets for yogurt and cheese and the international markets for various forms of milk powders and cheese. This demand shift has increased the negative economic pressures on dairies in regions without an adequate number of processing facilities. This new reality has an especially significant impact in Nebraska, as the number of potential fresh liquid milk consumers is inadequate to fully absorb the state's incredible dairy production potential, so serving markets outside of Nebraska with processed forms of milk should be at the forefront of a strategy to expand the state's dairy industry. However, the different forms of processed milk offer different levels of opportunities for Nebraska.

A major growth sector for domestic dairy supply has been the export markets, which have witnessed a significant increase in demand over the last 10 years. Exports of skimmed milk powder and cheese comprise 9.6% of total U.S. dairy production, up from just 2.2% in 2003 due to growing demand for these products in Mexico. Furthermore, the effects of increased Chinese demand for whole milk powder have had a significant impact on global dairy prices. This has ignited a shift in global and domestic dairy production that presents Nebraska with a chance to capitalize on new opportunities.

The most notable development in the worldwide dairy trade over the past few years has been the massive increase in Chinese imports of whole milk powders. Milk powders are dehydrated milk that can be exported and then reconstituted to form liquid milk or the base ingredient for yogurt, cheese, ice cream, and infant formula. From 2008 to 2012, Chinese imports of milk powders grew from 170,000 metric tons to 690,000 metric tons. This increase in imports can be attributed to a milk contamination scandal in China that shook their domestic dairy industry, which caused dairy production in China since 2007 to stagnate.

This has been juxtaposed against rapidly expanding Chinese dairy demand, resulting in the sizeable increase in dairy imports. Most of this increased demand has been filled by exports from New Zealand, a major dairy producing country that has a free trade agreement with, and large investments from, the People's Republic of China. To meet this demand, New Zealand focused its attention on China and whole milk powder, to the detriment of its cheese production and exports. From 2008 to 2012, New Zealand's production and exports of whole milk powder both doubled, with the latter growing to over 1.2 million metric tons. At the same time, its production and export of

cheese has plateaued at 0.3 metric tons, with the percentage of those exports destined for East Asia roughly doubling at the expense of its other markets. This shift in New Zealand's exports opened up an opportunity for the United States to gain market share in those markets formerly served by New Zealand.

A significant component of American dairy exports has been and continues to be in the cheese market. Between 2002 and 2013, U.S. market share in global cheese exports grew from 5% to 16%. Export growth has been concentrated in Mexico, South Korea, and Japan, which all have witnessed increased cheese demand due to the growth in popularity in western cuisine. Compared to all of these nations, the United States has a competitive advantage in dairy production due to a more favorable climate for dairy cattle and better access to modern dairy technologies and the required feedstuffs. Furthermore, Mexico formerly imported much of its cheese from New Zealand, but the aforementioned export shift to China opened up opportunities for U.S. cheese exports. The source of these exports to Mexico, however, has been largely concentrated along the West Coast due to smaller distance to port, with only a sliver of the exports originating in the Midwest.

In a recent report compiled by the Midwest Dairy Association, it was projected that the West Coast's competitive advantage of lower freight costs due to proximity to ports would be difficult for interior states like Nebraska to overcome, and their assessment was not optimistic about the growth prospects for high volumes of exports originating from the Midwest. On the other hand, the Midwest Dairy Association report did suggest that the Midwest could capitalize on the supply void left by West Coast producers shifting their shipments from domestic to international markets. In other words, the national market for dairy products outside of Nebraska is growing.

When examining the shifts in dairy consumption in the United States, the most dynamic product has clearly been yogurt. During the previous decade, per capita yogurt consumption doubled, and it now commands a considerable amount of attention from the dairy industry. Behind the growth is the emergence of yogurt as a breakfast food and snack in both young adult and older adult populations. With its association as a health food, yogurt has grown to feature prominently in the diets of the nutritionally aware segments of these populations. Yogurt's sustained growth has recently been boosted by the sudden rise in popularity of Greek yogurt, which has a thicker consistency and higher protein content due to being strained three times, instead of two with standard yogurt. Since 2009, it has grown from just 1% of the total yogurt market to now having over one-third of total market share, and this growth, along with the large amount of milk required for its production, has gathered a great deal of attention from the dairy industry.

While there has been explosive growth in the production of Greek yogurt, the processing facilities are concentrated in a few states, with New York and Idaho leading the way. The growth in processing capacity has been located in states with large existing dairy herds to maximize production in as little time as possible in order to meet the rapidly growing demand. Additionally, Greek yogurt production requires three times

more fluid milk than traditional yogurt production, and an average Greek yogurt plant requires about 1.08 billion pounds of fluid milk per year. When this is compared with Nebraska's 2013 total milk production of 1.165 billion pounds, it becomes clear why Greek yogurt production has bypassed states like Nebraska.

When Chobani, the company largely responsible for Greek yogurt's American success, announced in 2011 that it was opening a \$450 million processing plant in Idaho, the owner, Hamdi Ulukaya, cited Idaho's status as a major dairy player as a major attraction. While the smaller Nebraska dairy industry may be at a disadvantage of capitalizing on a sudden hit like Greek yogurt, the other attractions cited by Chobani are certainly noteworthy. Mr. Ulukaya stated that the state's transportation network and tax incentives, including property tax exemptions and credit off tax liabilities, were major incentives in making his decision. These same advantages could certainly be utilized by Nebraska to attract processors at a scale more suited to the size of our dairy industry.

Greek yogurt isn't the only winner when it comes to America's changing appetite for dairy. While the growth of Greek yogurt consumption and production is relatively atypical, the longer established cheese production industry could hold more promise for Nebraska. Per capita consumption of cheese also has seen long term, sustained growth, growing from eight pounds per person per year in 1970 to 33 pounds per person currently. Behind this growth has been an increase in consumption of pizza as well as Italian cuisine, with growth in mozzarella and other Italian cheeses accounting for half of all cheese production growth in the United States since 1990.

Total cheese production in the United States was 10.9 billion pounds in 2013, and a projection by the Midwest Dairy Association estimates that it could reach 13 billion pounds by 2020 due to the continuation of demand growth domestically and internationally for U.S. cheese. Their analysis suggests this additional demand will require net growth in cheese manufacturing capacity, which will absorb an additional 60 million pounds of milk per day over this time period. This projected demand growth is something for Nebraska to consider capitalizing on in order to reap the benefits of increased demand for milk and the significant number of employees a cheese plant needs.

To illustrate what additional cheese production could mean for Nebraska, a recently closed local cheese plant gives us some idea of a cheese plant's impact on a Nebraska community. In 2013, a Leprino Foods mozzarella and string cheese plant in Ravenna, Nebraska closed its doors, with the announcement that its capacity was being transferred to the company's plant in Fort Morgan, Colorado. The Ravenna plant required up to 1 million pounds of milk per day (from approximately 15,000 cows) and employed roughly 170 people from the surrounding area. From the Midwest Dairy Association estimate, 60 plants of this size could be needed nationwide by 2020 to fill the growing demand for cheese. There is certainly an opportunity for Nebraska in cheese processing by supporting existing plants and attracting new ones to strategic portions of the state.

In summary, large shifts in global dairy production and consumption have opened up opportunities for Nebraska. Growing demand and a milk contamination scandal have resulted in China importing large quantities of dairy products. New Zealand retooled its dairy export operations to focus on serving China, leaving supply voids for cheese in markets like Mexico. West Coast dairy production capitalized on this supply void, resulting in less of its dairy products to serve the domestic market. With exports commanding a greater share of the West Coast's attention and the same occurring with Greek yogurt in Idaho and New York, the result is an opportunity for interior states like Nebraska to serve the steadily growing market for cheese and other processed milk products.

(v) the potential for investment in new or expanded dairy processing facilities;

All processors interviewed for this study, in state and out of state, indicated that they believe there is potential for outside investors in new or expanding dairy processing facilities. Many of the processing companies we interviewed are privately owned, and even though they are not looking for outside investors they indicated dairy could be an attractive opportunity for investors and the influx of money would help alleviate the access to capital challenge. One processor thought that from a return on investment basis, the outside investment dollars would be more attracted to the dairy farm side of the equation rather than the processing side. This processor believes it is more profitable to have a dairy farm than to be a dairy processor.

Taking a look around the country at new dairy processing plants, it is easy to see the impact they could have on a local community. Just in construction costs Chobani spent \$450 million on their yogurt plant in Idaho (*NY Times*, 12/16/12), Dairy Farmers of America spent \$85 million on a drying plant in Nevada (*DairyBusiness.com*), Bel Brands spent \$170 million on their cheese plant in Brookings, South Dakota (Bel Brands news release), and Leprino Foods spent \$270 million on a cheese plant in Greeley, Colorado (*The Denver Post*, 8/29/2010). According to the Denver Post article, the Leprino Foods plant is expected to generate \$15 billion in the next 20 years in wages and direct and indirect spending.

In discussing the question of outside investors in the dairy industry with other individuals in the dairy industry, we had the opportunity to talk with a dairyman from North Dakota. He noted that there are many North Dakota landowners who are sitting on large amounts of potential investment dollars due to the oil boom. He said he has spoken with landowners who were looking for investment opportunities, and he believes that agricultural investments would be attractive to these landowners as a safer investment than the stock market. Many, he said, understand agriculture and would be comfortable investing in the dairy industry, either farms or processing.

While the above is anecdotal, NDA has had some concrete interest from foreign investors in the possibility of building in Nebraska. These groups have looked at

producing a product for U.S. sales and also products that they would export to other countries. It should be noted that of the processors that currently use Nebraska milk, two of them are foreign owned entities; Agropur in Hull, Iowa, makes cheese and is based out of Canada, and LALA Foods in Omaha is based out of Mexico.

There is often the discussion of which needs to come first, more processing or more cows. In the end, the answer is probably both. Processors want to know that if they invest hundreds of millions of dollars that the cows will be welcomed into the area too. So, a growing dairy herd is a positive sign in their minds. In researching the materials for this study, we found a trend as we reviewed reports on the construction of the above four plants. They all located into areas with growing cow numbers, although there was not near the milk volume that they would need. However, in the couple of years that it took to get the plant built and on-line, the dairies followed. By the time the processors were hitting full capacity, the number of cows and amount of milk needed were available.

SECTION 1(e)

A discussion of constraints to the establishment of new milk production facilities, expansion of milk production, and relocation of dairy operations into Nebraska.

The producer survey included multiple questions about the constraints to the establishment of new or expansion of existing dairy farms in Nebraska. We asked current dairy farmers what kept them from expanding their current operation, and we asked them to speculate on why there weren't more new farms started in Nebraska. The dairy industry nationally is relatively small and tight knit. Most dairy farmers know what issues are affecting other dairies around the country, or at least regionally, so we believe their answers to be pertinent.

On the question of whether there are adequate market opportunities for Nebraska dairies, 65% of larger operations (those that milk 500 or more cows daily) and 47% of smaller operations did not feel there are adequate market opportunities in Nebraska.

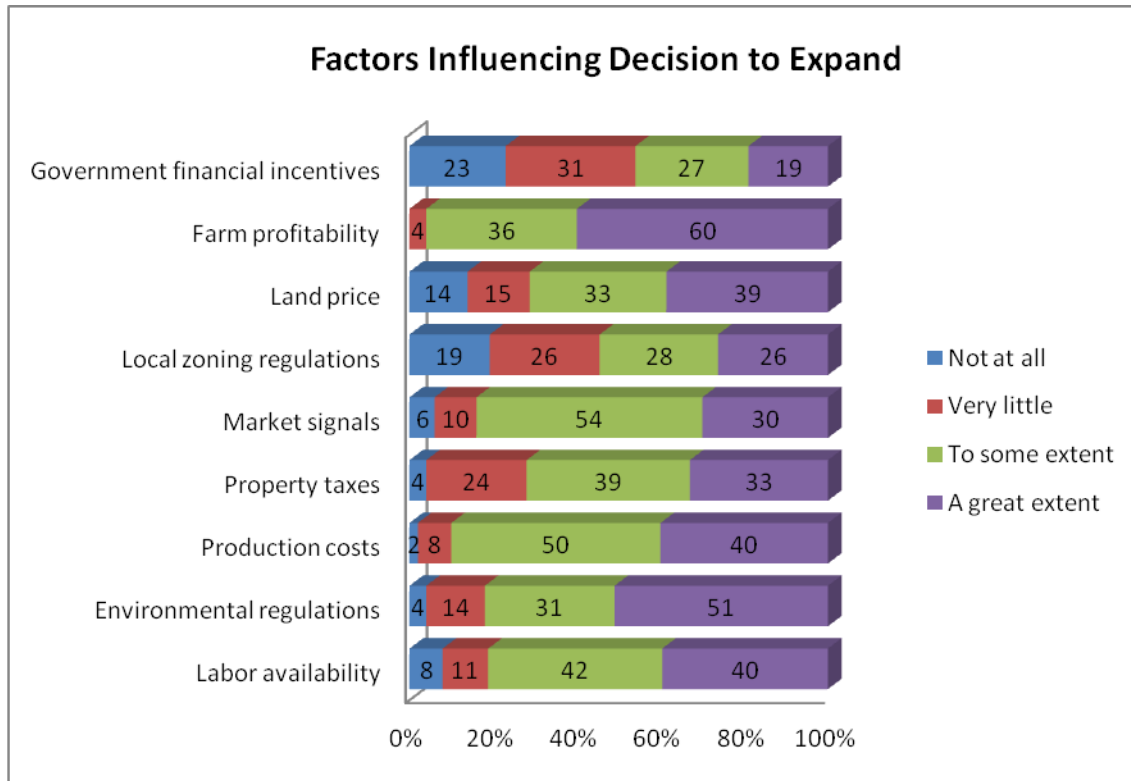
Dairy farmers will market milk through a cooperative, direct to a processor, or by self-processing. As mentioned in section C, Dairy Farmers of America (DFA) is the largest cooperative in the state and operates across the entire state; other cooperatives operate only in northeast Nebraska. Also mentioned in section C, all of the processors that use Nebraska milk are located along the eastern edge and northeastern part of Nebraska or the northwest part of Iowa. Depending on where a dairy is located the lack of a nearby processor may be a major concern.

Dairy operations typically will try to locate their operation within 100 miles of a milk processing plant to limit the cost of shipping. In years past, there were processors throughout the eastern half of the state but, as time has passed many of those plants closed. Now dairy farms that are located in the center of the state do not have a nearby processor. These dairies incur higher shipping costs in getting their milk to market. From an expansion standpoint, it may not be practical to build a new dairy farm or expand an existing one in an area that is a long way from a processor.

When asked the open-ended question: "What limiting factors are there to expanding your milking operations?", many respondents cited age and lack of succession plan (22) as their main concern; other responses included, cost or lack of capital (15), lack of labor (9), and zoning regulations (7) as their main concerns.

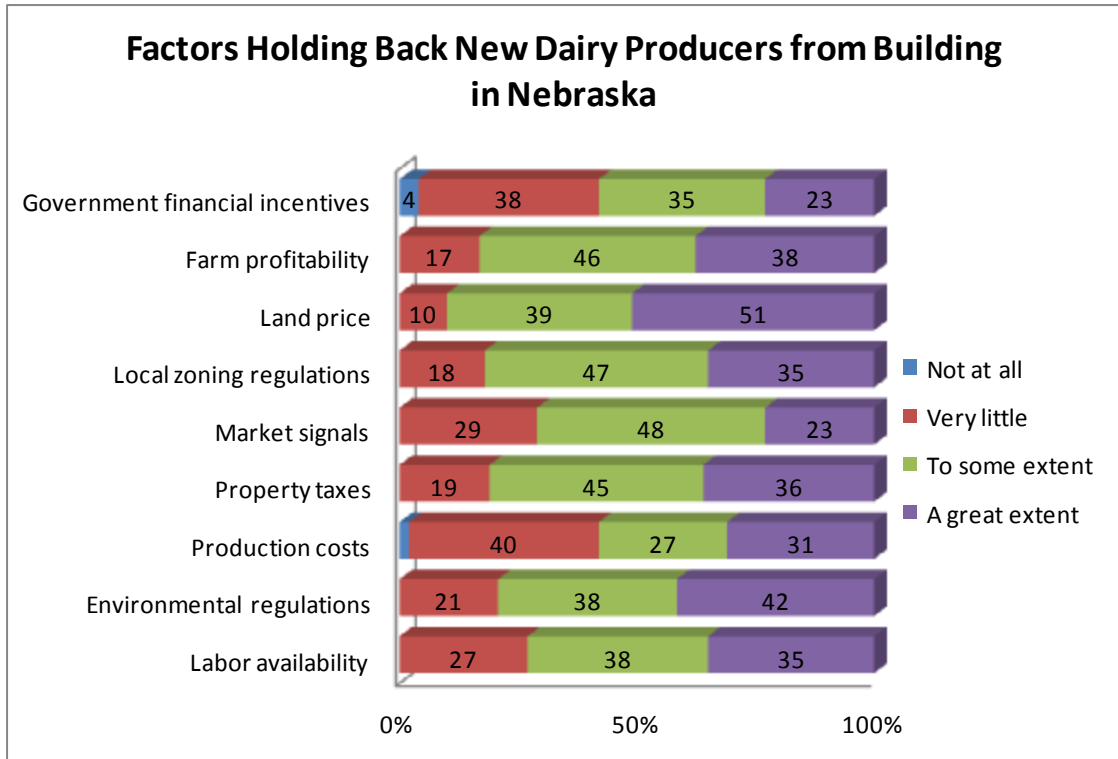
Respondents were then given a list of possible constraints and asked to evaluate how much those items would influence their decision to expand. Over one-half of the respondents said farm profitability (60%) and environmental regulations (51%) influenced their decision to a great extent. Other factors influencing their decision to a great extent include: labor availability (40%), production costs (40%), land price (39%), property taxes (33%), market signals (30%), local zoning regulations (26%), and

government financial incentives (19%). Over one-half of the respondents say government financial incentives influence their decision not at all or very little.



