

NOVEMBER 2018







Introduction

Select grade beef is on its way out. By 2025, Select beef will likely be a small niche product playing a minor role in the weekly beef trade, and representing just a shadow of its past position in the industry. As one Colorado baseball commentator often says when the batter hits a long ball headed out of the park, "Take a good look, you won't see it for long."

Once a major portion of U.S. beef production (40% of all graded product as recently as 2006-2007), Select grade beef is being intentionally phased out for the right reasons: (1) It is consistently worth less than Choice beef, (2) consumers find it less appealing and less satisfying and (3) Select beef costs essentially the same to produce as Choice. Cow-calf producers and feeders well understand the situation with Select beef and are actively working to eliminate it. They have raised their sights to more valuable levels of marbling and are not looking back.

How is Select beef being phased out? First, cattle breeders are actively selecting for genetics that grade better. Marbling EPDs have proven a useful tool and all major breeds have experienced a positive genetic trend for this trait throughout the past 20 years. Second, feedlots are target-managing cattle to produce more Choice and Prime grade carcasses. Approximately 70% to 75% of all finished cattle sell today on carcass-merit grids and formula pricing systems, resulting in a direct financial incentive to capture the price premiums associated with higher quality grades. There are several other important factors in play as well, all pushing against the production of Select beef. Taken together, these actions are working as intended. Select grade beef as a percentage of total graded beef production is trending lower.

This is big news because the U.S. beef industry is large and diverse, making any change of this magnitude difficult at best. Coordination and cooperation between the cattle producing segments is less than ideal. This is true both in satisfying consumer demand and for increasing profitability in the cowcalf, stocker and feedyard sectors. An encouraging fact about the elimination of Select beef is that it is simultaneously good for consumers and producers. The industry is demonstrating a top-to-bottom team effort to make it happen.

Worth noting is that there have been no major industry meetings identifying the need to phase out Select grade beef. No business plan was written toward this purpose, though the necessity of improving beef quality and consistency has long been examined via industry research and actively discussed in livestock media. Yet producers and feeders, responding to increasingly clear economic signals, have united around this cause. Their efforts are bearing fruit. Select beef production is on the wane and will be almost entirely phased out in the coming decade.

Review of Beef Quality Grades

Beef quality, as defined by the USDA quality grades of Prime, Choice, Select and Standard for fed beef carcasses, is determined by intramuscular fat (marbling) within the ribeye muscle as well as carcass maturity. The higher the marbling score, the higher the quality grade. Within each quality grade, there are subdivisions. For instance, within the Prime grade, there are actually three designations. Prime breaks down into High Prime, Average Prime and Low Prime, each with their corresponding marbling score subgroups: Abundant, Moderately Abundant and Slightly Abundant, from the highest marbling score to lowest, respectively. Within each of these subdivisions, a marbling score of 0 to 99 may be assigned. However, any carcass with Slightly Abundant 0 or higher marbling is marked "Prime," with no further categorical designation made within that grade.

Similarly, the Choice grade breaks down into High Choice, Average Choice and Low Choice. Corresponding marbling scores for those three divisions are Moderate, Modest and Small, in declining order. Of significance here is that upper 2/3 Choice carcasses are often cooler sorted into various branded beef programs, such as Certified Angus Beef, Sterling Silver (a Cargill brand) or Tyson's Chairman's Reserve.

In the Select grade, there are only two delineations: High Select and Low Select. Associated marbling score monikers are Slight 50 to 100 and Slight 0 to 49. Much like Prime, the Select grade is almost always designated "Select" with no further division to denote quality differences.

The Standard Grade (also called a "no-roll") has the marbling notations of Traces and Practically Devoid, meaning almost no marbling is apparent to the naked eye or the grading camera. Production of Standard grade beef from ordinary fed cattle has all but disappeared over time. Twenty years ago, it was not uncommon to see individual pens of cattle produce 10% to 15% Standard grade carcasses, but that rarely happens today.

Until 1987, quality grades for fed beef were designated as Prime, Choice, Good and Standard. In a quest to promote leaner beef, USDA removed the name Good and replaced it with Select. The idea was that the Select label would be more promotable to consumers than beef called Good. For a time, that may have been true, but higher marbling levels ultimately won out as a result of stronger consumer demand. The higher the marbling score, and concomitantly, the higher the quality grade, the more desirable the eating experience. Increased marbling levels have been shown to increase consumer acceptance, which positions Select beef at a disadvantage versus Choice and Prime.

