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Feeder Cattle Supply Outlook

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Inside this Issue...

Key Points:

- ***The U.S. beef cow herd bottomed out in 2014 in its most recent inventory cycle, and is currently in the early stages of herd rebuilding.***
- ***Feedyards are competing fiercely with each other to procure calves and feeder cattle from all possible sources to fill their pens. The three major sources are the domestic beef calf crop, domestic dairy calves, and imports from Canada and Mexico.***
- ***The domestic beef calf crop is still in its early stages of expansion, and it will take several years to fully materialize into increased beef output due to the long biological life cycle of cattle.***
- ***With current high heifer retention rates and declining cow slaughter, industry participants are looking for the beef cow herd to grow about 1-2 percent a year in 2015 and 2016, amounting to increased available feeder cattle of roughly 400,000 to 550,000 head in 2015 and 750,000 to 1,000,000 head in 2016.***
- ***The beef and dairy industries have grown increasingly interdependent, with the latter bolstering the supply of calves to the beef industry. Industry participants are looking for dairy steers to contribute up to an additional 300,000 head to the fed cattle supply during 2015-16.***
- ***While imported feeder cattle from Mexico and Canada represent a significant source of inputs to U.S. feedyards, industry participants are not expecting to see much growth in this source during the next two to three years.***
- ***Given this outlook for the feeder cattle supply, total U.S. beef production is expected to recede slightly in 2015 and then stabilize in 2016. No material increase in U.S. beef production is likely to occur until 2017 and beyond.***

Introduction

Drought driven herd liquidation and record high feed input costs from 2008 to 2013 caused the U.S. beef herd to shrink to historically low levels. But by late 2014, the industry had begun to expand the herd, with a higher percentage of females taken out of the slaughter mix – which temporarily is compounding the already tight overall feeder cattle inventory.

Cattlemen will long remember 2014 as the year of record-high beef prices and profitability. These prices were supported by tight supplies and amplified by stronger than expected consumer demand, both domestically and internationally. The marketplace is clearly sending strong signals to the cattle industry to produce more pounds of beef.

The dwindling supply of feeder cattle available and suitable for placement on feed in the U.S. has contributed to excess capacity and, thus, fierce competition within the feedyard sector. To better realize operational efficiencies, feedyards have stepped up their efforts to procure calves and feeder cattle from all possible sources to fill their pens. Toward this end, the U.S. cattle feeding sector relies on three major sources of feeder cattle – the domestic beef calf crop, domestic dairy calves and imports from Canada and Mexico. Going forward, the greatest opportunity for growth in feeder cattle supplies lies in the U.S. beef cow herd followed by growth in dairy beef. *(See Exhibit 1.)* Imported feeder cattle are not expected to add much to the fed cattle mix during the next couple of years.

Exhibit 1: Increases in Feeder Cattle Supplies (1000 Head)

3 Major Sources	2015	2016
Domestic Beef Calf Crop	400-550	750-1000
Dairy Beef	125-175	75-125
Imports from Mexico/Canada	0-150	(200)-0
Total	525-875	625-1125

Source: CoBank Forecast

U.S. Beef Calf Crop

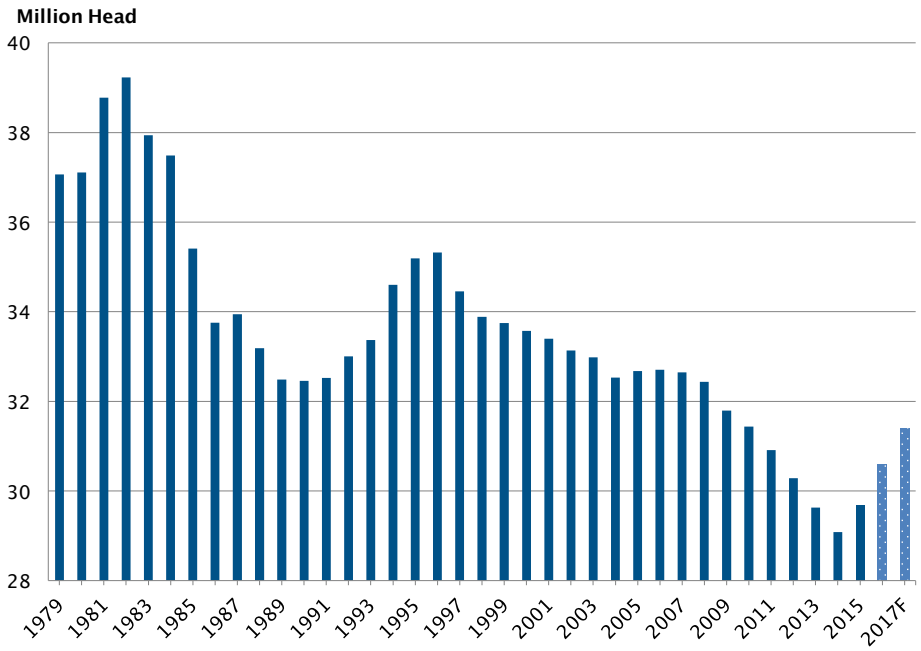
The nation's beef cow herd appears to have bottomed out in 2014 in its most recent inventory cycle. *(See Exhibit 2.)* Early stages of herd rebuilding have temporarily compounded the already tight cattle supplies by removing a greater portion of females from the available feeder cattle supply as replacements into the herd.