If those limiting factors could be overcome, almost one-half (47%) of the respondents said they may expand. Most of the larger operations (55%) say they may expand if the limiting factors could be overcome.

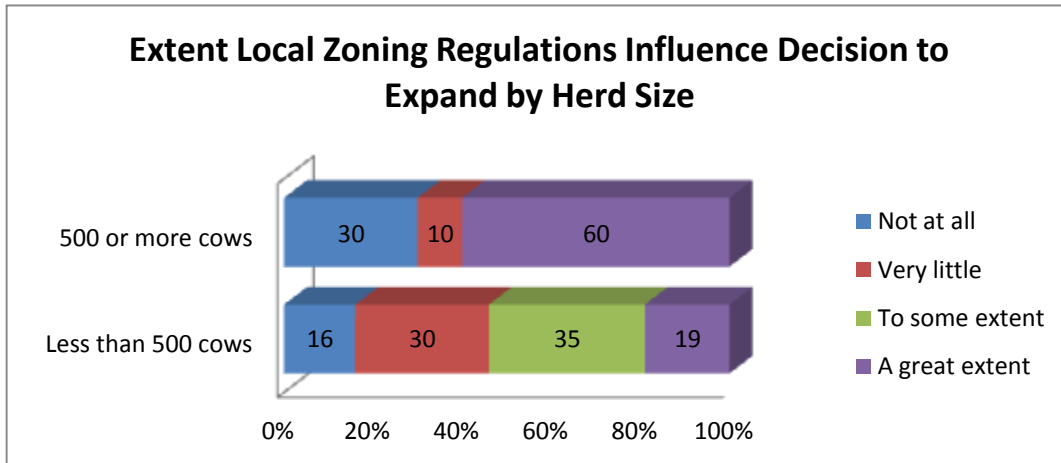
In the survey, the dairy farmers were asked to speculate on obstacles to new dairy farms being built in Nebraska. These new farms could either be new farms built by existing Nebraska dairy farmers or by dairy farmers who relocate to Nebraska from another state. The obstacles identified seem to mirror what they viewed as constraints for their own operation. In general terms, the responses indicated that being profitable is the biggest consideration. Land prices, taxes, and other inputs versus the market prices and access to markets adds up to determine if a new dairy can be profitable. Producers who are not in the northeast part of the state, again, indicated a need for additional processors.



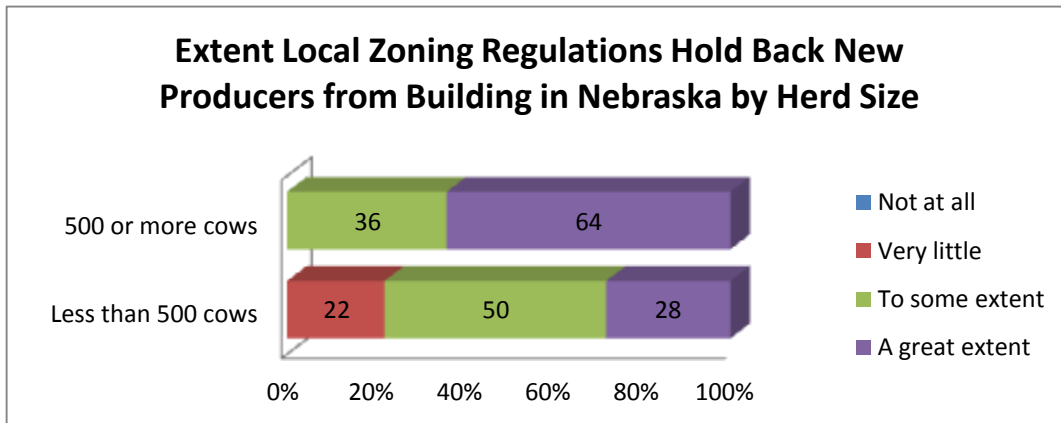
An obstacle mentioned by dairy producers throughout the survey is the “lack of labor”. Dairy operations, like many agricultural industries, rely on immigrant labor to fill the void left when local individuals aren’t available or willing to take the jobs dairies have to offer. While low unemployment is a great thing for the state, it also presents a challenge when trying to hire farm workers. We also heard from several processors that they were having trouble finding workers for the processing plants.

The next issue mentioned consistently in the survey was “regulations”. There were two parts that were discussed: environmental regulations and local zoning regulations. As a whole, the respondents reported a favorable working relationship with Nebraska Department of Environmental Quality (NDEQ). Dairy farmers indicated they felt the NDEQ permitting process was straightforward, and they could work with NDEQ staff to put environmental safeguards in place without being overly burdened. However, the responses indicate farmers believe more regulations from the Environmental Protection Agency are going to impact them negatively in the future. No specific federal regulations were mentioned.

The second part of regulations the respondents mentioned was local zoning regulations. While there was no in-depth discussion, the comments indicated that the wide variety of regulations from county to county and even within townships made doing business difficult. There were comments about local regulations on manure management, when those issues were already covered by NDEQ. Several said they wished there were state level guidelines that would simplify the NDEQ and local processes. These comments were made by a variety of sizes of operations.



Respondents also indicated that they believe local regulations were a large factor in influencing new dairies decision to build in Nebraska.



Additional obstacles that were mentioned in descending order of number of mentions include: property tax relief, land prices, equipment and supply dealers, access to capital, and the cost of all things dairy related.

The topic of property taxes and property tax relief is not a new one, several producers named it as a deterrent to new dairy farms and new dairy processors moving to Nebraska. When processors were interviewed, they indicated that taxes were part of doing business, and they would evaluate locations based on maximum profitability.

High land prices are another item that can limit growth in dairy farms. Several producers stated that they could not expand because they could not afford to purchase additional land. Others mentioned land prices as being a deterrent to outside farms

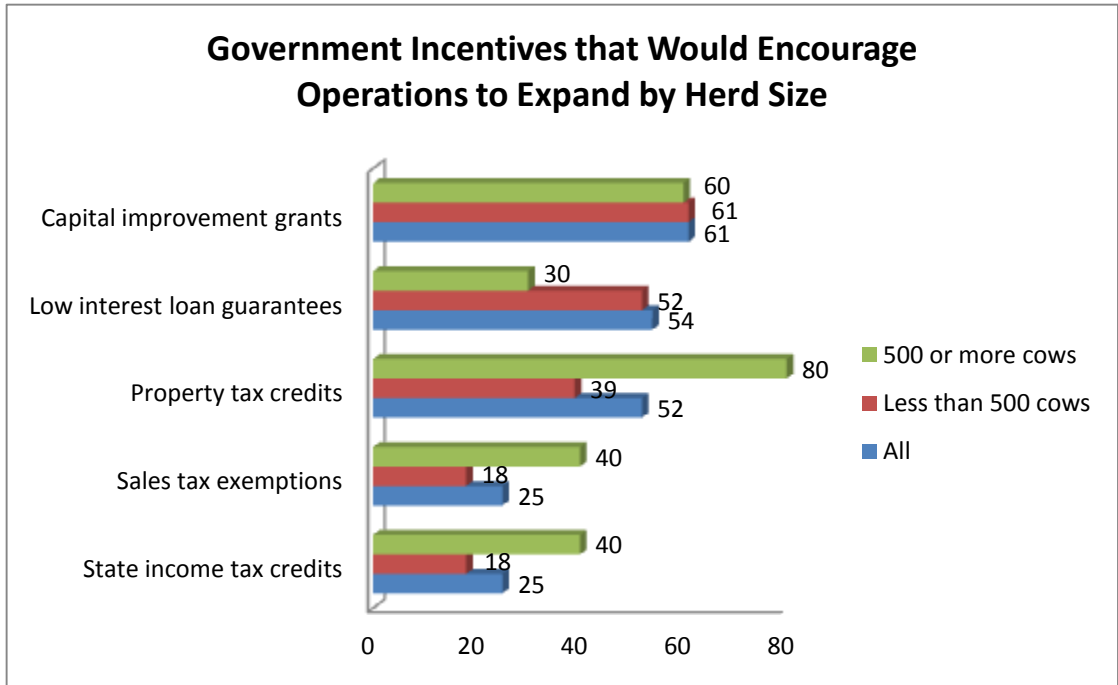
coming to Nebraska. However, in a comparison of land prices in the Midwest, Nebraska land prices are similar to other states.

The issue of access to equipment and supply dealers seemed to be affecting the same producers who are a long way from processors. In some southern and central counties there may only be one dairy in the county. In those situations, dairies have to rely on suppliers, equipment dealers, veterinarians, and nutritionists from farther away. This may not be a huge issue on a day-to-day basis, but when something goes wrong it can be, at the least, a major inconvenience.

Another issue with equipment dealers is getting access to new technologies and having access to support staff. In particular, there are several small producers who would like to invest in robotic milking parlors, but the robotics companies are hesitant to sell in Nebraska because they don't have staff in the state to support the equipment. If enough producers commit to purchasing the units, it may sway the companies to move forward with a presence in Nebraska.

Access to capital and the cost of all things dairy related sort of go hand in hand. Dairy is a very capital-intensive business; the barn, the milking equipment, and the cows themselves are all expensive to purchase. In general terms, a new dairy facility will cost about \$6,000 per cow to build. This means a 1,000-cow dairy would cost about \$6 million just for the building and milking parlor. Purchasing heifers will cost around \$2,000 per heifer, making the total cost of a 1,000-head startup approximately \$8 million. A young farmer may not have the means to access this kind of startup capital. Survey respondents indicated that beginning farmer programs may help beginning dairy farmers get over that hurdle. Additional suggestions were to have a tax credit or grant fund that could go toward capital improvements (such as if a beginning farmer were to purchase or lease an existing farm but needed to replace equipment or breeding stock).

Dairy farms that are updating facilities could access the Livestock Modernization funds through the Department of Revenue. The funds are in the form of refundable tax credits equal to 10% of the net, new investment, not to exceed \$30,000. The minimum net, new investment is \$50,000. This might be a good option for a beginning farmer that needs to update equipment.

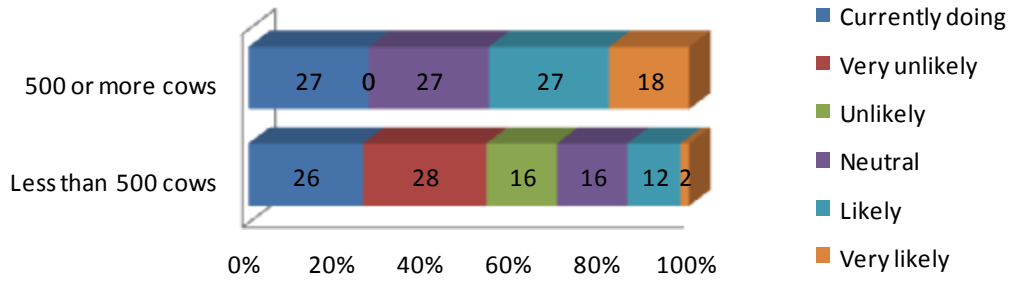


To get more depth in addressing the question of obstacles to new dairy farms in Nebraska, we asked processors when we interviewed them if they had any thoughts on obstacles. The processors generally agreed with farmers that additional processing capacity would draw new dairy farm development.

The processors' general analysis of the situation was that new dairies would build where they could be profitable and where they would be welcomed. Overall, they did not feel like regulations, price of land, or tax structure were major obstacles if the farm could be profitable. Nearly all the processors indicated they believe Nebraska was a great location for dairy farms, with its plentiful feed, water, and space.

On a related note, several survey respondents indicated they were either already expanding or considering it to be able to bring family back to the farm. The expansions include both adding on to existing facilities and building new facilities.

Likelihood of Increasing Herd Size in Next Five Years by Current Herd Size



SECTION 1(f)

A review of public and private programs and initiatives to stimulate expanded milk production in Nebraska and to recruit milk production to relocate to Nebraska.

The decline of Nebraska dairy farms and processors was identified long ago and multiple efforts have been made to reverse it. Unfortunately, those initial efforts were not as successful as they could have been. Recently, within the last 15 years or so, a more concerted effort has been made that involved more stakeholders to stimulate growth in Nebraska's dairy industry. There have been successes and there have been set-backs, but ultimately the stakeholders have learned lessons and are well positioned for future success.

The main stakeholder group is a partnership between Nebraska State Dairy Association (NSDA), The Alliance for the Future of Agriculture in Nebraska (AFAN), and Nebraska Department of Agriculture (NDA). This partnership operates under the name "Grow Nebraska Dairy" and is supported by many of the commodity boards through direct donations to NSDA and through support of AFAN, as well as some private business support.

Current efforts by Grow Nebraska Dairy include exhibiting at the World Ag Expo in Tulare, California, and the World Dairy Expo in Madison, Wisconsin. The goal of exhibiting at these expos is to make personal contact with dairy producers who are looking to build or relocate. The group used those events to network with others in the dairy industry to make them aware of the opportunities available in Nebraska. Additionally, the group has sent direct mail pieces to dairy producers in targeted areas, maintains e-mail with established contacts, and has hosted several producers exploring opportunities to build in Nebraska.

In addition to recruiting dairies to relocate to Nebraska, Grow Nebraska Dairy, especially through NSDA and AFAN, have worked with existing Nebraska producers to help them grow and expand their operations. This includes helping producers understand local zoning regulations, gathering support for the project, and working with local economic development groups. NDA's role has been to support the efforts as the need arises.

There are several county level economic development groups who have partnered with Grow Nebraska Dairy to help recruit dairies and dairy businesses to Nebraska. Wayne County staff attended the World Ag Expo in 2014; Dodge County staff attended the World Dairy Expo in 2014; Keith and Cuming counties sent letters of support to be presented at the World Dairy Expo; and Wayne and Dodge counties have assisted in meeting with prospects in person. These counties have been a great resource for programs available from an economic development standpoint, but it also shows dairy prospects that Nebraska communities value agriculture and would welcome their business to the community. The counties that have participated have all been

designated as Livestock Friendly through the state's formal Livestock Friendly County (LFC) program managed by NDA. Although, LFC designation is not a requirement to join the stakeholder group. Dawson and Knox counties have committed to future recruitment activities.

Incentive programs from the state and local level can be used to attract dairy businesses. The incentive opportunities for dairy farms are not as extensive as they are for manufacturing but there are still a few to help the farms. State programs include:

Under the **Nebraska Advantage** the State of Nebraska has several programs for dairy operations. Programs include:

- Nebraska Advantage Microenterprise – eligibility includes having five or fewer full-time equivalent (FTE) employees and less than \$350,000 in net worth. Eligible applicants can receive up to \$10,000 lifetime tax credit. Refundable tax credit is equal to 20% of the increase in new investment in personal property and employee compensation. The program has \$2 million available for the calendar year.
 - This program could assist a small dairy producer purchasing new equipment or adding new jobs.
- Nebraska Advantage Rural Development Act – Livestock Production – refundable tax credits equal to \$2,750 for each \$50,000 in new, net investment and \$3,000 for each new FTE. The program has two levels based on county population and a minimum investment and creation of a minimum number of FTEs. The program has \$1 million available for the calendar year.
- Livestock Modernization – refundable tax credits of 10% of net, new investment not to exceed \$30,000. Eligible projects include new construction, improvements, or acquisitions of depreciable buildings, facilities or equipment for housing, feeding, or production of livestock and for waste management. The program has \$1 million available for the calendar year.

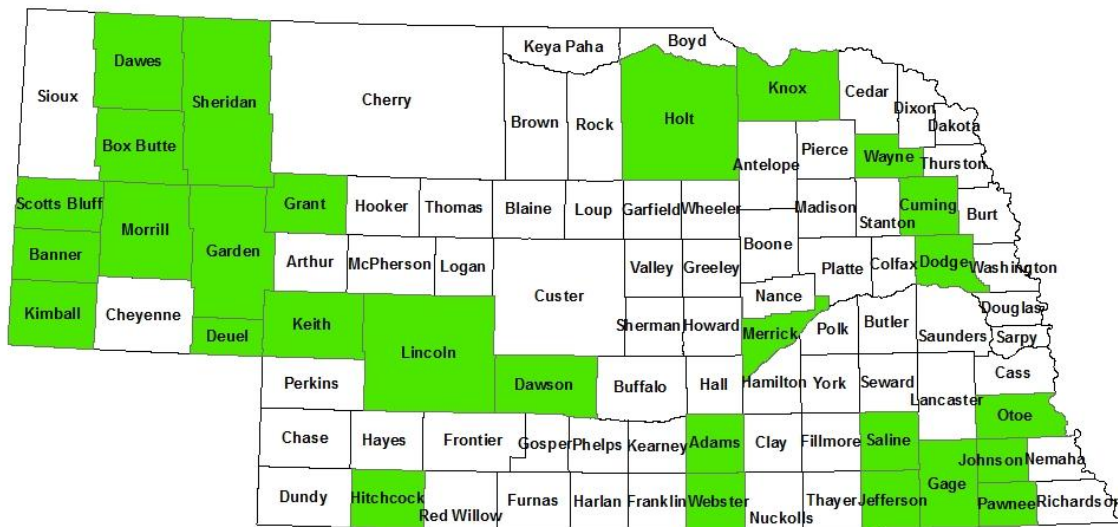
Nebraska Department of Economic Development (DED) would be a resource for manufacturing companies which could include companies that make supplies or equipment for dairies, as well as processors of milk. Programs include the Nebraska Advantage Act which has multi-tiered benefit packages depending on the size of the investment and number of new jobs created. Additional programs that might be utilized through DED include Site and Building Development Fund and the Angel Investment Tax Credit. A business would need to work directly with DED to discover all the programs for which they could be eligible.