Demand for higher quality beef at the consumer level has become increasingly evident over time. Dr. Travis O'Quinn, assistant professor of meat science at Kansas State University believes that consumers have been clearly communicating that Choice beef is preferred over Select. "There is sound evidence that Select beef will fail to meet consumer eating expectations about 25% of the time," says O'Quinn. "This percentage decreases significantly at higher quality grades [Choice and Prime]. Thus, we have hard data supporting the fact that [with the increase in Choice beef production and the reduction of Select] the overall eating quality of U.S. beef is improving. This trend represents a positive change made by the industry."

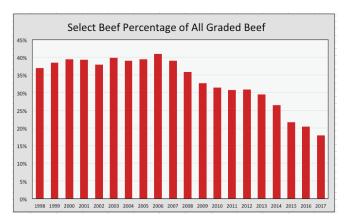
Why is Select Beef Being Phased Out?

Higher marbling scores translate to higher values mainly due to eating quality. Thus, quality grade has been and remains very important when pricing beef in the wholesale and retail market. Premiums for higher quality beef are passed back through the supply chain, rewarding cattle with superior marbling potential. This economic reality has incentivized

producers to increase the production of Prime- and Choice-grading carcasses at the expense of Select.

Prime beef commands the highest prices in the marketplace, followed by Choice and then Select. The few Standard grade carcasses the industry produces are severely discounted. Choice beef has been the industry's bellwether product for many years and remains so today.

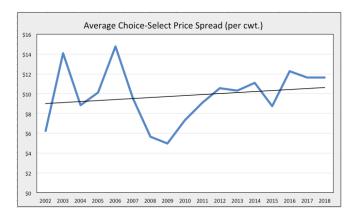
Due to market signals, and hard work by cattle producers and feeders, the percentage of U.S. beef grading Select has been more than cut in half in the past 10 years, from about 40% to near 18%, as the chart below illustrates.



The discounted value of Select, when compared with Choice beef and also upper 2/3 Choice, has been a key pricing differential impacting fed cattle sold on carcass-merit grids. The feedlot and packing industry pay a great deal of attention to the Choice-Select spread, because it directly affects their bottom line via grid pricing results.

"Historically, one would expect that when the industry produces a greater volume of Choice, the price differential between Choice and Select would decrease, and we did see narrower spreads from 2008 through 2011, during the recession which was an influencing factor at that time," said one major U.S. packer that declined to be named. "But more recently, that has not been the case. The percentage of Select has now decreased so significantly that some of the largest retailers, who buy big volumes of beef each week, now find a limited supply of Select available. This has forced buyers to move up to purchasing Choice beef instead of Select."

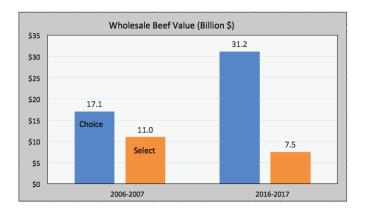
In an environment where Select beef production is dropping significantly (and Choice beef tonnage is increasing), it is informative to note that the Choice-Select price spread has been slowly rising. Choice beef continues to carry a sizable premium versus Select, which can be explained by the fact that Choice beef demand is growing while Select beef demand is shrinking. If demand for both beef grades were stable, and Select beef supplies had declined as observed, the Choice-to-Select price differential would have narrowed as the market reacted to a relative shortage of Select beef. Absence might indeed make the heart grow fonder in some situations, but not here. With the spread trending modestly upward (as shown in the chart below), the obvious and only explanation is a sizable consumer demand shift toward Choice and away from Select.



The magnitude of this demand shift can be approximated by comparing wholesale beef values (defined simply as price x quantity) in 2006-2007 versus 2016-2017. During this 10-year time span, the annualized value of Choice beef increased from \$17.1 to \$31.2 billion, up 83% in nominal terms. The simultaneous change in Select beef values was in the opposite direction from \$11 to \$7.5 billion, a 32% decline. As illustrated by the chart below, these changes tell a powerful story. Choice beef demand has improved markedly, while demand for Select grade beef, which was smaller to begin with, faded even further. In 2006-2007, the wholesale value of Select beef accounted for 39% of the combined wholesale value of Choice and Select. That percentage declined to a mere 19% by 2016-2017, while Choice beef accounted for a whopping 81% of the total.