Cow/calf producers have been motivated to retain more heifers and grow cow numbers for the past several years, but the herd rebuilding process was delayed by widespread drought conditions. During 2014, many cattle producing regions experienced drought relief with improved moisture and the resulting enhancement in pasture/range conditions, favoring expansion of the U.S. cow herd. *(See Exhibit 3.)* The latest reports suggest that national pasture/range conditions in early 2015 are the best since 2000 – and a vast improvement over the terrible grassland conditions recorded in 2011-12.

Beef herd growth was still in its early stages as of early 2015 and will take several years to fully materialize due to the long biological life cycle of cattle. It takes 33 months on average from the time a replacement heifer is born until her first calf can be harvested and realized in terms of beef production. Heifer retention started in late 2013 and accelerated in 2014, with heifer slaughter down significantly in 2014 versus the year prior. Heifer slaughter as a share of total fed slaughter has dropped to around 35 percent and provides an additional strong indicator of heifers being held back for breeding. Producers have also been holding on to cows in an effort to grow the breeding herd. Total U.S. cow slaughter for 2014 was down 14 percent year-over-year (YoY). The combination of supported cull cow values and depressed milk prices has the potential to accelerate culling rates in the dairy sector in 2015. Overall cow slaughter will moderate in 2015 and is expected to grow in 2016 and beyond as the cow herd stabilizes and expansion continues.

With current high heifer retention rates and declining cow slaughter, industry participants forecast the beef cow herd to expand by about 2 percent in 2015 and 3 percent in 2016. Short term growth will be realized in