NextGen is a beginning farmer program authorized through the Beginning Farmer Tax Credit Act. This program is housed within the NDA. The program has two parts: one is a tax credit for the owner of an agriculture asset who rents or leases it to a qualified beginning farmer; and two, is a personal property tax credit that the beginning

farmer can access for no more than three years to reduce overall expenses. We don't believe there has been much usage of this program by beginning and retiring dairy farmers but it could aid in succession planning for a dairy farmer who is looking to exit the business and has a beginning dairy farmer who wants to take over the operation.

The LFC program was created by the legislature in 2003 and is administered by NDA's Ag Promotion and Development division. Counties apply to NDA to be designated as a LFC. NDA evaluates the application and compares it to a set of criteria, as directed by the regulations. A county that meets the standards is designated as a State of Nebraska Livestock Friendly County. Once designated, the counties use the LFC designation to promote themselves and work toward their livestock development goals. The process of applying and being designated also helps NDA understand the county's goals, and NDA can work with the county leadership to accomplish those goals. To date, there are 28 designated counties (see map below), and several more in the process of applying. Several of the designated counties have participated in dairy recruitment efforts in cooperation with the Grow Nebraska Dairy team.

Livestock Friendly County Program



 Approved



October 27, 2014

Nebraska Investment Finance Authority (NIFA) provides a broad range of financial resources for Nebraskans, including agriculture and manufacturing. NIFA has a Beginning Farmer/Rancher program that helps a beginning farmer obtain loans at low interest rates. NIFA also has a Development Financing program. NIFA provides technical assistance for project participants to arrange financing through tax-exempt bonds. Several agricultural entities have accessed this financing in the past including, food manufacturing and dairies needing assistance for their waste lagoons.

Besides the state programs, local communities have some tools that can be utilized to encourage dairy growth and development in their area. These include:

Local Option Municipal Economic Development Act (LB 840 funds) authorized incorporated cities and villages to collect and appropriate local tax dollars (sales and/or property tax), if approved by local voters, for economic development purposes. The municipality creates a plan on how they will use the funds they collect. The following is a list of activities that an economic development program may include, but is not limited to, under the act:

1. Direct loans or grants to qualifying businesses for fixed assets and/or working capital;
2. Loan guarantees for qualifying businesses;
3. Grants for public works improvements which are essential for the location or expansion of a qualifying business;
4. Grants or loans for job training;
5. The purchase of real estate, options for such purchases, and the renewal or extension of such options;
6. Payments for salaries and support of city staff or the contracting of an outside entity to implement the economic development program;
7. Bonding used to carry out program activities; and
8. Production of films, including feature, independent and documentary films, commercials and television programs. (LB 863, 2012)

Qualifying businesses include those that derive its principle source of income from, among many other activities, the sale of commodities, like milk. In practice, an eligible community could collect taxes to fund projects to recruit dairies. This may include loans or loan guarantees for local dairies to expand or recruitment of new dairies including assistance in finding and developing the site.

Community Development Block Grant (CDBG) Funds are funds that come from the federal government to the state, then, by formula, are eligible for counties and incorporated municipalities to access. The eligible entity then can use the funds to make loans to businesses, provide for grants for workforce development, for industrial park projects, and for entrepreneurial development grants. In the past, several communities used the funds to make loans to dairies to update facilities, however, at this time, production agriculture, including dairies, are not eligible to use these funds. A dairy processor would be considered a manufacturer and could use the CDBG funds through a qualified community.

Other assistance for dairies could come through the USDA Farm Service Agency (FSA). The FSA has loan guarantee programs and direct loans that could assist a dairy farmer in renovating, expanding or building a new facility and in the purchase of land and cows. FSA also has beginning farmer and rancher loans. There are limits to the amount a borrower can access and in many cases the FSA acts to guarantee the loan while the producer works with a commercial lender.

SECTION 1(g)

A compilation and overview of state incentives and outreach and marketing programs for the recruitment or relocation of dairy production and processing or the stimulation of investment in new or expanded dairy production and processing for states surrounding Nebraska.

The information gathered for this section is based on interviews with state representatives and from information gathered from state websites.

South Dakota

South Dakota has several loan guarantee programs. For the dairy industry, they have an Agri-Business Bonding Program, a Livestock Nutrient Management Bond Program, and a Value-Added Agribusiness Relending Program. They also have a Beginning Farmer Bond program that can be used to buy land, buildings, animals, or equipment. South Dakota Department of Agriculture partners with local lenders to assist producers.

Agri-Business Bond – this program is to assist in the development and expansion of agricultural and business enterprises with the State of South Dakota. The Value-Added Finance Authority issues tax-exempt bonds to bond purchasers in exchange for making low-interest loans (1-3% below commercial rates) to qualified borrowers. Borrowers may qualify for financing up to \$10 million for any one project.

Livestock Nutrient Management Bond – is a tax exempt bond program to assist financing capital expenditures associated with the handling and/or processing of byproducts and livestock nutrients. Interest rates and terms are determined by the bond purchaser. There is no limit to the amount a qualifying borrower can borrow.

Value Added Agribusiness Relending Program – is a direct loan available to businesses for processing or marketing agricultural commodities. Maximum amount is 50% of total project cost or \$150,000, whichever is less. Interest rates shall not exceed the prime rate or be less than the federal discount rate.

Value Added SubFund – its purpose is to make grants or loans for agricultural development, feasibility studies, and marketing. The fund has \$3 million and is replenished from motor fuel tax refunds. Fuel for off-road agriculture use is taxed at sale, when the tax is later refunded, 3 cents per gallon is diverted to fund this program.

Beginning Farmer Bond – program provides tax-exempt bonds to bond purchasers in exchange for making low-interest loans. Proceeds can be use to purchase any agriculture input. Applicants must meet beginning farmer criteria. Maximum loan amount is \$509,600.

The South Dakota Value-Added Finance Authority administers the programs through the South Dakota Department of Agriculture. Programs can be found on their website: <https://sdda.sd.gov/ag-development/financial-assistance-programs/>.

South Dakota has been aggressive in pursuing dairy development. They have three people within the South Dakota Department of Agriculture that focus solely on livestock development with an emphasis on dairy. They attend many national and regional trade shows to promote the state. The current governor of South Dakota has attended the World Ag Expo in Tulare, California, for the past few years and actively participates in the promotion of South Dakota to the dairy industry. Recently, Bel Brands built a \$140 million cheese plant in Brookings. This plant will employ more than 250 people and use the milk from over 7,000 cows every day.

Minnesota

According to a representative with the Minnesota Department of Agriculture, the state has not been overly active in recruiting out-of-state dairies. They have focused more on supporting existing dairies. Two programs provide direct reimbursement for qualifying expenses and another provides business planning grants. More information on finance programs can be found on the Minnesota Department of Agriculture website: <http://www.mda.state.mn.us/grants/grants/livestockinvestment.aspx>

Livestock Investment Grants: Direct reimbursement of up to 10% of cost of investment up to \$50,000 lifetime cap. Qualifying expenditures include the purchase, construction or improvement of buildings or facilities, and purchase of feed and equipment for livestock operations. Approximately \$2 million is available per year. These grants are competitively scored with young, beginning farmers or operations looking to transition their operations to the next generation receiving preferential scoring.

Value-Added Grants: This fund has approximately \$2 million/year, and awardees can get up to 25% of total project cost with a maximum grant of \$150,000. Equipment purchases must address improved efficiency, expansion or modernization that improve food safety, increase processing capacity or help facilitate access to new markets and/or maintain current market access. These grants can be used by a producer desiring to expand into on-farm processing ventures and involved a wide spectrum of ag enterprises.

Dairy Development and Profitability Enhancement Program: Program has an annual budget of \$620,000 that provides business planning grants (up to \$3,000 for dairy producers) and one-on-one business development assistance through the Minnesota Department of Agriculture.

Rural Finance Authority: Partner with local lenders to provide affordable credit. They have a whole host of program options.

The \$620,000 that supports the Dairy Development program is part of the general appropriations to the Minnesota Department of Agriculture. The Livestock Investment Grant and the Value-Added Grant funds were created by the legislature as the Agricultural Growth, Research, and Innovation Fund Act. This fund was originally created to support the bio-fuels industry but has since been transitioned to support other forms of agriculture.

Iowa

Iowa Department of Agriculture does not have a dairy recruitment component according to an individual with the Iowa Department of Agriculture. Efforts to recruit dairies have been undertaken by several groups including: Iowa State Dairy Association, Western Iowa Dairy Alliance, Northeast Iowa Dairy Foundation, and the Iowa Area Development Group.

Iowa does not offer any incentives or tax credit programs for production agriculture. The state Department of Economic Development does have tax credit programs that could be used by processors or manufacturers for relocation, modernization and innovation. The credits are tied to locating in certain counties and for paying a certain minimum wage.

Missouri

Missouri's dairy industry has traditionally been composed of smaller operations that have struggled to transition as aging owners require outside labor to stay in business. As a result, production has fallen by 38% since 2000 and 2,500 dairies have closed over the last decade (Swanson, 2014).

Currently, Missouri's state government has very little to no government programs or personnel to support and promote new and existing dairies. Any recruiting or promotion to draw new dairies to the state has been carried out by the Missouri Dairy Growth Council, a private organization supported by 16 dues paying organizations.

To combat the dairy decline and the lack of governmental support, the Missouri General Assembly passed the "Missouri Dairy Revitalization Act of 2014" with broad support in both chambers of the legislature. While the Missouri Dairy Revitalization Act of 2014 passed with broad support, it was vetoed by Missouri Governor Jay Nixon after it was included in a larger agriculture omnibus bill, a move largely based on the bill's inclusion of legislation to alter the captive deer industry. The vote to override the veto failed by a single vote. The Missouri State Dairy Association plans to reintroduce the bill next legislative session (Alexander, 2014).

The bill would require the Missouri Department of Agriculture to assist dairy producer who participate in the federal margin protection program under the farm bill by reimbursing them for 70% of their federal insurance premium payment. The bill also

would set up a scholarship fund to make available 80 scholarships at \$5,000 for students who are pursuing agriculture-related degrees and who commit to work in the dairy industry for a specific amount of time. Additionally, the act would have the University of Missouri conduct an annual dairy industry study and make recommendations on how to grow the state's industry (Missouri State Dairy Association, 2014).

Kansas

Kansas has been very active in dairy promotion and recruiting, with several programs established to attract dairies and processors to the state, along with a very modern and accessible website devoted to the topic. Below are the programs listed by the Dairy in Kansas website as applicable to dairies and/or processors:

Promoting Employment Across Kansas (PEAK): The PEAK incentive allows qualified companies that are locating new jobs or expanding an existing Kansas operation to retain 95% of the payroll withholding tax of the PEAK jobs up to a period of 10 years. The company's wages for PEAK jobs must meet or exceed the county median wage or regional North American Industry Classification System (NAICS) industry average wage. Businesses located outside of metropolitan counties must create five PEAK jobs within two years, and make available to full-time employees adequate health insurance coverage and pay at least 50% of the premium.

Rural Opportunity Zone: Rural Opportunity Zones (ROZ) are designed to spur economic development and expand job growth in 73 key counties around the state. The program has two main incentives:

1. A state income tax exemption for up to five years to individuals who move to a ROZ county from outside the state. Individuals must not have lived in Kansas for the past five years, nor have Kansas source income of more than \$10,000 per year over the past five years.
2. Student loan forgiveness of up to \$3,000 per year (\$15,000 maximum benefit) for individuals who graduate from an accredited post-secondary institution and move to a ROZ county. The student loan forgiveness portion of the program is a county-state partnership, and counties must opt in to participate.

Income Tax Exemption: Kansas has a new business income tax exemption which eliminates certain non-wage business income on lines 12, 17 and 18 of the IRS Form 1040 for entities structured as follows: Partnerships, Limited Liability Corporations, Limited Liability Partnerships, Sole Proprietorships and Subchapter-S Corporations. These entities have elected at the federal level to be taxed as a pass through entity.

Agricultural Projects Sales Tax Exemption: Beginning July 1, 2014, a sales tax exemption is available for capital investment in agriculture, including for dairies. The exemption is granted for the construction, reconstruction, enlargement or remodeling of a facility with a total cost of the project being no less than \$50,000.

Machinery & Equipment Property Tax Exemption: A state and local property tax exemption is available for new or used commercial and industrial machinery and equipment acquired by qualified purchase or lease, or transferred into the state for the purpose of expanding an existing facility or establishing a new facility.

Sales Tax Exemption: In addition to other sales tax exemptions, the following ag-based items are exempt from sales tax:

- Purchases of animals primarily used for agriculture
- Production of food for human consumption
- Production of animal or dairy products
- Production of offspring for use in any such endeavor

Colorado

Efforts to contact officials in Colorado failed to help establish whether there are any programs that they undertake to develop the dairy industry. One article from the *Denver Post* mentioned that officials in Weld County, in northeast Colorado, adopted new zoning regulations that reduced set-back distances for livestock operations and streamlined the permitting process to speed up approvals.

Section 2

In the report, the Director of Agriculture may include any recommendations to the Legislature regarding actions state government may take to aid and encourage expansion of milk production and markets for milk production in Nebraska.

The year 2014 could be the start of a trend, or it could be an abnormality on an otherwise consistent downward trend line. As we look back on this year, we can count several successes. A new dairy farm in Dixon County will populate by the end of the year with 4,500 cows. An existing dairy farm was sold and repopulated with 1,200 cows in the south-central part of the state. There are also positive trends in our smaller producers too. Several of them have started construction to add to their enterprise and several more are in serious negotiations to do the same thing. All in all, Nebraska will add at least 5,700 cows to the state inventory in 2014, pushing cow numbers over 60,000 for the first time in seven years.

However, Nebraska also has lost some producers. Are there things that could have done to keep those dairy farms in operation? Would transition or succession planning have allowed some operations to live on with other owners? Possibly. As we have completed this study, gathered information from many sources and talked to producers, processors, and industry people, we have come to the conclusion that though small, the dairy industry in Nebraska is strong. With some focus and dedication to continued growth, we feel that the dairy industry can thrive again in Nebraska.

As the dairy industry grows some of the challenges Nebraska producers face today will disappear, things like access to new technology and dairy service providers. Other challenges need to be met head on. The following are recommendations we believe will assist the dairy industry and allow it to grow and prosper.

Recommendations include:

1. Retain and Grow Existing Dairy Farms

The first recommendation is to keep existing dairy farms in business rather than having them close when the farmer retires and help those farms that wish to expand production to do so.

The existing dairy industry has developed an infrastructure over many years. As farms close, part of that infrastructure is lost and it impacts all other dairies. Succession planning can help the retiring farmer pass the farm to the next generation. Some existing producers may not have a family member to take over the operation, in which case a program that helps connect existing producers with beginning farmers could help. The NEXtGen program through NDA is a valuable resource to consult and possibly use for these types of transitions. Others that might be able to help with making

connections could include the Nebraska State Dairy Association(NSDA), Grow Nebraska Dairy, FSA, or others.

Concerted efforts for transition and succession outreach should be undertaken to educate producers about possible options to closing their dairy. Nebraska's dairy industry is relatively small so efforts can be targeted. This may be direct mailing of materials followed up with phone calls or personal visits.

The influence of technology, including robotic milking systems, can be highlighted. The use of technology may allow a small producer to continue to operate or even expand without having to add additional labor, which is a challenge to find in rural areas. The Livestock Modernization Act may be a program that can help a small producer offset some of the expense of the equipment.

2. Recruit New Dairy Farms

The second recommendation is to help develop new farm growth. This will be a combination of in-state producers expanding to another site and out-of-state producers building in Nebraska.

With only 195 licensed dairies, reaching in-state producers to gauge interest level in building new facilities would be feasible. Producers also could be made aware of programs and incentives that may be beneficial to their expansion effort. Producers also could be made aware of counties that are actively recruiting dairies as some of those local communities may have local incentives. The Grow Nebraska Dairy team could aid in this effort.

Out-of-state producers could be attracted using the same strategy the Grow Nebraska Dairy team is employing today, including attending national and regional dairy tradeshow to develop leads, and working one-on-one with the leads to find locations suitable for their needs.

The Grow Nebraska Dairy team has begun establishing a foundation of counties that are actively trying to attract dairies and dairy companies. These counties are working within their local communities to build support for dairy expansion and to identify sites where a dairy could locate. This network can be used to assist new construction of dairies by in-state, as well as out-of-state, dairy farms.