Viewed yet another way, in 2006-2007, the value of Choice beef was 55% greater when compared to the value of Select beef. Ten years later, the value of Choice beef stood 314% above the comparable value of Select. This dramatic shift reveals the underlying

linkage between the demand for and supply of Select grade beef, and the observed trend is that both are shrinking in concert.



When questioned on this topic, another major packer stated, "What changed was that the industry increased the percentage of carcasses grading Choice and Prime from roughly 55% in 2006-2007 to 77% in 2016-2017. So, the total volume of Choice product in the marketplace increased dramatically. At the same time, the total dollar value of Choice beef increased significantly while the dollar value of Select decreased. This is the reality of today's market, and we believe demand for high quality beef is here to stay."

Dr. Chris Calkins, University of Nebraska animal science professor, summarizes the situation by saying, "It seems that Choice beef values have increased over the past 10 years to a greater extent than volume alone would explain. This may reflect greater value from more cattle going into upper 2/3 Choice programs."



Dr. Gretchen Mafi, meat science professor at Oklahoma State University, notes that, "The actions of Walmart Inc. [world's largest food retailer] in buying more Choice beef had a dramatic impact on the demand for Choice and the subsequent lowering of Select beef demanded in the marketplace. Addition-

ally, both the domestic and foreign markets continue to pay premiums for high-quality U.S. beef which has ultimately resulted in more higher quality beef being produced."

Demand for high-quality beef has become well entrenched in today's beef business. No self-respecting steakhouse hangs a sign out front saying they feature Select grade beef, while those serving upper 2/3 Choice and Prime are proud to make public proclamations about the quality of the beef they serve.

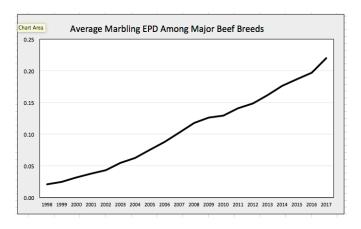
In response to growing demand, the production of Choice and Prime beef has never been greater than it is today. Industry averages for Choice beef have consistently risen above 70%, and exceeding 80% for Choice and Prime combined is now the norm. Prime beef historically accounted for 2% to 3% of all fed beef, but Prime more recently has risen to 6% to 8% of the quality grade mix. Cattle producers have responded to increased value of Choice and Prime over Select, and have successfully shifted their output to the higher-valued grades.

How is Select Beef Being Phased Out?

Improved Marbling Genetics

Consistent selection for higher marbling genetics is one major factor that has positively affected beef quality grades. The market pays more for Choice and Prime. Hence, seedstock producers have increasingly selected herd sires and replacement females with an eye toward Marbling EPDs. Whether achieved through artificial insemination or by purchasing herd bulls, higher-marbling EPDs have been emphasized over the past two decades, blanketing more high marbling bulls across the industry.

Commercial producers, for their part, did what the market was telling them to do and bid aggressively on the higher-marbling bulls seedstock suppliers offered. Observable marbling premiums in the wholesale beef market translated back down the supply chain, resulting in both greater demand for – and a larger supply of – high-marbling genetics. All major breeds participated in this trend, driving the entire U.S. cattle population to higher levels of marbling potential.



As shown in the chart above, the average Marbling EPD among larger bos taurus breeds (Angus, Red Angus, Hereford, Simmental, Gelbvieh, Charolais and Limousin) has been on the rise and may even be starting to accelerate upward. Many Select-grading cattle of the past were High Select and fell just below the marbling score minimum for Low Choice. Thus, an industry-wide, positive Marbling EPD shift of 0.12 to 0.13 (equal to 120 to 130 marbling score points) contributed significantly to pushing many of these formerly Select cattle over the line into Choice.

Increased use of DNA testing has also supported the trend toward improved marbling genetics. Most major breeds incorporated genotypes into their EPD calculations during the past decade (initially through two-step genomic enhancement, and more recently, directly in the EPD calculation process via the one-step method), making the resulting EPDs more accurate. Marbling and many other EPD traits benefitted from this improvement.