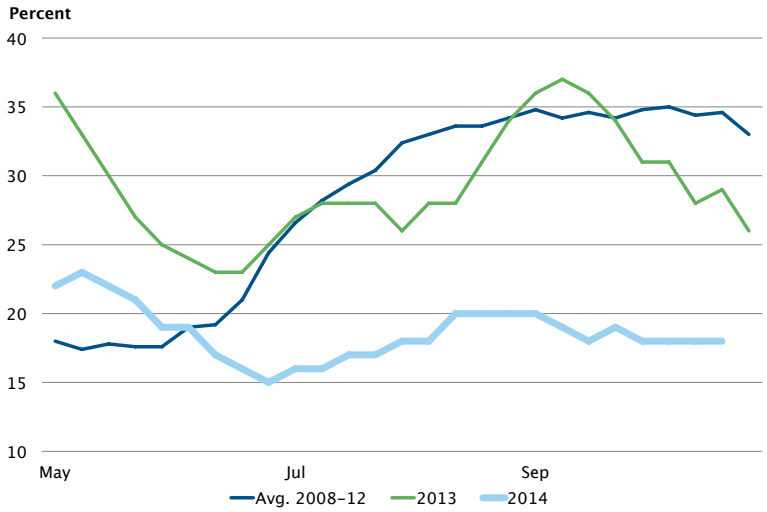
Exhibit 2: U.S. Beef Cow Inventory



Source: USDA-NASS, CoBank Forecast

Exhibit 3: U.S. Range and Pasture Conditions

Percent Poor and Very Poor, Weekly



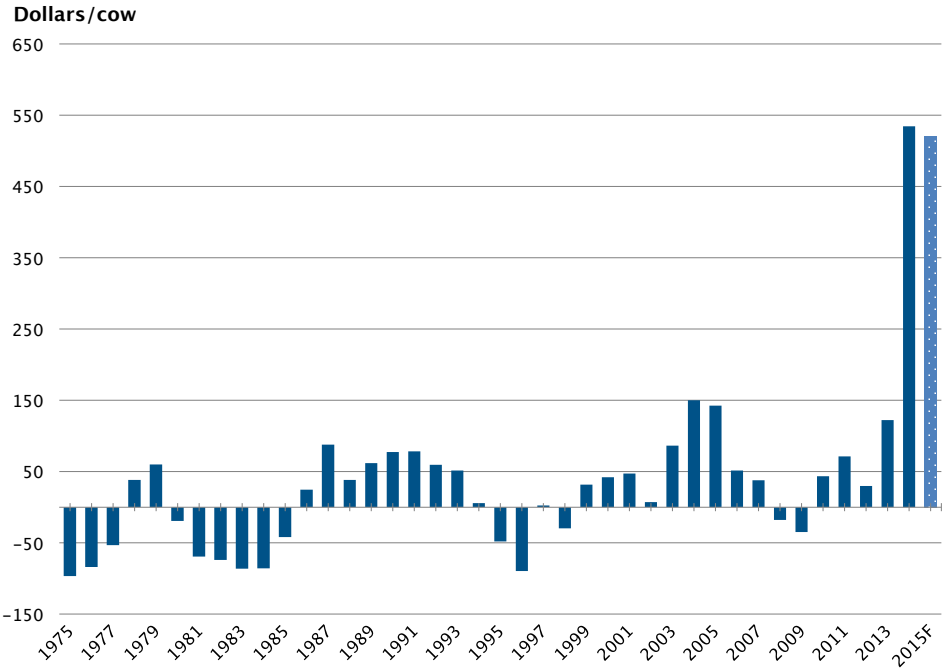
Source: USDA-NASS, Livestock Marketing Information Center

those states (TX, OK, KS, MO) that were affected most by drought driven liquidation from 2007-2012. Longer term trends point out a greater percentage of the cow herd being concentrated in the Central and Northern plains states of CO, KS, MT, NE, ND, SD and WY.

In a rare event, all segments of the industry posted record profits in 2014. The feeder, stocker and cow calf segments posted record revenues and declining costs of inputs. The cow/calf sector has been the biggest beneficiary of recent conditions, with net returns per cow increasing five-fold to a stunning record high in 2014. *(See Exhibit 4.)* In an environment where feeder cattle supplies are tight and demand is growing, each industry segment gains "leverage" over those segments above them in the supply chain. In other words, profits flow to the lower market segments in the production timeline while margins are constrained for retailers, packers and cattle feeding operations. Looking ahead to 2015 and perhaps to 2016, the profitability outlook looks brightest for the cow/calf sector as tight supplies will keep industry leverage in their favor over all other segments.

The magnitude of the U.S. beef herd expansion will be determined by actions taken by the cow/calf operator in the next two to three years. Today, producers have to make decisions regarding female retention and how best to take advantage of current marketplace dynamics. Each cow/calf producer has his own business model and must take several factors into consideration in deciding whether to hold steady, grow or shrink the size of his or her cow herd, or to liquidate and exit the business. With current high price levels, producers must choose whether to capitalize on the lucrative short term profit opportunities or to invest in the future of their operations. Age of the producer, future market

Exhibit 4: Cow/Calf Operator Average Net Returns



Source: Livestock Marketing Information Center, Survey Based, Returns Over Cash Costs Plus Pasture Rent Per Cow

expectations, forage resources, financial health and consumer demand will define a given cow/calf operator's strategy moving forward.

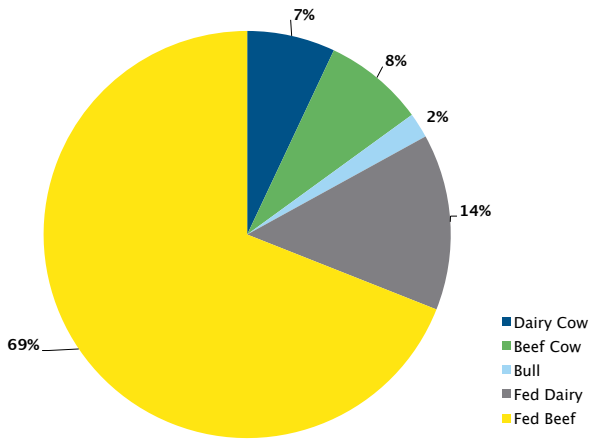
Strategic relationships are a vital part of marketing all classes of cattle and are contributing to a shift toward a more vertically coordinated U.S. production system. These integrated relationships function as a risk management tool and are formed on the premise of two major goals – securing supply and capturing value-added premiums. These marketing arrangements tie two or more industry segments together and are becoming more prevalent as consolidation occurs in all sectors of the industry. In addition to the conventional auction method of feeder cattle marketing, some alternative marketing arrangements include sale by private treaty, video auction, retained ownership, and use of strategic alliances. For example, feeders are looking deeper into the supply chain to secure guaranteed supply from cow/calf producers through specified marketing arrangements.