Grant or incentive funds that could be used to recruit producers, develop sites, and develop business plans would be useful. From helping a young farmer transition to owner, or helping an existing producer step into a new market, to finding sites that meet all local and state regulations for new dairies, all of these programs would be seen as the state being proactive in growing dairy.

From a strategic perspective the fastest way to grow cow numbers is to work with existing producers. New construction is a longer term effort, yet should also continue to

be pursued. Many of the dairies that would relocate to Nebraska are going to be 1,000 cows or larger so that has a dramatic impact in terms of overall numbers. As noted many times through the study, dairies in the northeast quarter of the state have a strategic advantage over dairies in other parts of the state since they are close to existing processors.

3. Grow Existing Processors and Recruit New Processors

The third recommendation is to encourage processing growth with existing processors and attract additional processing in the central part of Nebraska.

The map of dairy farms and processors tells a compelling tale. The standard belief is that dairy farms should locate within 100 miles of a processor. While this is not always the case, it does make economic and common sense, and it illustrates that the lack of processing in central Nebraska is a concern for existing dairy farms, as well as any that may wish to build in that part of the state.

With fluid milk consumption declining and Nebraska's relatively low population to consume dairy products, expanded processing needs to be something like cheese or a dry product that allows for storage and makes the products easier to ship. Logistically Nebraska sits along railroad lines that run to cities and ports along the east, west, and gulf coasts. Interstate 80 crosses Nebraska and products can be to both coasts and gulf states within two days.

In answering the question "which do we need first, cows or processors?" the answer must be both. Already, existing processors in eastern Nebraska say they need more milk, but producers in central Nebraska say they need more markets. So, we must pursue simultaneous efforts to expand cow numbers and expand processing. If we look at the examples in this report of Leprino in Greeley, Colorado, and Bel Brands in Brookings, South Dakota, those areas had some growth in cow numbers which supported existing processors but was not enough for the new processors. However, in the time between groundbreaking and full plant production at the new facilities, existing dairies expanded and new dairies built in those areas, and they are continuing to build.

Again taking Bel Brands and Leprino as examples, according to a company press release, Bel Brands spent \$140 million on construction costs and now employs 250 people. According to a Denver Post article, Leprino's Greeley facility cost \$270 million to build and would have a \$15 billion impact on the local community over the next 20 years.

Processing is considered manufacturing and can utilize, and should begin a concentrated effort to use, the Nebraska Advantage programs. Existing processors can access Nebraska Advantage for job growth and additional investments. Other programs that assist with site development and business planning through local communities could help with attracting the interest of new processors.

Finally there needs to be concentrated effort to work with local communities to develop an understanding, and ultimately a desire, to support and recruit processors and producers. The Grow Nebraska Dairy team has worked with a handful of communities that are very interested in supporting dairy growth. That information, including the NPPD study, and other economic data should be formalized and made available for community economic development leaders. Some of this work is already being done.

Addendum #1 UNL Compilation of Producer Survey Results

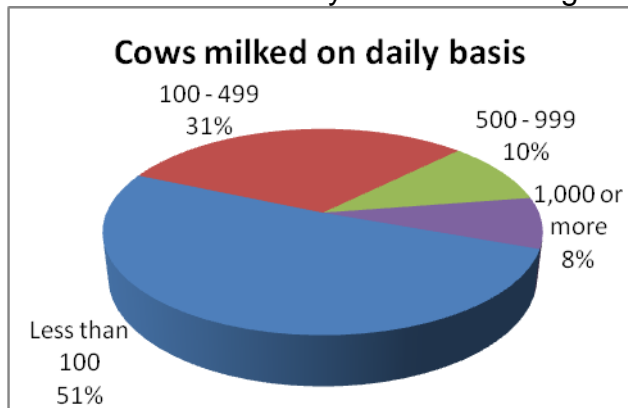
Methodology and Respondent Profile

This report is based on 61 responses from dairy producers in Nebraska. A self-administered questionnaire was mailed in August to all 195 dairy producers. The 8-page questionnaire included questions about their operation, markets, current production capacity, future expansion plans, current business environment, perceptions on the support for the industry, and future growth opportunities.

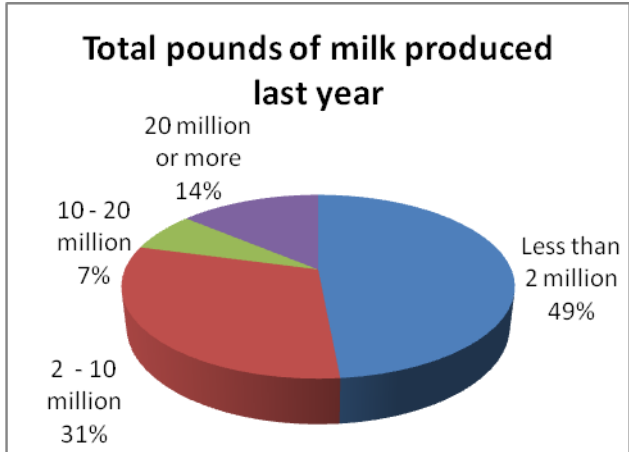
A 30% response rate was achieved using the following steps:

1. A pre-notification letter was sent requesting participation in the study.
2. The questionnaire was mailed with a letter signed by the Board President of the Nebraska State Dairy Association and the Director of the Department of Agriculture approximately 10 days later.
3. Those who had not yet responded within approximately 14 days of the original mailing were sent a replacement questionnaire.

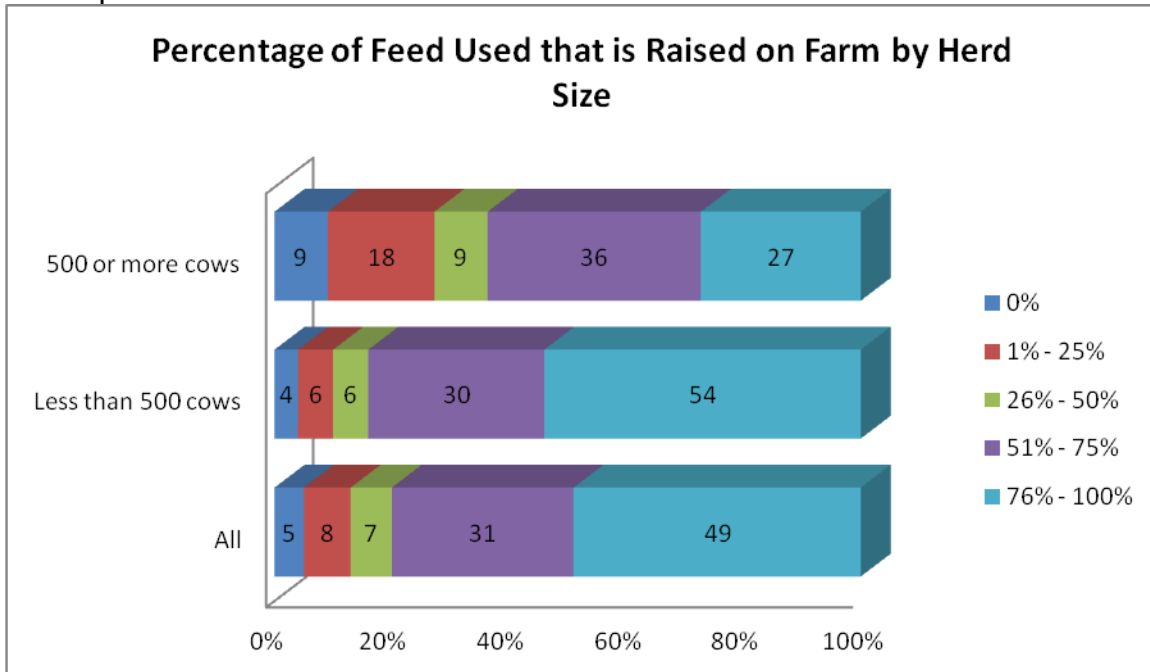
Appendix Table 1 shows demographic data from this study as well as similar data based on all dairy producers in Nebraska (using the latest available data from the 2012 U.S. Census of Agriculture). Over one-half (51%) of the survey respondents milk less than 100 cows on a daily basis on average. Eight percent of the respondents milk 1,000 or more cows on a daily basis on average.



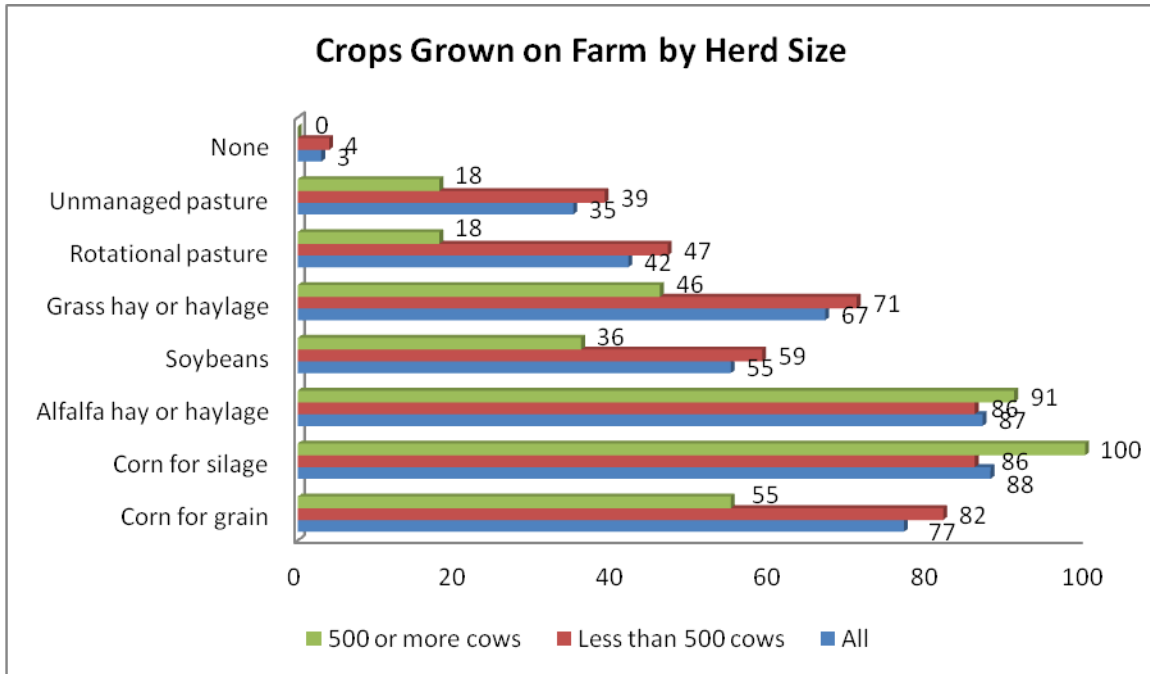
Almost one-half (49%) of the survey respondents produced less than 2,000,000 pounds of milk last year.



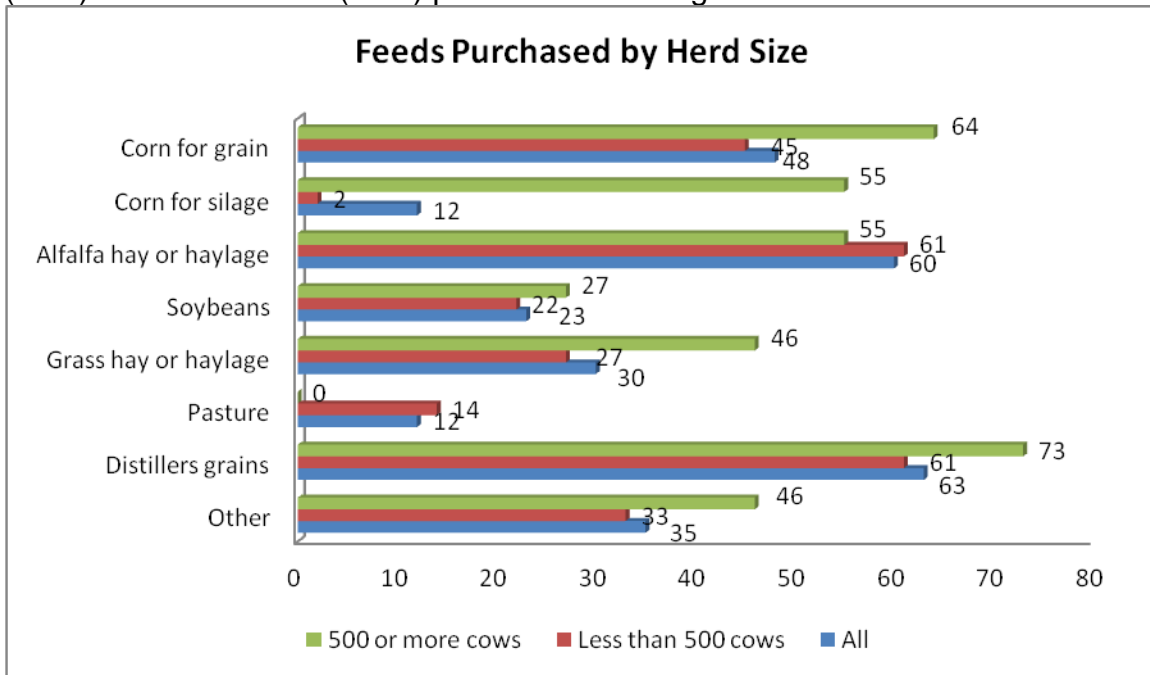
Most of the survey respondents produce a majority of their feed on their farm. Smaller operations produce more of their feed on their farm. Just over one-half (54%) of operations with less than 500 cows produce at least three-quarters of their feed on their farm. In comparison, only 27% of operations with 500 or more cows produce at least three-quarters of their feed on their farm.



At least two-thirds of the respondents grow the following crops on their farm: corn for silage (88%), alfalfa hay or haylage (87%), corn for grain (77%), and grass hay or haylage (67%).

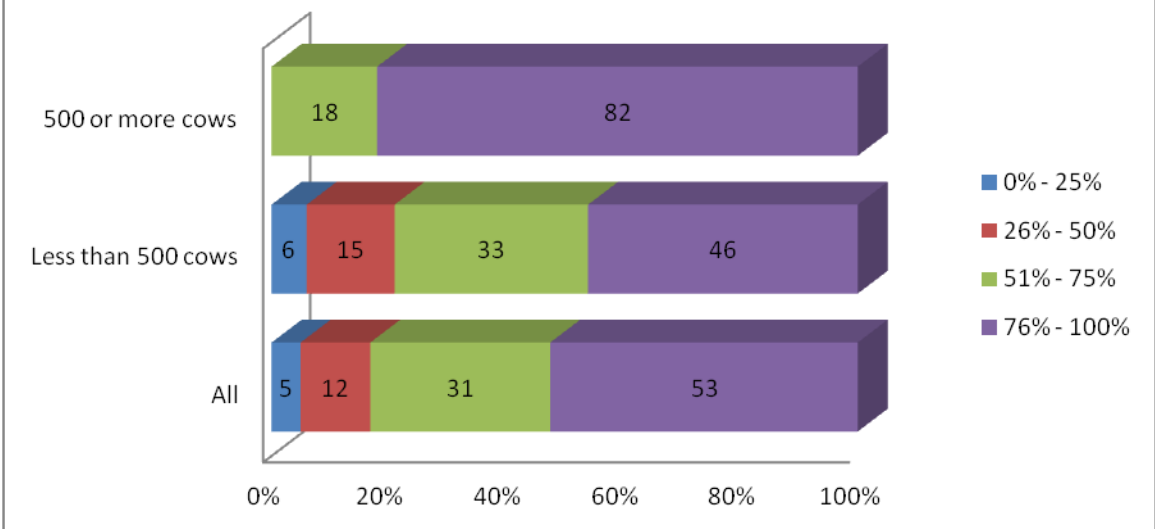


Most of the respondents purchase distillers grains (63%) and alfalfa hay or haylage (60%). Almost one-half (48%) purchase corn for grain.



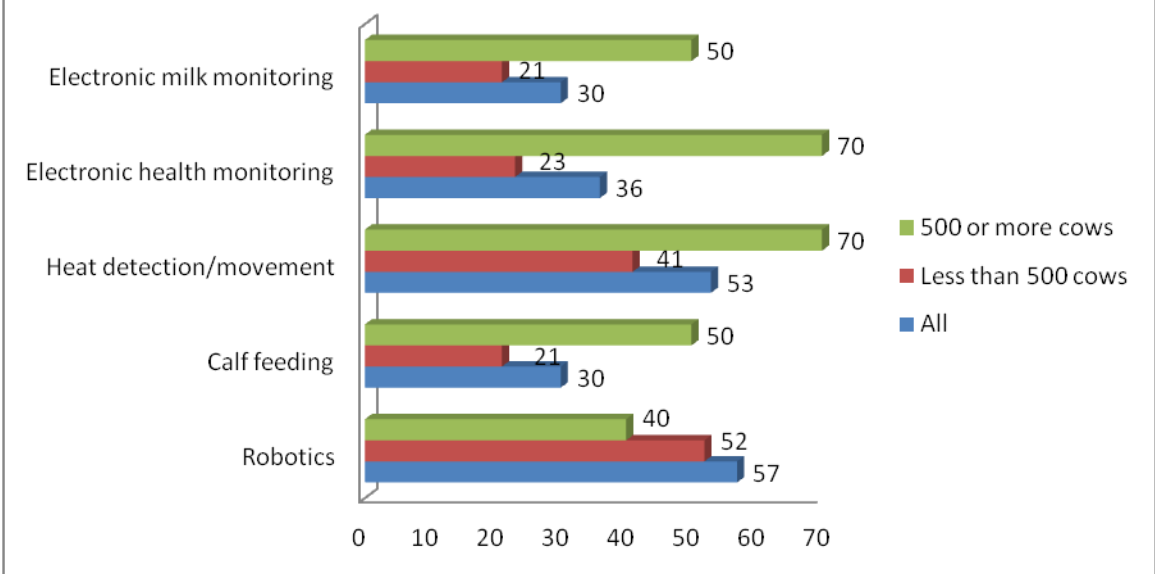
Most of the respondents report getting the majority of their household income from their dairy operation. Over one-half of the respondents (53%) get at least three-quarters of their household income from their dairy operation and 31% get between 51% and 75% of their income from their operation. For all of the larger operations, the majority of their household income comes from their operation.