Commercial producers are gradually beginning to DNA test their replacement heifer candidates and are eliminating low-scoring females for a variety of traits (including carcass traits). This more recent use of DNA testing in commercial herds bodes well for continuing the trend toward increased marbling potential in the nation's beef cowherd.

Marbling is a moderate-to-highly heritable trait and when commercial herds are "stacked" with high-marbling sires for successive generations, and potential replacement heifers are DNA tested and the bottom end eliminated, rapid progress toward higher quality grades is achieved. Individual herds following this path often produce cattle grading 80% upper 2/3 Choice and Prime, with zero Select car-

casses. Beef quality starts with superior genetics and the outlook for continued improvement is excellent given current producer emphasis on high-marbling genetics.

Shift in Breed Makeup

Angus is the largest U.S. beef breed registry, followed by Hereford, Red Angus and Simmental/SimAngus, based on the latest data available. Angus and Red Angus are the two highest marbling beef breeds of size, and their combined genetic influence currently touches approximately 80% of the national herd. Back in 1984, total registrations of Black and Red Angus represented 25% of the top 15 breeds. That figure had more than doubled to 56% by 2016.

Another impactful trend among breed is the decline in registrations among bos indicus derivatives. These breeds rank lower for marbling and historically contributed significantly to the production of Select beef. The four largest bos indicus breeds, declined from a combined total of 16% of top 15 breed registrations in 1984 to only 8% in 2016.

Inclusion of Black and Red Angus in Continental hybrid seedstock populations is another component of the shift in breed makeup, particularly during the past 20 years. Between 55% and 60% of total registrations in three of the four largest Continental breeds now contain 1/4 - 3/4 Black or Red Angus influence. This change is equivalent to adding approximately 8-percentage points to the combined registration market share of Angus and Red Angus (moving it up to near 64% of the 15-breed total).

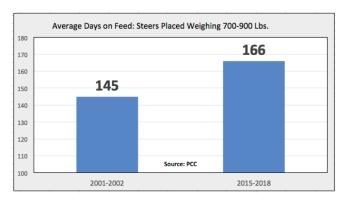
The broadening influence of Black and Red Angus across the entire cattle population has helped raise the genetic bar for marbling. With the advent of the Certified Angus Beef program in 1978, and with eventual packer recognition that every upper 2/3 Choice carcass is worth more in the marketplace, emphasis on Black and Red Angus in many commercial herds has become increasingly evident.

Cattle Feeding Economics and Related Changes

During the past two decades, there has been a consistent movement toward harvesting cattle at heavier weights with more days on feed. Heavier, longer-fed cattle are more likely to grade Choice or Prime (other factors equal), which is another contributor to the continued decline in Select beef

tonnage. This time period closely coincides with the increased use of grid/formula marketing, and there is a direct cause-effect relationship that occurred.

As they finished cattle to be marketed on grids, cattle feeders learned that longer days on feed improved their bottom line, despite a modest rise in closeout cost of gain. The benefits of longer days on feed include (1) higher dressing percentages, (2) higher quality grades and (3) more salable pounds per head and per pen, which helps spread fixed costs. The downside of longer days on feed were also recognized as more heavyweight carcasses and more yield grade 4s and 5s were produced, both of which are discounted on grids.



Yet the positives outran the negatives, and as cattle feeders better understood the financial opportunity presented by grid marketing, they added days on feed. Data from Professional Cattle Consultants, the industry's leading feedlot performance benchmarking service, shows that, for steers weighing 700-900 pounds at feedlot arrival, days on feed averaged 145 days in 2000-2001. That figure had increased to 166 days by 2015-2018, representing three full weeks of added time on feed.

Cattle with more genetic growth potential, which are able to efficiently reach heavier finish weights, aided this trend. The result: steer carcass weights rose from 798 pounds on average in 2000-2001 to 884 pounds during 2016-2017, an increase of 86 pounds (11%). Heifer carcass weights rose similarly from 734 to 816 pounds (also up 11%).

Most grids have become more accepting of heavier carcasses and more lenient on yield grade 4s and 5s. The threshold at which heavyweight carcasses are discounted has risen by 100 pounds (950 to 1,050 pounds) since grids were introduced. This change has given feedlots more top-side room to feed cattle to heavier endpoints, aligning with the other im-

portant economic drivers discussed above.