U.S. Dairy Beef

The beef and dairy industries have grown increasingly interdependent amidst the current market environment of tight beef supplies. The dairy industry is providing a much needed boost to the supply of calves intended for beef production. In turn, elevated beef prices are providing additional revenue opportunity to U.S. dairy producers when marketing cull cows and bull calves. While this connection is certainly not a new discovery in the cattle industry, it has become more important than ever to beef production. From 2009-13, dairy animals (both cull cows and fed dairy) represented an annual average of 20 percent of the total U.S. beef production mix. *(See Exhibit 5.)*

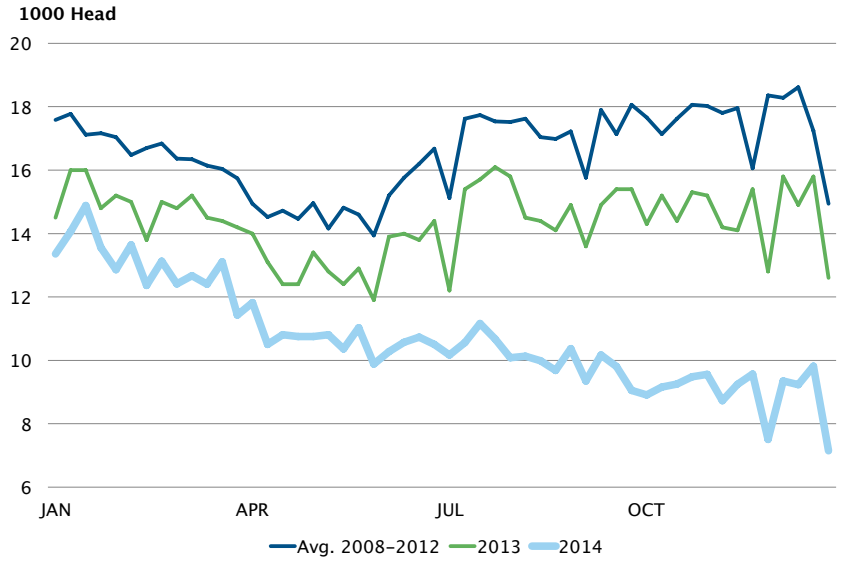
Exhibit 5: U.S. Beef Production Breakdown

2009-2013 Average



Source: CattleFax

Exhibit 6: Calf Slaughter
Federally Inspected, Weekly



Source: USDA-AMS, USDA-NASS, Livestock Marketing Information Center

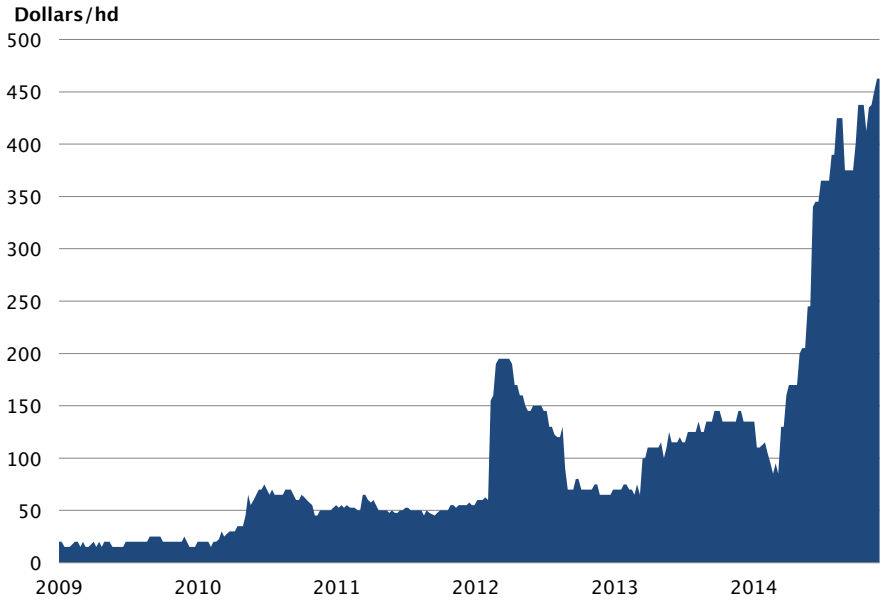
Advancements in genomic tools during the past decade (e.g., sexed semen, DNA testing and in vitro fertilization) will accelerate genetic progress in the dairy cow as well as her offspring. These innovative tools will allow dairy operators to deviate from the biological 50/50 split between male and female offspring as well as to capitalize on sophisticated genetic selection. For example, within a hypothetical dairy production system, a portion of the genetically elite females, let's say 35 percent, could be bred using sexed semen to produce the highest quality, milk producing replacement heifers for integration into the herd. The remaining 65 percent of females could then be bred to bulls that have been genetically selected to optimize the beef producing potential of these crossbred offspring. Leading genetic providers are currently offering such programs, but the pace of adoption has been slow to date. Nonetheless, as long as the economic incentive is present, progressive dairy producers will continue to innovate and add value to the calf crop they are producing as a co-product of milk production.