Percent of Household Income that Comes from Dairy Operation by Herd Size



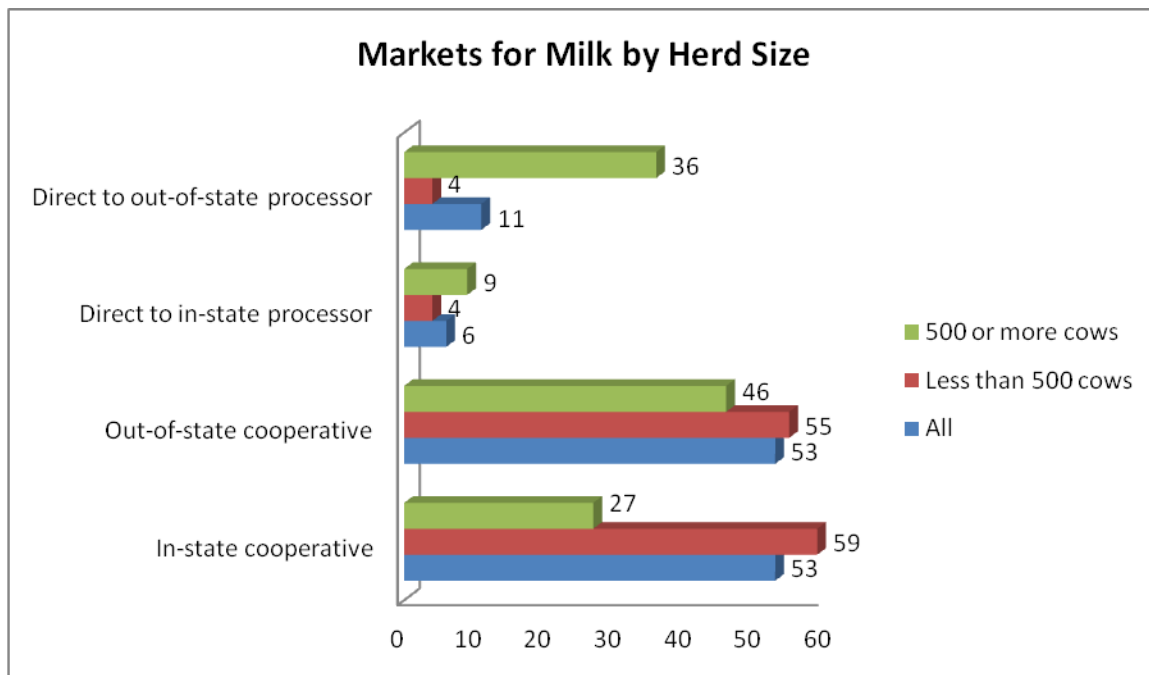
When asked what new dairy technologies they are optimistic about, most of the respondents indicated robotics (57%) and heat detection/movement (53%). Just over one-third (36%) of the respondents are optimistic about electronic health monitoring. Larger operations are more likely than smaller operations to be optimistic about electronic health monitoring. Seven in ten (70%) operations with 500 or more cows are optimistic about this technology, compared to 23% of operations with less than 500 cows.

New Dairy Technologies Optimistic About by Herd Size



Markets

Most of the respondents market their milk through cooperatives, with equal amounts going to an in-state cooperative (53%) and an out-of-state cooperative (53%). Eleven percent of the respondents market their milk direct to an out-of-state processor and six percent market their milk direct to an in-state processor. Larger operations are more likely than smaller operations to market their milk direct to an out-of-state processor. Just over one-third (36%) of operations with 500 or more cows market their milk direct to an out-of-state processor, compared to 4% of operations with less than 500 cows. Opinions are equally split on whether or not there are adequate market opportunities in Nebraska for dairy operations. Fifty percent answered yes and 50% answered no. However, only 36% of larger operations (those that milk 500 or more cows daily) feel there are adequate market opportunities in Nebraska. In comparison, 53 percent of smaller operations (those that milk less than 500 cows daily) share this opinion.



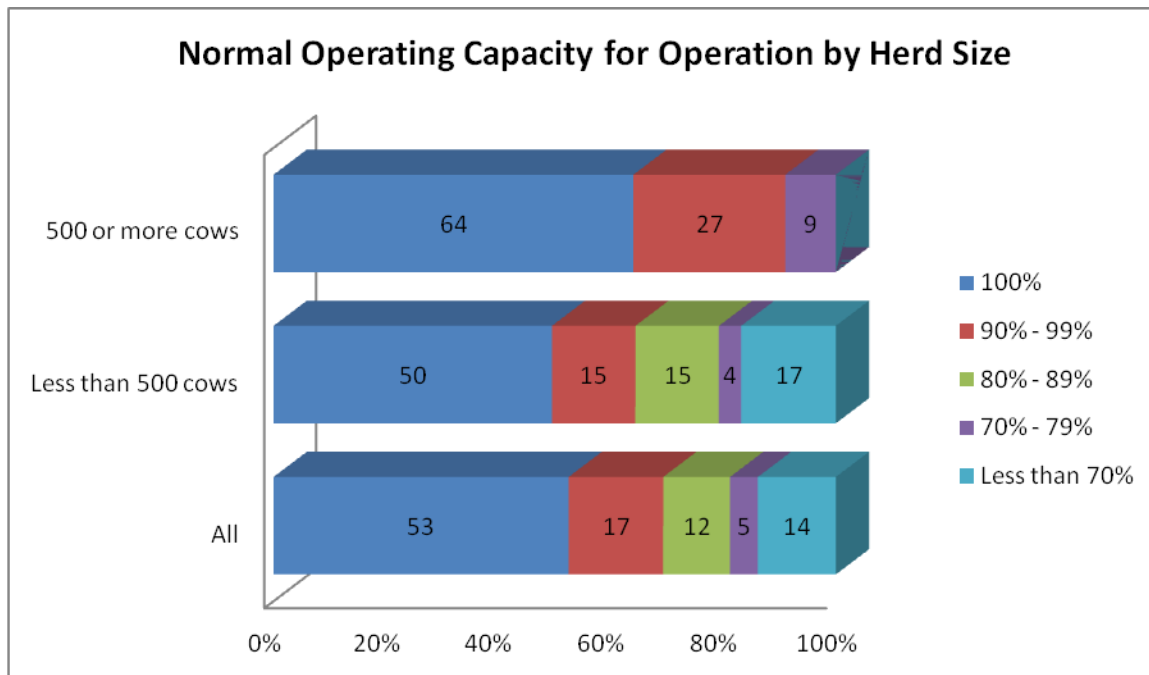
Those that answered “no” were asked why they feel there are not adequate market opportunities in Nebraska. Most of those that answered this question said there is a lack of processing plants in the state.

Opinions are also split on whether or not they feel there are opportunities in self-processing. Many respondents (20) indicated they don’t feel there are opportunities for self-processing. Seven of them indicated that they weren’t sure if such opportunities exist. And 14 of the respondents believe there are opportunities for self-processing. When asked what the obstacles are to self-processing and distribution, 11 of the respondents mentioned costs. Nine responses indicated that there is not enough population in their area to justify self-processing. Eight responses mentioned labor being a limiting factor. Government rules and regulations were mentioned by 7 respondents.

Current Production Capacity

Most of the dairy operations operate at full capacity. Over one-half (53%) of the respondents say their operation normally operates at 100% capacity. Most of the larger operations (91%) normally operate at least at 90% capacity. In comparison, 65% of smaller operations normally operate at least at 90% capacity.

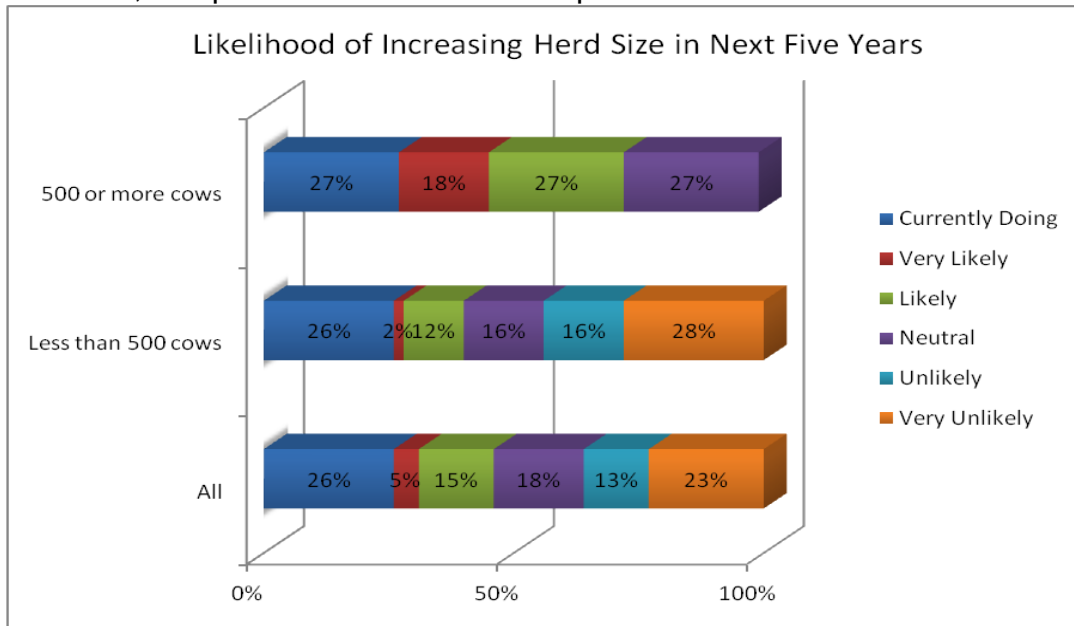
Those operations that operate at less than 100% capacity were asked what factors are limiting their production. Over one-third (39%) selected labor availability as a limiting factor. Just under one-third (32%) said farm profitability was a limiting factor. Other answers included: land availability (29%), other (29%), environmental regulations (25%), production costs (25%), and property taxes (21%).



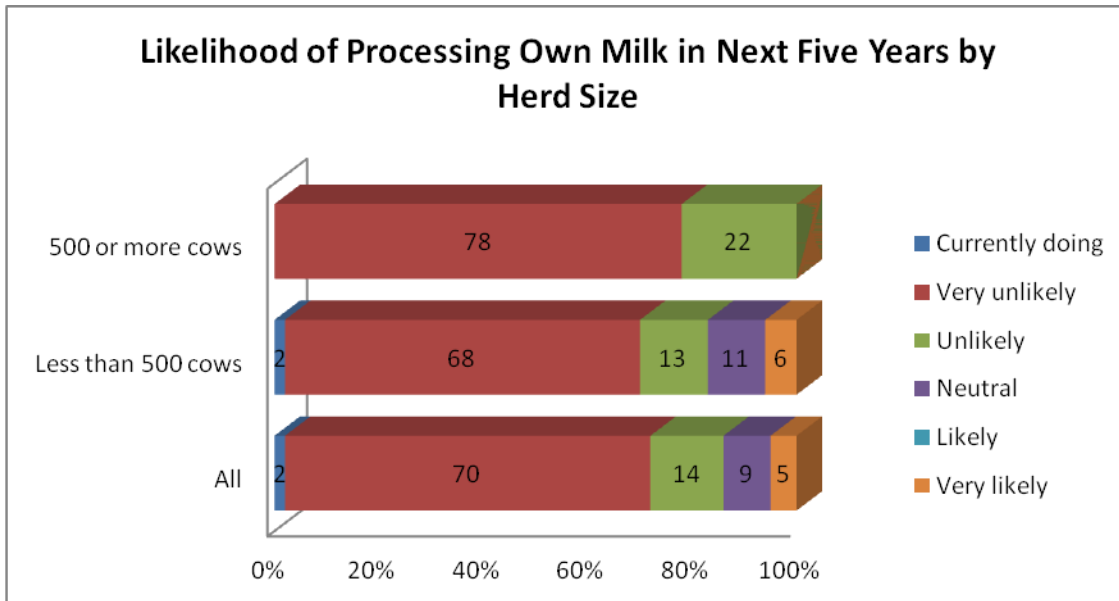
Future Operation Expansion

The respondents were next asked how likely they were to begin doing three items in their dairy operation in the next five years. Some operations are already increasing their herd size and many are likely to do so in the next five years. Over one-quarter (26%) said they were already currently increasing their herd size. Two in ten respondents are likely or very likely to increase their herd size in the next five years. Larger operations are more likely than smaller operations to be planning to increase their herd size in the next five years. Many larger operations (45%) are likely or very likely to increase their

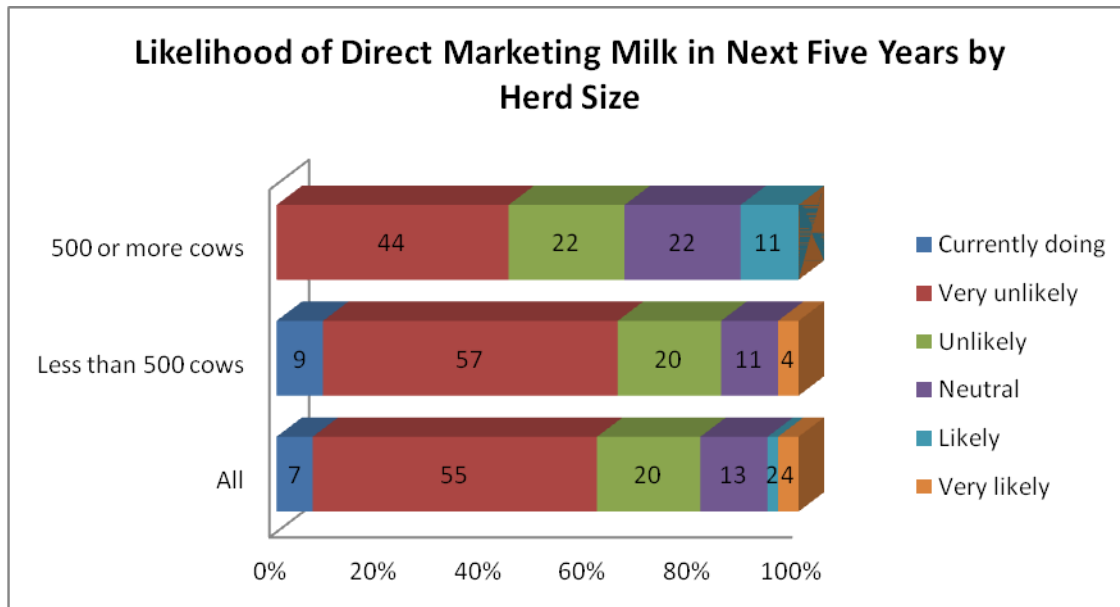
herd size, compared to 14% of smaller operations.



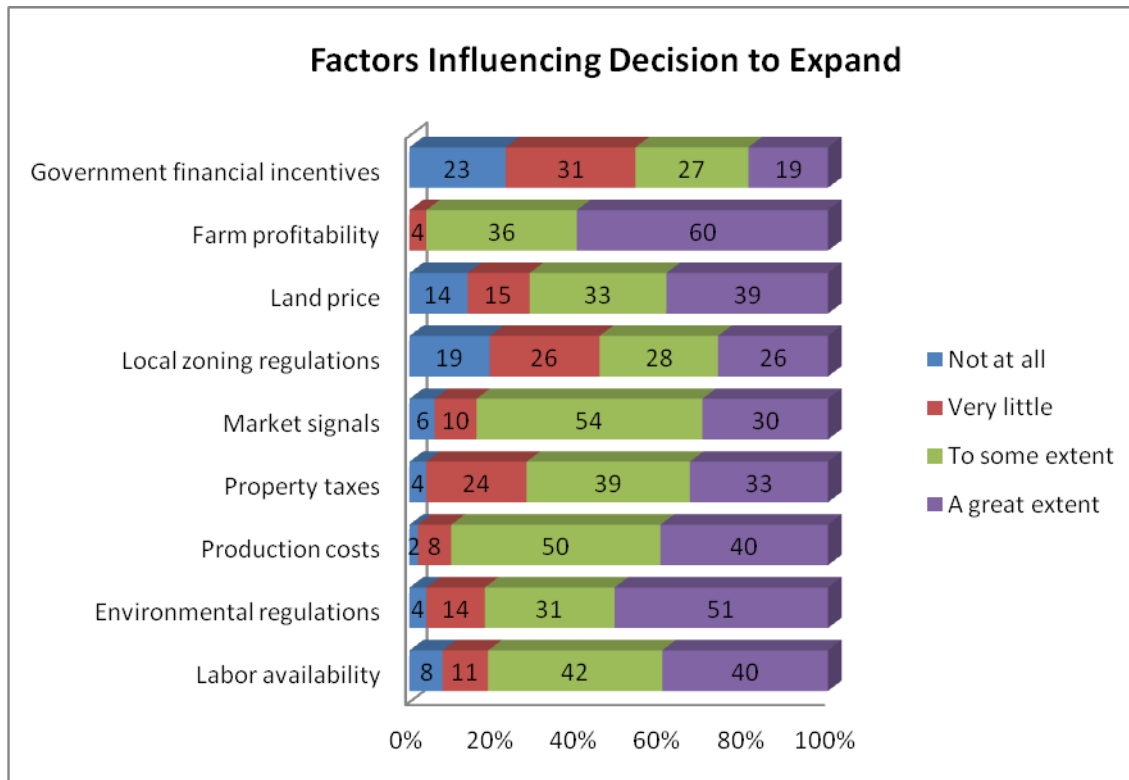
Most respondents are unlikely to process their own milk. Seven in ten respondents say they are very unlikely to process their own milk in the next five years. Another 14% said they are unlikely to do so. Only 2% of the respondents are currently processing their own milk.



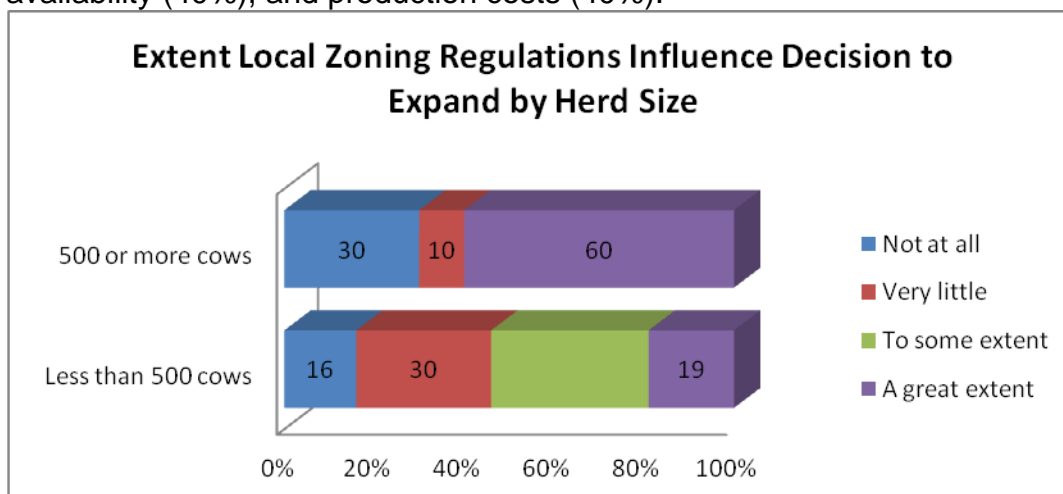
Most respondents are also unlikely to direct market their milk. Most of the respondents are unlikely (20%) or very unlikely (55%) to direct market milk or milk-based products in the next five years. 6% are very likely or likely to do so.



When asked what limiting factors there are to expanding their milking herd or operation, many respondents (17) cited their age. Many respondents (15) also mentioned costs as being a limiting factor. If those limiting factors could be overcome, almost one-half (47%) of the respondents said they may expand. Almost one-third (32%) said they would expand if those limiting factors could be overcome and 21% said they would not expand even if those factors could be overcome. However, most of the larger operations (55%) say they will expand if the limiting factors could be overcome. Farm profitability and environmental regulations are the primary factors influencing their expansion decision. Respondents were asked to what extent various factors influence their decision to possibly expand. Over one-half of the respondents said farm profitability (60%) and environmental regulations (51%) influenced their decision to a great extent. Other factors influencing their decision to a great extent include: labor availability (40%), production costs (40%), land price (39%), property taxes (33%), market signals (30%), local zoning regulations (26%), and government financial incentives (19%). Over one-half of the respondents say government financial incentives influence their decision not at all or very little.

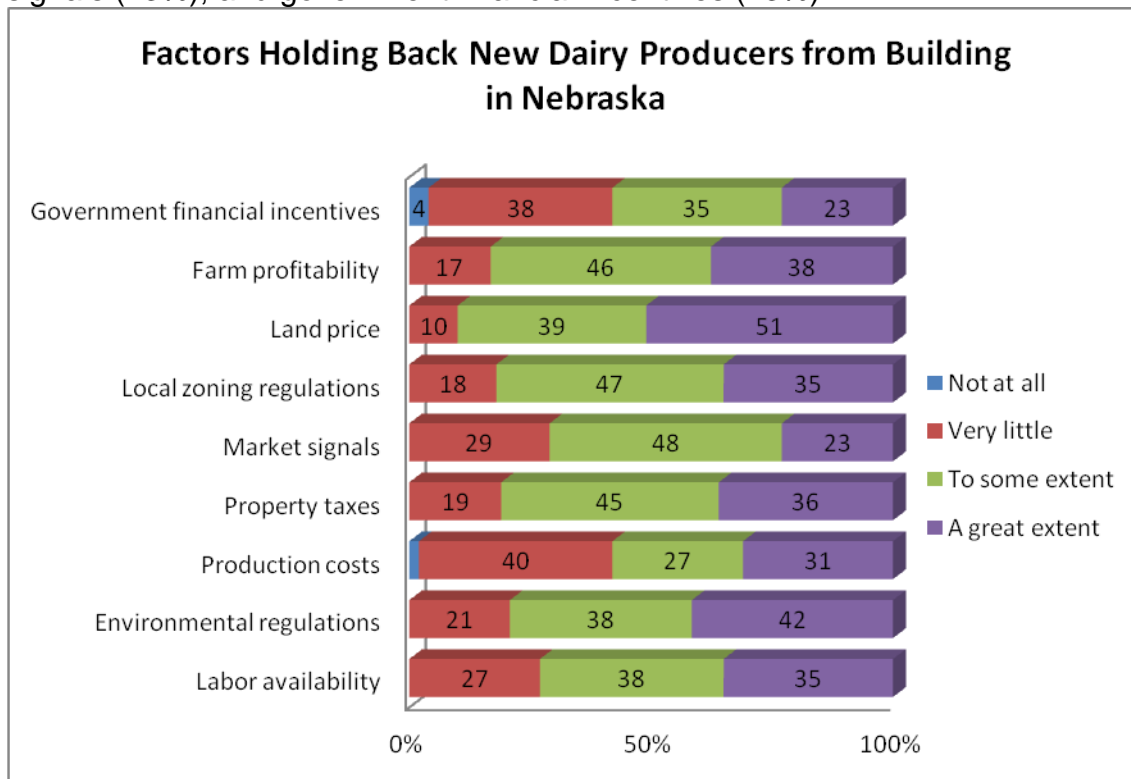


Larger operations are more likely than smaller operations to say local zoning regulations influences their decision to expand. Sixty percent of operations with 500 or more cows say local zoning regulations influence their decision to expand to a great extent. In comparison, only 19% of smaller operations share this opinion. Other important factors that influence to a great extent the decision of larger producers to expand include: farm profitability (64%), environmental regulations (50%), market signals (50%), labor availability (40%), and production costs (40%).

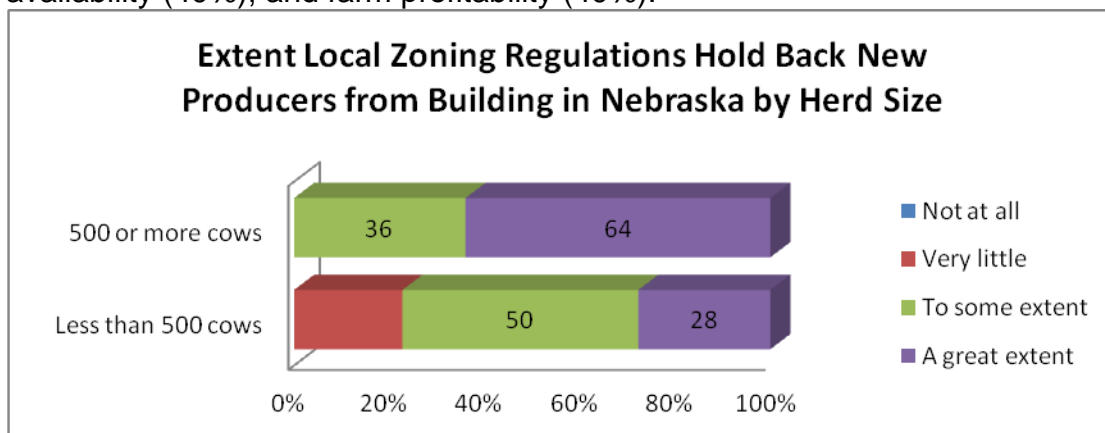


Next the survey participants were asked to what extent they believe those same factors hold back new dairy producers from building in Nebraska with land price coming in as a primary reason. However, the majority of respondents believe each of the factors listed holds back new producers from building in the state to some extent. Over one-half (51%) say land price to a great extent holds back new producers from building in

Nebraska. Other also identified as holding producer back to a great extent include: environmental regulations (42%), farm profitability (38%), property taxes (36%), labor availability (35%), local zoning regulations (35%), production costs (31%), market signals (23%), and government financial incentives (23%).

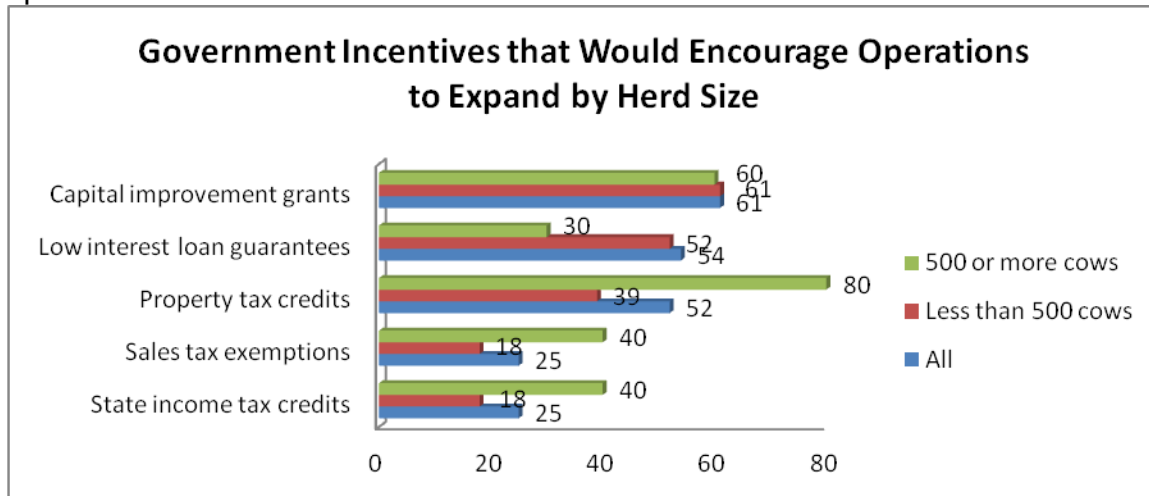


Larger operations are more likely than smaller operations to believe local zoning regulations hold back new dairy producers from building in Nebraska. Almost two-thirds (64%) of larger operations believe local zoning regulations to a great extent hold back new producers from building in the state. In comparison, only 28% of smaller operations shared this sentiment. Other factors that larger operations felt held building back to a great extent include: environmental regulations (50%), market signals (40%), labor availability (40%), and farm profitability (40%).



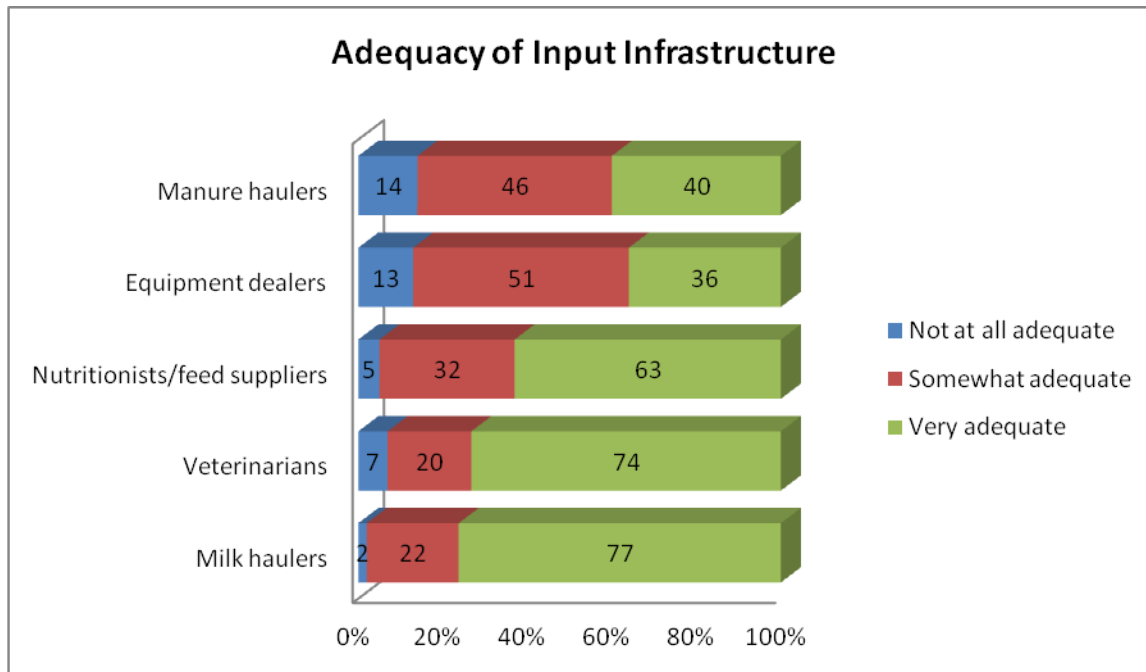
Few respondents are aware of tax credits or other government incentives to help dairies expand in Nebraska. Only 5% of the respondents are aware of these. Nine percent of the larger operations are aware of tax credits or other incentives.

Capital improvement grants, low-interest loan guarantees and property tax credits are most likely to encourage dairy operations to expand. When asked which governmental financial incentives would encourage them to expand, at least one-half of the respondents said capital improvement grants (69%), low-interest loan guarantees (54%) and property tax credits (52%). Larger operations are more likely than smaller operations to say property tax credits would encourage them to expand. Eighty percent of larger operations said this incentive would encourage them to expand, compared to 39% of smaller operations.

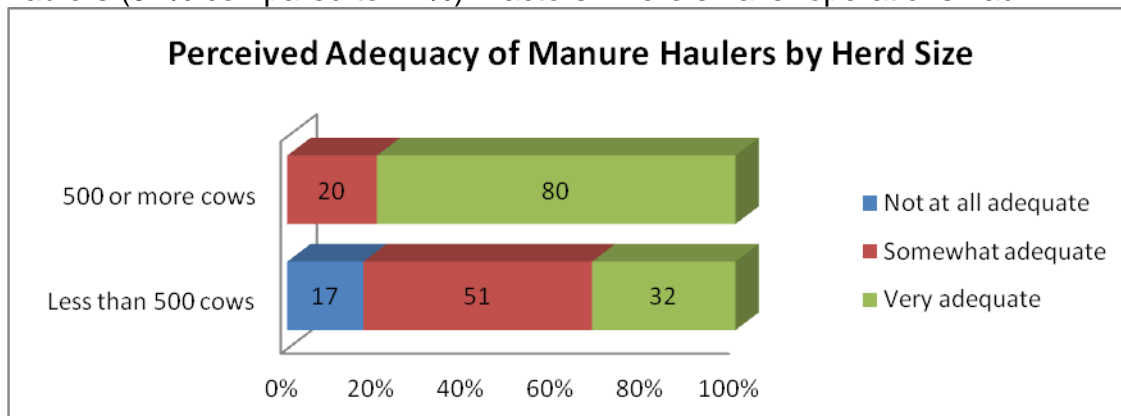


Business Environment

Most of the dairy producers responding to the survey say that milk haulers, veterinarians and nutritionists/feed suppliers are meeting their needs. However, they are less likely to say equipment dealers and manure haulers are very adequate. Over one-half of the respondents say that milk haulers (77%), veterinarians (74%), and nutritionists/feed suppliers (63%) are very adequate in meeting their needs. Just over one-third of the respondents say equipment dealers (36%) and manure haulers (40%) are very adequate.