The current tight feeder supply situation has pulled calves away from the veal industry and redirected them to the beef channel. The veal industry has been in decline for several decades, but the decline in calf slaughter accelerated in 2014. *(See Exhibit 6.)* The Livestock Marketing Information Center (LMIC) is estimating that calf slaughter declined YoY by 194,000 head in 2014, representing the largest annual decline since 1991. This increase in dairy calves placed on feed contributed to the year-over-year growth in the number of cattle placed on feed in late 2014.

The nation's dairy herd consists mostly of the Holstein breed (estimated to be 85 percent), and they represent the vast majority of dairy beef animals on feed. The next most prominent breed is Jersey at 5 percent, with the remainder made up of others and crossbred dairy cows. Feeding Holsteins requires a more specialized system than that used for traditional beef cattle. Dairy calves are immediately weaned at birth and introduced to a milk and starter ration. They are raised on either a dairy or a calf ranch until they reach approximately 300-350 lbs. At that point, they are placed on feed and remain in the feedyard for approximately 12 months until they reach the desired market weight.

Currently, the biggest advantage to feedyards involved in this type of business venture is securing supply through a vertically coordinated production system. Other benefits to the industry include a boost in prime production, with Holsteins offering a higher percent grading prime. The Holstein population of cattle is a more consistent group in terms of carcass size and meat quality characteristics. Growth promoting technology is proving to be an excellent complement to Holsteins by providing a boost in red meat yield and a more consumer friendly shape to middle meats. Holsteins are biologically larger-framed animals than most beef breeds, and this disparity creates challenges inside packing plants. The long term trend of larger animals is contributing to a widespread remodeling or shuttering of outdated packing facilities across the country. Another big plus for the feedyards is being able to add the dairy beef cattle to their inventory of feeder

Exhibit 7: Weekly Day-Old Holstein Calf Prices



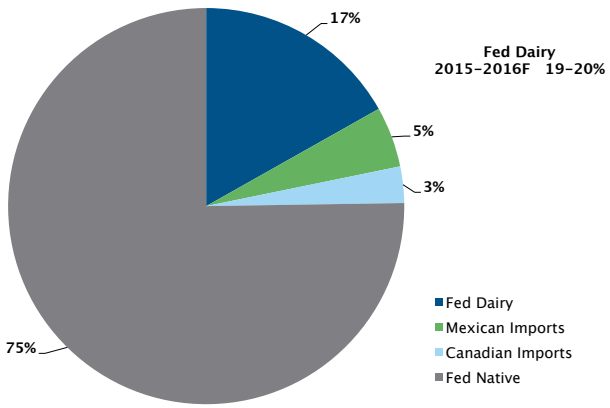
Source: CattleFax

cattle, thus utilizing more of excess bunk space in their yards and realizing greater operating efficiencies.

Other considerations also come into play when feedyard operators increase their reliance on dairy beef cattle. These cattle come to the feedyards at a younger age, and the longer time on feed increases the operator's exposure to feed input costs and fed cattle price volatility.

Exhibit 8: U.S. Fed Cattle Slaughter Breakdown

2009-2013 Average



Source: CattleFax, CoBank Forecast

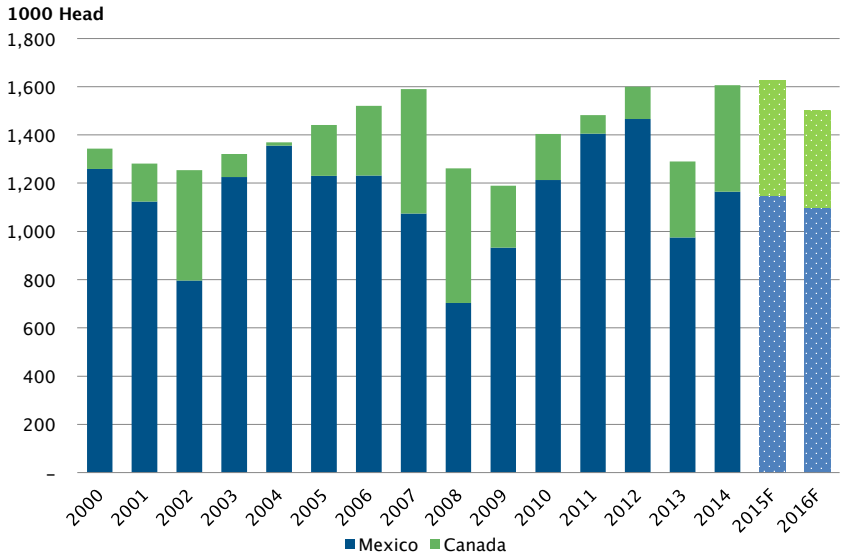
Specialized care and proper nutrition management are essential. Feedyard operators with experience in dairy beef feeding are well positioned to take advantage of this opportunity. Indeed, the stiff competition among feeders to secure this alternative supply of feeder cattle, along with record profitability and declining feed costs, has driven day-old dairy bull calf prices to all-time highs. *(See Exhibit 7.)* In turn, these high prices represent increased income opportunities to dairy producers and enhancing the value of what used to be a low value by-product of milk production.

The industry's growing reliance on dairy beef is a trend that is unlikely to reverse as the benefits are proven over time. Fed dairy amounted to 17 percent of total U.S. fed cattle slaughter on average during the five years spanning 2009-13. *(See Exhibit 8.)* This share will likely increase to 19-20 percent in 2014-16 for two reasons: an increase in fed dairy placements and a decrease in native heifers in the slaughter mix due to herd rebuilding efforts. The LMIC projects that dairy steers will contribute an additional 300,000 head to the fed cattle supply during 2015-16.

Feeder Cattle Imports

Canada and Mexico are vital trading partners in an integrated North American beef production system. Imports of feeder cattle are a significant source of inputs to U.S. feedyards. Record high U.S. feeder cattle prices and a strengthening U.S. dollar have spurred an increased flow of feeder cattle imports into the U.S. Imports from Mexico increased 11 percent YoY in 2014 while imports from Canada soared 40 percent, for a combined increase of 18 percent. *(See Exhibit 9.)* These are significant year over year increases, but not a record large number compared to the past 15 years. Drought conditions in 2011-12 heightened the flow of Mexican feeder cattle imports, followed by a

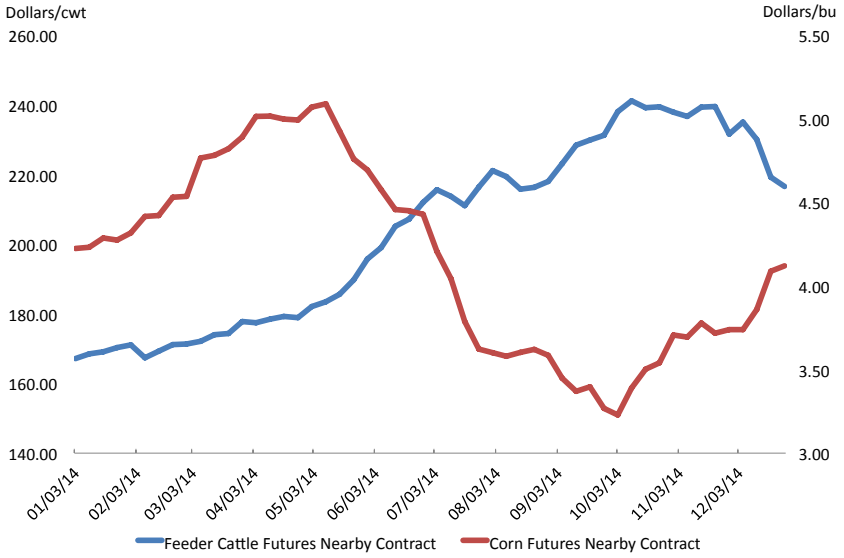
Exhibit 9: Feeder Cattle Imports from Canada and Mexico



Source: USDA, CattleFax, CoBank Forecast

Exhibit 10: Feeder Cattle and Corn Price

Front-Month Futures



Source: CME, CoBank

sharp decline in 2013. Of these two neighboring trading partners, Mexico is a much more significant source of feeder cattle – especially for the southwestern states (TX, OK, NM, AZ and CA). Mexican feeder cattle can account for as much as 20-30 percent of placements in these states. There is little indication of herd rebuilding in Mexico with a greater proportion of heifers in the mix of feeder cattle sent to the U.S. With Mexico's cattle inventory having been on a steady decline since its peak in the late 1980s, any expansion in exports to the U.S. is likely to be 3-5 years down the road.