Larger operations are more likely than smaller operations to say manure haulers are very adequate in meeting their needs. Eighty percent of larger operations rated manure haulers as very adequate, compared to only 32% of smaller operations. Other factors with higher proportions of very adequate responses by larger operations as compared to smaller operations include equipment dealers (55% compared to 32%) and milk haulers (91% compared to 74%). Factors where smaller operations had



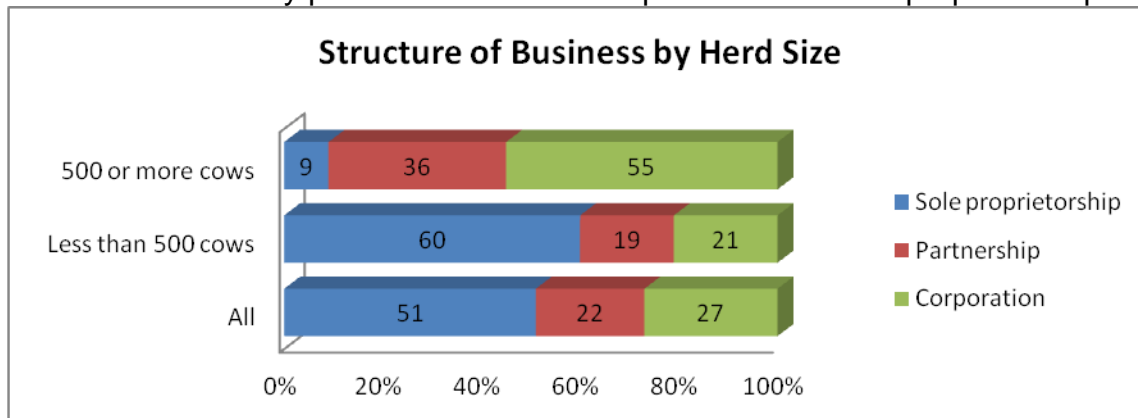
higher proportions of very adequate responses include veterinarians (78% compared to 55%) and nutritionists/feed suppliers (67% compared to 46%).

Finding enough labor does not appear to be an issue for producers, but finding adequately skilled labor is an issue. Just over two-thirds (67%) of respondents say they are able to find enough labor. However, over one-half (56%) say they are unable to find adequately skilled labor.

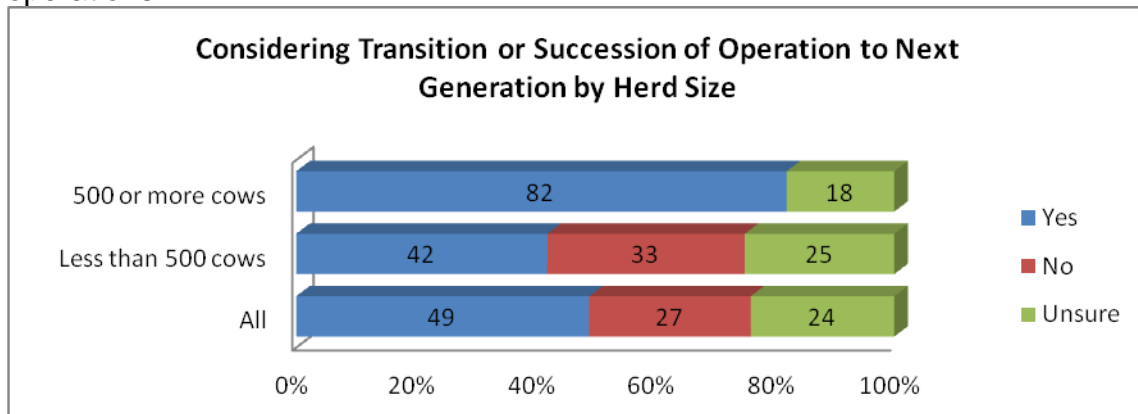
Respondents report that an average of 8 full-time employees currently work on their operation. The values given ranged from 0 to 120. Over one-half (54%) of the respondents report having 3 or fewer full-time employees. The majority of these full-time employees are non-family. The respondents report an average of 1.6 family employees and 16.9 non-family employees. Two-thirds of respondents (67%) report two or fewer

family employees. The values ranged from 0 to 6. Similarly, over two-thirds (68%) of respondents report having two or fewer non-family employees. These values ranged from 0 to 116.

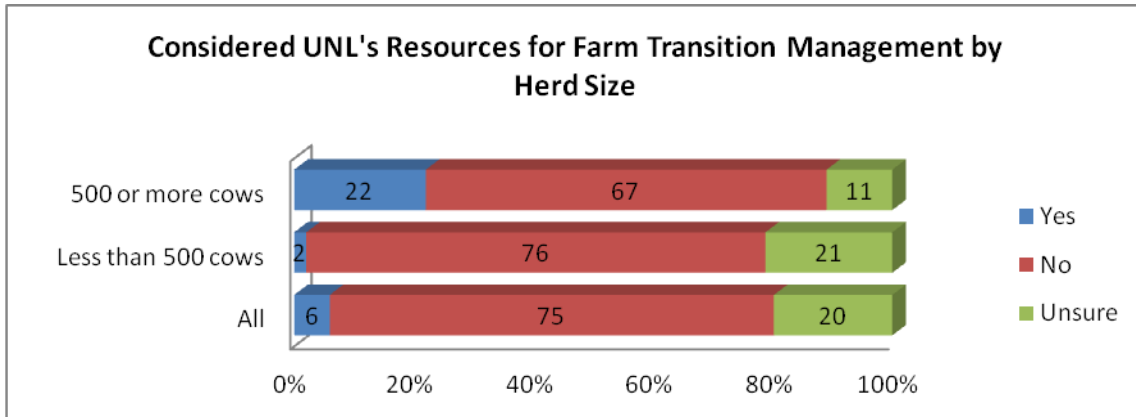
Most of the operations are sole proprietorships (51%). Just over one-quarter (27%) are corporations and 22 percent are partnerships. The larger operations are more likely than the smaller operations to be corporations. Just over one-half (55%) of operations with 500 or more cows are corporations, compared to 21 percent of operations with less than 500 cows. Sixty percent of the smaller operations are sole proprietorships.



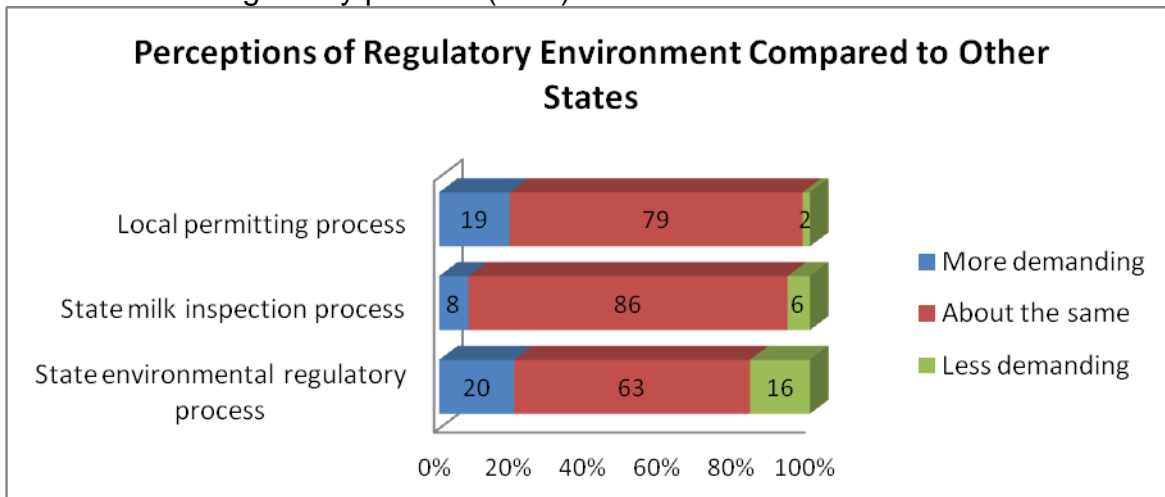
Just under one-half (49%) of the respondents are considering next generation transition or succession for their operation. Larger operations are more likely than smaller operations to be considering transition or succession. Eighty-two percent of larger operations are considering transition or succession, compared to 42% of smaller operations.



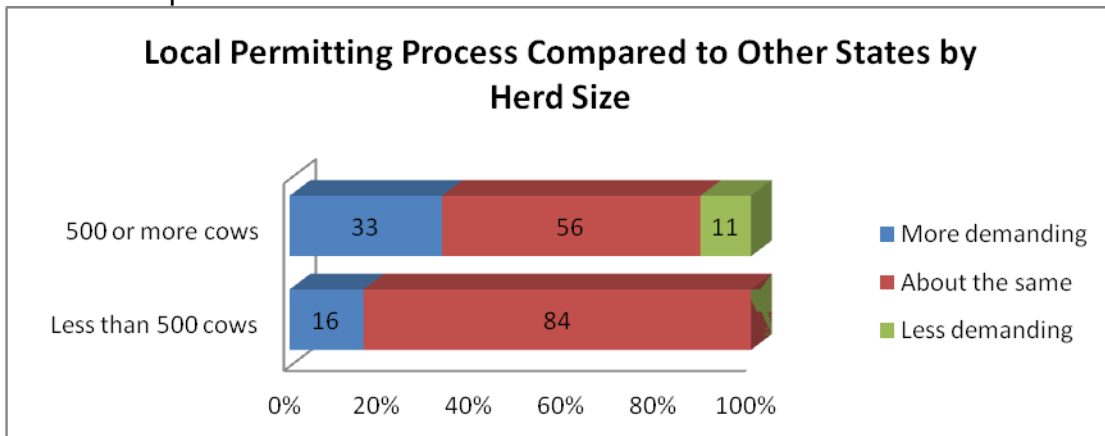
Only 6% of the respondents have considered UNL’s resources for farm transition management. However, almost one-quarter (22%) of larger operations have considered these resources.



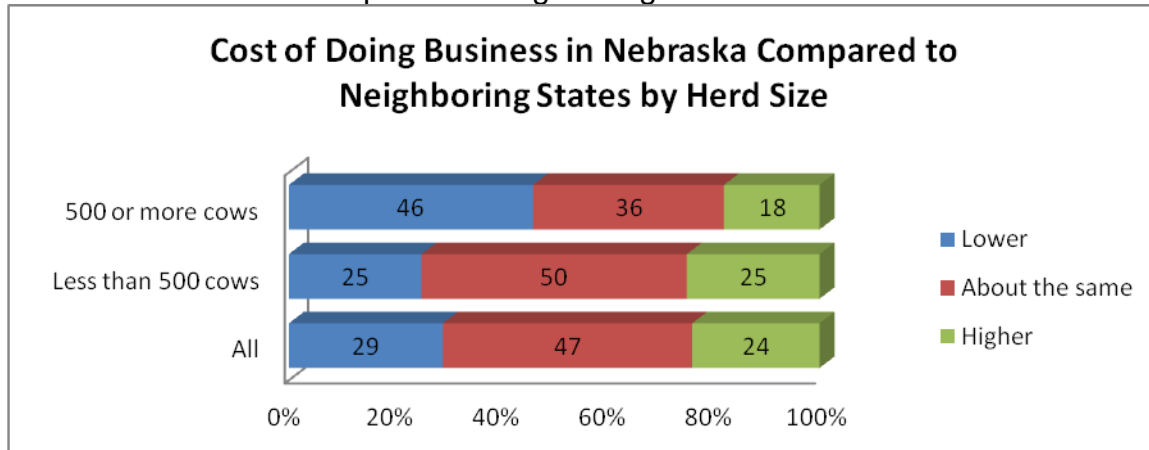
Most of the dairy operations believe the regulatory environment in Nebraska is about the same as other states. Over one-half of the respondents say that the following items are about the same relative to other dairy operations of similar type and size in other states: state milk inspection process (86%), local permitting process (79%), and state environmental regulatory process (63%).



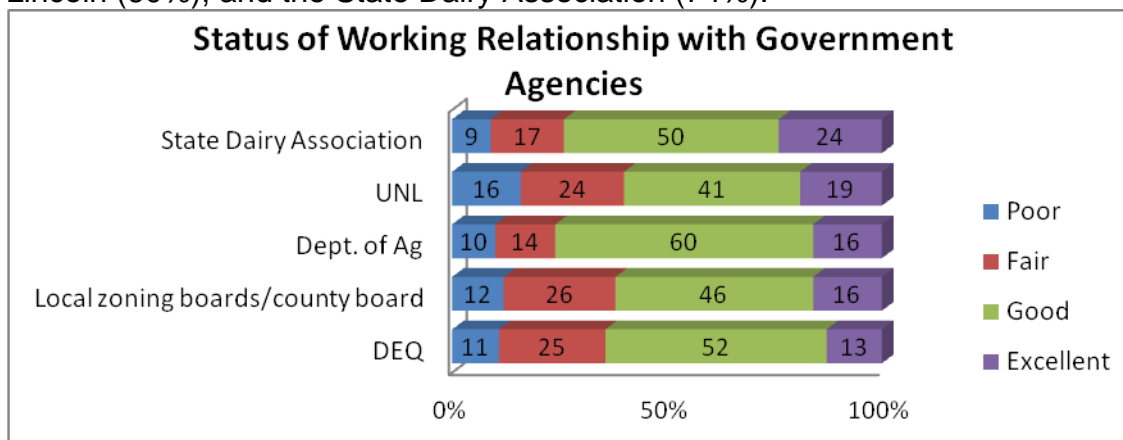
Larger operations are more likely than smaller operations to believe the local permitting process is more demanding compared to other states. One-third (33%) of larger operations say the local permitting process is more demanding, compared to only 16% of smaller operations.



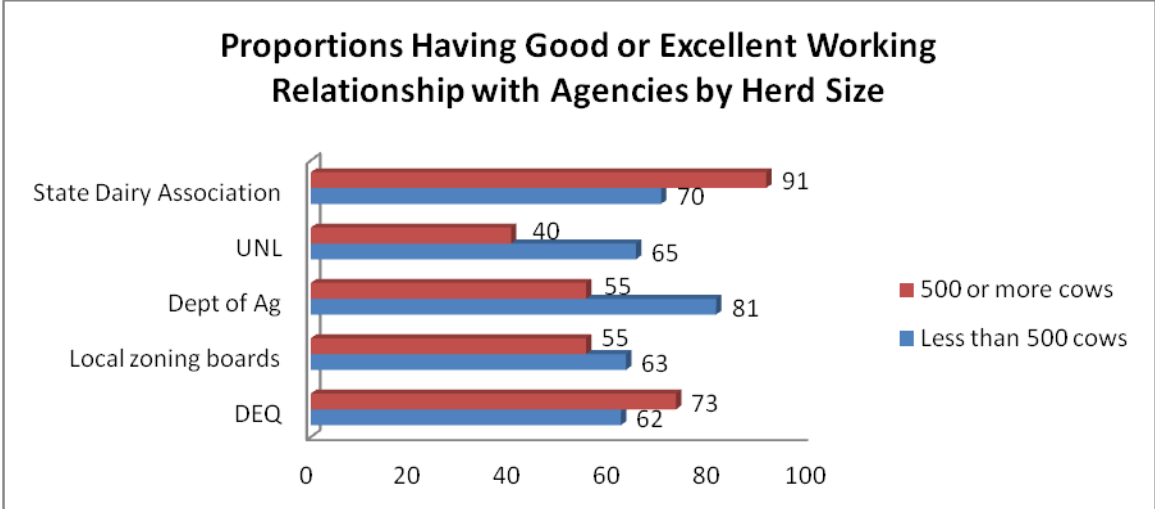
When asked what advantages there are to being located in Nebraska, most respondents mentioned the availability of feed and water. Many producers (18) mentioned lack of processing plants as a disadvantage to being located in Nebraska. Other disadvantages mentioned include: weather (14); difficulty in obtaining services (8); regulations, both local and state (6); and taxes (5). Many respondents (47%) believe the cost of doing business in Nebraska is about the same compared to neighboring states. Just over one-quarter (29%) believe the cost of doing business in Nebraska is lower compared to neighboring states and 24% believe it is higher. Almost one-half (46%) of larger operations believe the cost of doing business in Nebraska is lower compared to neighboring states.



Most of the respondents report having a good working relationship with government agencies. Most respondents report having a good or excellent working relationship with the Department of Environmental Quality (64%), local zoning boards/county board (61%), the Nebraska Department of Agriculture (76%), the University of Nebraska-Lincoln (60%), and the State Dairy Association (74%).

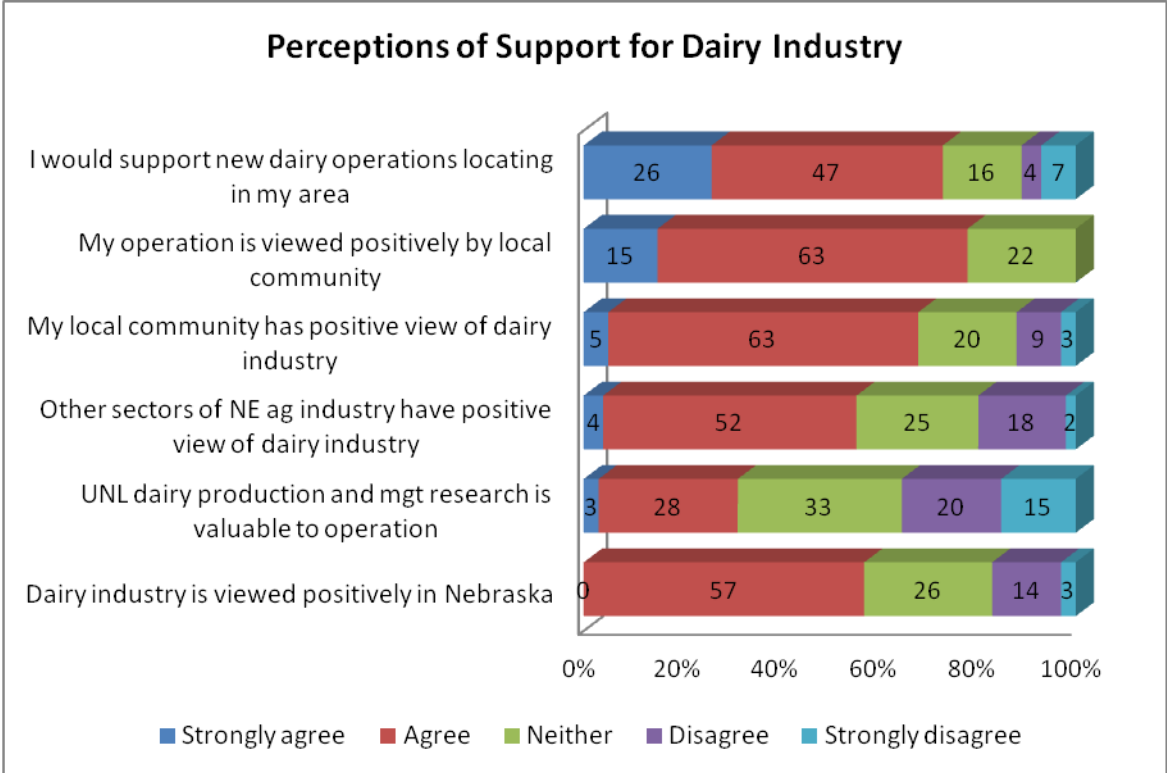


Larger operations are more likely than smaller operations to report having a good or excellent working relationship with the State Dairy Association. Sixty-four percent of larger operations report having an excellent working relationship with the State Dairy Association, compared to 15% of smaller operations.



Support

To gauge how much support dairy operators feel the industry has, they were given a series of statements and asked the extent to which they agree or disagree with each. Most respondents believe the dairy industry is viewed positively in the state of Nebraska, by other sectors of the agricultural industry, and by their local community. Most of the respondents also agree that their operation is viewed positively by their local community. Opinions are mixed on how valuable UNL dairy production and management research is to their operation.

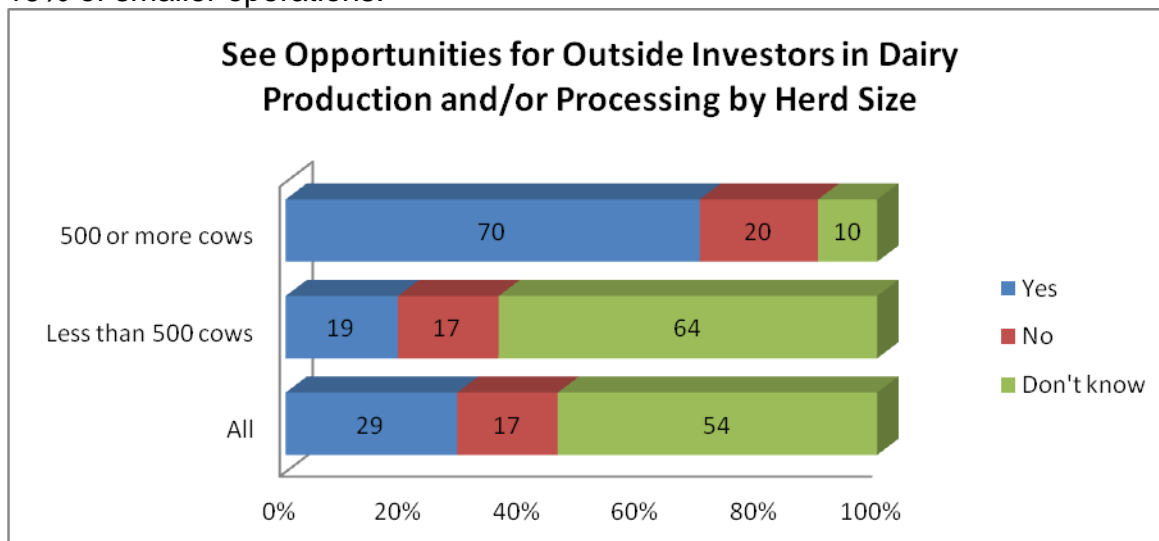


Almost three-quarters (73%) of the respondents would support new dairy operations locating in their area. When asked what size of operation they would find acceptable to locate in their area, most respondents favor operations with 500 or fewer cows. One-third of respondents (33%) would support operations with 500 to 1,000 cows and 22 percent would support operations with 1,000 or more cows.

Larger operations are more likely than smaller operations to support larger operations locating in their area. Almost three-quarters (73%) of operations with 500 or more cows would support an operation with 1,000 or more cows locating in their area. In comparison, only 11% of operations with less than 500 cows would support these larger operations locating in their area.

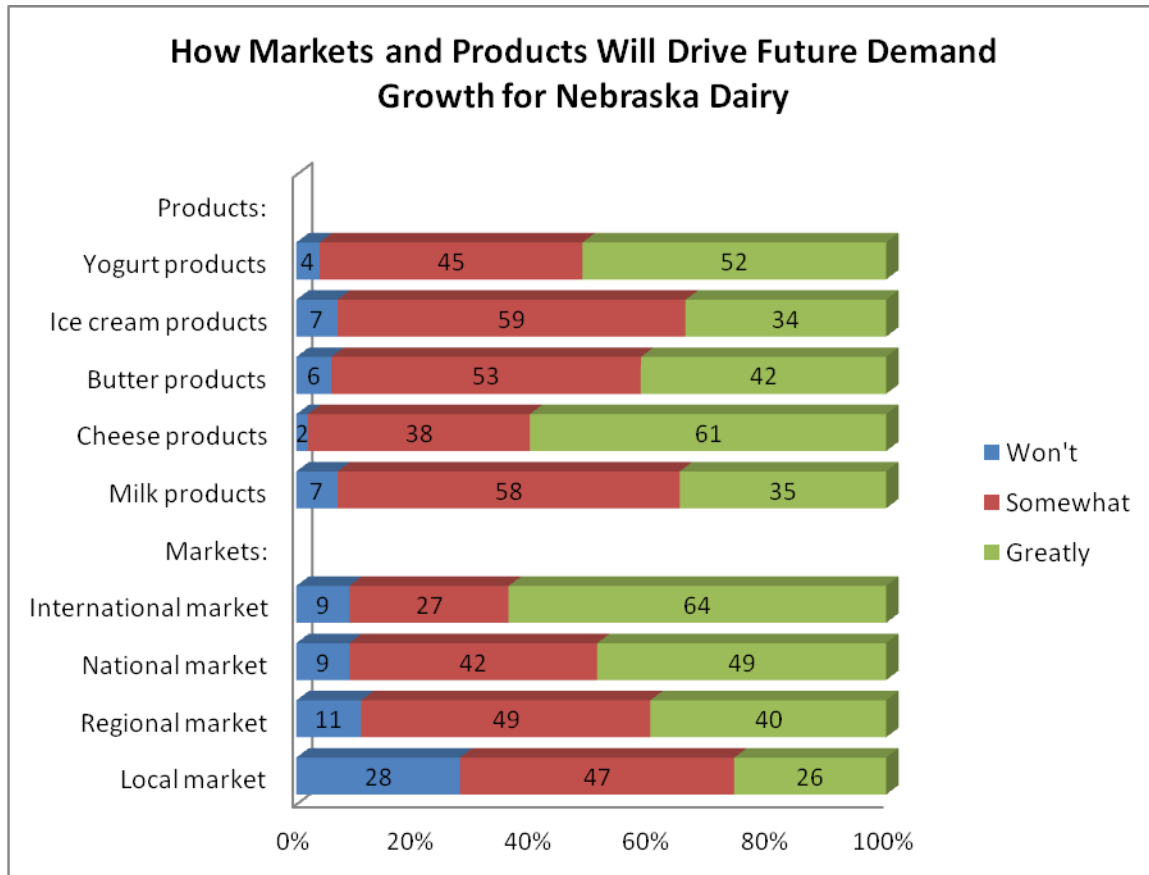
Future Growth

Recently there has been some interest from investors in other states and countries in the dairy industry as an investment opportunity. However, most respondents (54%) don't know if they see opportunities for outside investors in dairy production and/or processing. Just over one-quarter (29%) do see opportunities and 17% answered that they do not. Larger operations are more likely than smaller operations to see opportunities for outside investors. Seventy percent of larger operations said they see opportunities for outside investors in dairy production and/or processing, compared to 19% of smaller operations.



When asked how they think various markets and products will drive future demand growth for Nebraska dairy, most respondents (64%) think the international market will greatly drive future demand. The proportion of producers believing that the following markets will greatly drive future demand growth for Nebraska dairy are: national market (49%), regional market (40%), and local market (26%). Most respondents believe cheese products (61%) and yogurt products (52%) will greatly drive future demand growth. Other products that respondents believe will greatly drive future demand include: butter products (42%), milk products (35%), and ice cream products (34%).

Respondents were next asked what future challenges they see for the dairy industry. Many respondents report regulations (14), costs/low milk prices (9), and getting the next generation or younger people interested and involved in dairy (8) as future challenges. When asked about future opportunities for the dairy industry, many respondents cite increasing demand (6) and the state being a good location for dairy (4).



Addendum #2 - Survey for Nebraska Dairy Producers.

Thank you for taking the time to complete this important survey. We appreciate your time. Please return the survey in the enclosed envelope by **August 18, 2014**. Thank you!

Production

1. On average, how many cows do you milk on a daily basis? Circle the number of your answer.

- a. Less than 100
- b. 100 – 499
- c. 500 -999
- d. 1,000 or more

2. How many total pounds of milk did you produce last year?

- a. Less than 2,000,000
- b. 2,000,000 – 10,000,000
- c. 10,000,000 – 20,000,000
- d. 20,000,000 or more

3. What percentage of the feed that you use is raised on your farm?

- a. 0%
- b. 1% – 25%
- c. 26% - 50%
- d. 51% - 75%
- e. 76% - 100%

4. Which of the following crops do you grow on your farm?

- | | |
|---------------------------|-------------------------|
| a. Corn for grain | e. Grass hay or haylage |
| b. Corn for silage | f. Rotational pasture |
| c. Alfalfa hay or haylage | g. Unmanaged pasture |
| d. Soybeans | h. None |

5. Which of the following feeds do you purchase?

- | | |
|---------------------------|----------------------|
| a. Corn for grain | f. Pasture |
| b. Corn for silage | g. Distillers grains |
| c. Alfalfa hay or haylage | h. Other_____ |
| d. Soybeans | |
| e. Grass hay or haylage | |

6. What percent of your total household income comes from your dairy operation?

- a. 0 – 25%
- b. 26% - 50%
- c. 51% - 75%
- d. 76% - 100%

7. What new dairy technologies are you optimistic about?

- a. Robotics
- b. Calf feeding
- c. Heat detection/movement
- d. Electronic health monitoring
- e. Electronic milk monitoring
- f. Other _____

Markets

8. To which of the following do you market your milk? *Mark the box of all that apply.*

- | | <i>In-State</i> | <i>Out-of-State</i> |
|------------------------|--------------------------|--------------------------|
| a. Through cooperative | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Direct to processor | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Direct to retail | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Other: _____ | <input type="checkbox"/> | <input type="checkbox"/> |

9. Do you feel there are adequate market opportunities in Nebraska for dairy operations? *Circle your answer.*

- a. Yes
- b. No ***If no, why not?***

10. Do you feel opportunities exist in self-processing?

11. What are the obstacles to self-processing and distribution?

Current Production Capacity

12. At what percent capacity does your operation normally operate?

- a. 100% capacity (*Skip to number 15*)
- b. 90% - 99% capacity
- c. 80% - 89% capacity
- d. 70% - 79% capacity
- e. Less than 70% capacity

13. If you are operating at less than 100% capacity, what factors are limiting your production? Circle the letter of all that apply.

- a. Labor availability
- b. Environmental regulations
- c. Production costs
- d. Property taxes
- e. Land availability
- f. Farm profitability
- g. Other: _____

14. What do you feel can be done to eliminate these limiting factors?

Future Operation Expansion

15. How likely are you to begin to do the following in your dairy operation in the next 5 years? If you are currently doing the activity, please check the box.

	Currently Doing	Very Unlikely	Unlikely	Neutral	Likely	Very Likely
a. Increase herd size	<input type="checkbox"/>	1	2	3	4	5
b. Process own milk	<input type="checkbox"/>	1	2	3	4	5
c. Direct market milk or milk-based products	<input type="checkbox"/>	1	2	3	4	5

16. What limiting factors are there to expanding your milking herd or operation?

17. If these factors could be overcome, would you expand?

- a. Yes b. Maybe c. No

18. How could Nebraska state government or the University of Nebraska-Lincoln help you accomplish your expansion goals?

19. When looking to evaluate the possibility of expansion, to what extent do these items influence your decision?

	Not at All	Very Little	To Some Extent	A Great Extent
Labor availability	1	2	3	4
Environmental regulations	1	2	3	4
Production costs	1	2	3	4
Property taxes	1	2	3	4
Market signals	1	2	3	4
Local zoning regulations	1	2	3	4
Land price	1	2	3	4
Farm profitability	1	2	3	4
Gov't financial incentives	1	2	3	4
Other: _____	1	2	3	4

20. To what extent do you feel the following items hold back new dairy producers from building in Nebraska?

	Not at All	Very Little	To Some Extent	A Great Extent
Labor availability	1	2	3	4
Environmental regulations	1	2	3	4
Production costs	1	2	3	4
Property taxes	1	2	3	4
Market signals	1	2	3	4
Local zoning regulations	1	2	3	4
Land price	1	2	3	4
Farm profitability	1	2	3	4
Gov't financial incentives	1	2	3	4
Other: _____	1	2	3	4

21. Are you aware of any tax credits or other governmental financial incentives to help dairies expand in Nebraska?

- a. Yes b. No

If yes, which ones?

22. Which of the following governmental financial incentives would encourage you to expand?

- | | |
|---|---|
| <input type="checkbox"/> State income-tax credits | <input type="checkbox"/> Low-interest loan guarantees |
| <input type="checkbox"/> Sales tax exemptions | <input type="checkbox"/> Capital improvement grants |
| <input type="checkbox"/> Property tax credits | <input type="checkbox"/> Other _____ |

Business Environment

23. How adequately are the following items in Nebraska meeting your needs?

	Not at All Adequate	Somewhat Adequate	Very Adequate
a. Milk haulers	1	2	3
b. Veterinarians	1	2	3
c. Nutritionists/feed suppliers	1	2	3
d. Equipment dealers	1	2	3
e. Manure haulers	1	2	3

24. Are you able to find enough labor?

- | | |
|--------|-------|
| a. Yes | b. No |
|--------|-------|

25. Are you able to find adequately skilled labor?

- | | |
|--------|-------|
| a. Yes | b. No |
|--------|-------|

26. How many full-time employees currently work on your operation?

27. How many are:

- | | |
|-----------------|---------------------|
| a. Family _____ | b. Non-family _____ |
|-----------------|---------------------|

28. What is the structure of your business?

- | | | | |
|------------------------|----------------|----------------|----|
| a. Sole Proprietorship | b. Partnership | c. Corporation | d. |
| Other_____ | | | |

29. Are you considering transition or succession for your operation to the next generation?

- a. Yes b. No c. Unsure

30. If so, have you considered UNL's resources for farm transition management?

- a. Yes b. No c. Unsure

31. Relative to other dairy operations of similar type and size in other states, how would you describe each of the following?

	More Demanding	About the Same	Less Demanding
State environmental regulatory process	1	2	3
State milk inspection process	1	2	3
Local permitting process	1	2	3

32. What advantages are there to being located in Nebraska?

33. What disadvantages are there to being located in Nebraska?

34. How would you describe the cost of doing business in Nebraska compared to neighboring states?

1	2	3	4	5	6	7
Much lower			About the same			Much
higher						

35. How would you describe your working relationship with the following?

- Poor Fair Good Excellent

Department of Environmental Quality (DEQ)	1	2	3	4
Local zoning boards/county board	1	2	3	4
Nebraska Department of Agriculture	1	2	3	4
University of Nebraska-Lincoln	1	2	3	4
State Dairy Association	1	2	3	4

36. Support

37. Please indicate the degree to which you agree or disagree with the following statements.

Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
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The dairy industry is viewed positively in the state of Nebraska.

1	2	3	4	5
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UNL dairy production and management research is valuable to my operation.

1	2	3	4	5
---	---	---	---	---

Other sectors of the Nebraska agriculture industry have a positive view of the dairy industry.

1	2	3	4	5
---	---	---	---	---

My local community has a positive view of the dairy industry.

1	2	3	4	5
---	---	---	---	---

My operation is viewed positively by my local community.

1	2	3	4	5
---	---	---	---	---

I would support new dairy operations locating in my local area.

1	2	3	4	5
---	---	---	---	---

38. What size of operation would you find acceptable to locate in your area?

Circle all that apply

<100	100-499	500-1000	1000+
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Future Growth

39. Recently there has been some interest from investors in other states and countries in the dairy industry as an investment opportunity. Do you see opportunities for outside investors in dairy production and/or processing?

- a. Yes ***If yes, please describe.***
- b. No
- c. Don't know

40. How do you think each of the following will drive future demand growth for Nebraska dairy?

	Won't	Somewhat	Greatly
Local market	1	2	3
Regional market	1	2	3
National market	1	2	3
International market	1	2	3
Milk products	1	2	3
Cheese products	1	2	3
Butter products	1	2	3
Ice cream products	1	2	3
Yogurt products	1	2	3
Other: _____	1	2	3

41. What future challenges do you see for the dairy industry?

42. What future opportunities do you see for the dairy industry?

43. Any other comments about the state of the Nebraska dairy industry?

Thank you!