Although U.S. feedyards would like to bolster their imports from Mexico and Canada, most analysts are anticipating modest increases, at best. The strong U.S. dollar will remain a supportive factor to the overall flow of feeder cattle imports into U.S. feedyards. A slight increase in the number of head from Canada could play out as feeders closely watch the barley cost-of-gain in Canada versus the corn cost-of-gain in the U.S. But any increases in imports from Canada are likely to be offset by declines in imports from Mexico. In fact, the flow of feeder cattle from Mexico is likely to taper off slightly as ranchers there begin the early stages of herd rebuilding in an effort to meet domestic demand. Long term, the high levels of total imports from Canada and Mexico posted in 2014 are not sustainable, especially if heifer retention and herd rebuilding begin to occur in those countries. Canada and Mexico have not yet started to see the compounding effect on immediate feeder cattle supplies associated with the early stages of herd expansion.

Feeding Sector

A cattle-feeding operation utilizes two major inputs in producing market-ready cattle – feeder cattle and feed grain. These two factors combined with other operating expenses and overhead make up the overall cost-of-gain component to their businesses. Most of the "other" operating expenses tend to be fairly stable over the long term, whereas the opposite can be said about the costs

of feeder cattle and grain inputs. As feedyards analyze breakeven levels for placements, these two variables are closely monitored as a decrease in value of one variable will essentially free up dollars to spend on the other. This inverse relationship was clearly demonstrated by the relative price movements in 2014. *(See Exhibit 10.)* The recent fundamental shift downward in grain prices is likely to remain intact over the next two years allowing feedyards to remain aggressive when bidding for feeder cattle supplies. Much lower feed costs will revive interest in cattle feeders to lighter weight feedlot placements, consequently creating competition amongst stocker/backgrounders who are eagerly attempting to secure supply and take advantage of winter wheat grazing market opportunities.

In recent years, the cow herd and feedyard marketings have migrated gradually from the Southern Plains to the Northern Plains region of the U.S. Looking back to the change in inventory of cattle and calves during 2007-12, it is obvious that drought conditions in the Southern Plains contributed to a net liquidation of 6.3 million head and a migration north of cattle supplies. *(See Exhibit 11.)*

This northward migration trend is further demonstrated by fed cattle marketing trends over the last 15 years. *(See Exhibit 12.)* Marketings in Nebraska, Iowa and South Dakota have increased steadily over time and represented 32 percent of the nationwide total in 2014, compared to 24 percent in 2000. Within the last year, a widening of the grain basis has created favorable discrepancies in cost-of-gain in the Northern Plains and consequently attracted larger year over year placements in those states with closer proximity to the nation's Corn Belt.

Exhibit 11: Cattle and Calves – Change in Inventory: 2007 to 2012

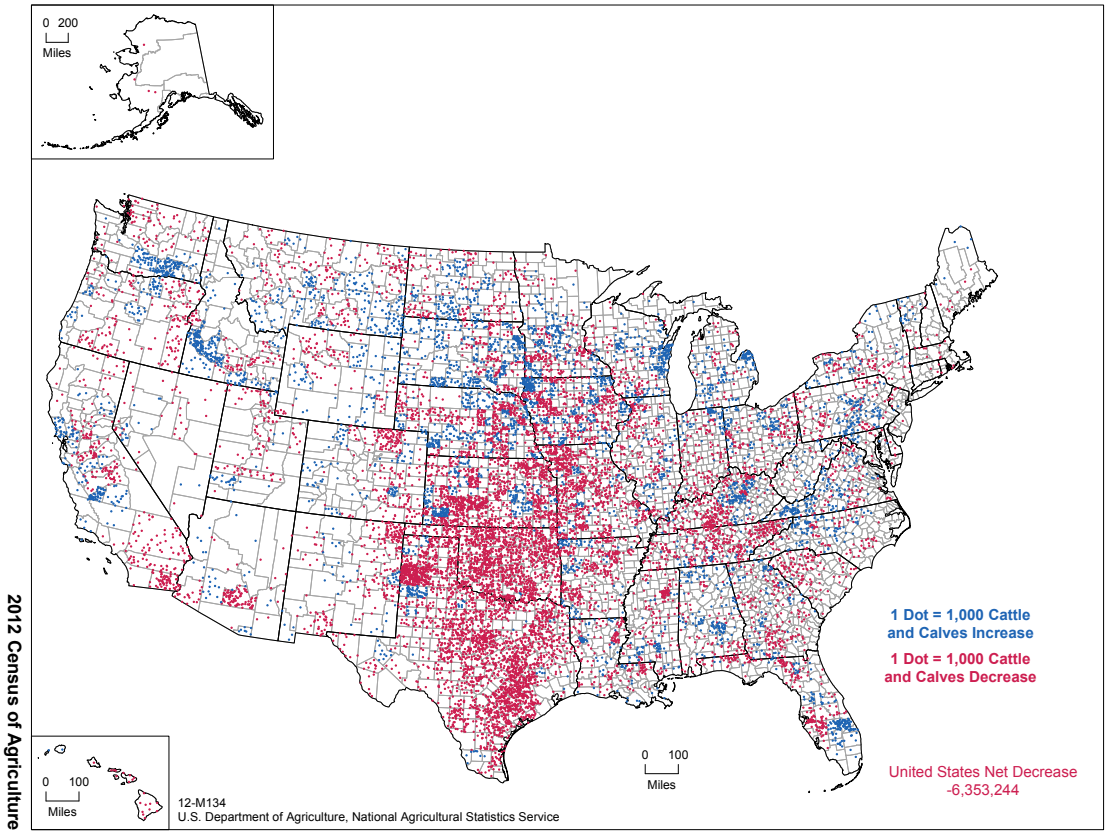
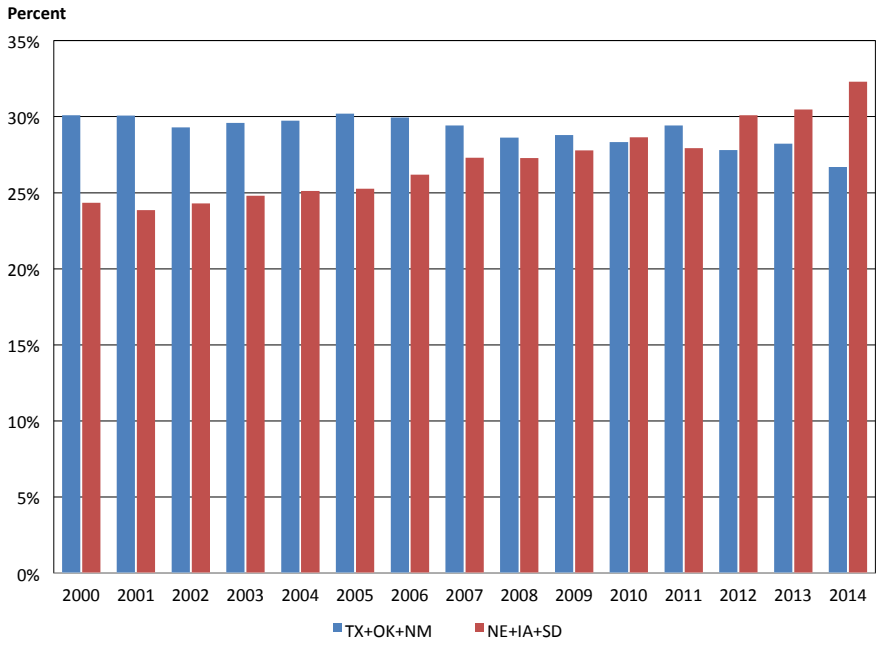


Exhibit 12: Percent of Total U.S. Fed Marketings by Select Regions



Source: USDA-AMS, Livestock Marketing Information Center

Conclusion

How does this feeder cattle supply outlook translate into beef production output? Total U.S. beef production is expected to contract 1 to 2 percent in 2015 with the decline front-loaded in the first half of the year, and then to stabilize through most of 2016. No material increase in U.S. beef production is likely to occur until 2017 and beyond.

Continuing consolidation of beef and dairy herds will tighten up the supply chain and allow for more streamlined strategic alliances and marketing relationships to secure beef producing animals up and down the production supply chain. Price premiums will continue to reflect quality and current consumer preferences. In an outdoor production system, precipitation levels will remain the most influential as well as the least predictable market factor. The U.S. beef industry's economic viability is highly dependent on moisture conditions and their correlation with grass availability and also favorable feed cost inputs. This single factor has the largest potential of impeding or even reversing the progress made in the herd rebuilding process.

Volatility in the markets will certainly continue. Proper risk management strategies must be in place for continued success in all sectors of the beef business in order to preserve the equity gains of 2014. Profitability sparks innovation and allows producers to increase spending on inputs in instances where gains in production are realized and economically rewarding.

Developing an outlook or forecast for the beef industry supply is fairly straightforward, but developing one for demand is much more challenging. Consumer dollars fuel the entire industry with equity shifts occurring positively and negatively throughout all sectors. The perfect storm of tight supplies and an incredibly resilient consumer's willingness to pay high prices has rewarded the cow/calf producer with unprecedented operating returns. Feeder cattle prices and favorable returns will be well supported in 2015 and into 2016 as industry leverage will continue to favor the sector. Profitability will be under pressure for the feeder, packer and retailer as equity shifts among these segments. Amidst these shifts, consumer demand, both domestic and international, will be the greatest unknown, and the ability to sustain retail prices at current levels will ultimately determine support for feeder cattle prices and profitability in the feeding and packing sectors.

CoBank's Knowledge Exchange Division welcomes readers' comments and suggestions.
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