Concerning yield grade, grids transitioned from discounting every individual yield grade 4 and 5 carcass to discounting only the percentage of yield grade 4s and 5s in each pen of cattle that fall above the packing plant average for the week the cattle were harvested. In other words, if the plant average was 10% yield grade 4s and 5s, a pen with an equal percentage of overfat carcasses would receive no grid discount for yield grade. A pen with 8% yield grade 4s and 5s would, in this scenario, receive a modest premium for being better than plant average, while a pen with 12% would only be discounted on the extra 2% that exceeded the plant average.

This change in grid structure also tended to support fatter endpoints, longer days on feed, heavier finish weights and, ultimately, helped create more Choice and fewer Select grade carcasses. The message heard by cattle feeders was essentially, "Bring us quality in the form of marbling and some extra carcass weight and external fat will be tolerated."

The beef market today is essentially directing producers to create as many 1,049-pound carcasses (~1,600-pound fed cattle and the heaviest a carcass can be before being discounted) that grade Prime and Upper 2/3 Choice as possible. This combination of heavy carcass weights and quality grade premiums returns the highest gross value to the feedlot, and often the highest net returns too.

Gradual growth of never-ever natural and non-hormone treated cattle programs have also had a positive effect on improving quality grades, though their impact on national grading percentages is not very large to date.

Another puzzle piece in the changing U.S. beef quality grade mix is the annual redirection of approximately 500,000 head of dairy cattle (mostly steers) away from veal production and into the fed beef supply. This change occurred gradually over the past 20 years, and is only a modest contributor to the shrinking Select beef trend, even though dairy steers do tend to perform well in producing Choice beef.

Several factors that actually worked against higher quality grades in the finishing phase of cattle production include more aggressive implant programs and the increased use of beta-agonists (Optaflexx and Zilmax; though Zilmax use was discontinued in 2013). Many standard implant regimens include combinations of estradiol and trenbolone acetate in a single implant, most often administered as second or terminal implant. Trenbolone acetate is an androgen and anabolic steroid which increases growth rate and improves feed efficiency, but often has a deleterious effect on quality grade. Beta-agonists became popular for use late in the feeding period and are effective in improving dressing percentage, carcass weight and lean muscle yield, but as re-partitioning agents, generally reduce marbling and quality grade.

Taken together, however, changes in cattle feeding practices have been supportive to higher quality grades and have been a major part of the declining Select beef trend.

Branded Beef Emphasis

Pull-through demand has increased for Choice, upper 2/3 Choice and Prime beef, which in turn supports producer emphasis on higher quality grades. There are 90 main branded beef programs currently listed by USDA, and 78% require an Angus phenotype/genotype or include the generic use of "Angus" or less often a "Black Angus" label as part of the brand name.

Among the 10 biggest beef brands, of which Certified Angus Beef is the largest, nine require Choice or higher marbling, and eight require Upper 2/3 Choice or Prime grades to qualify. Even Certified Hereford Beef, which previously allowed High Select carcasses into their program, recently changed their specs such that only Choice and Upper 2/3 Choice carcasses are now accepted.

Packers and other beef marketers, who created these value-added brands, work hard to maintain price premiums in the wholesale and retail market. They are consistently successful in doing so, and have now fully differentiated highly marbled beef from commodity beef.

Note in the USDA composite grid premiums and discounts summary (shown below) that high-quality grades garner significant rewards, while Select carcasses face discounts (Select was priced \$12.67 per hundredweight below low Choice during the

example week shown here). Hence, rewards for quality are being actively transmitted back to the fed cattle level, supporting the changes in cattle feeding practices and genetics discussed earlier.

NATIONAL WEEKLY DIRECT SLAUGHTER CATTLE - PREMIUMS AND DISCOUNTS Value Adjustments Range Simple Avg. Change Ouality: 0.00 - 30.00 Prime Choice 0.00 -0.00 0.00 Select (13.00) - (8.00)(11.00)(0.64) (0.28) (50.00) - (10.00) (29.57) Standard 2.00 -25.00 -50.00 All Natural 31.20 0.00 16.00 -23.00 19.88 Dairy - Type (14.00) -0.00 (2.67)Bullock/Stag Hardbone (55.00) - (15.00) (34.50)0.00 (55.00) - (20.00) (34.54)0.00 (55.00) - (20.00) (40.00) - 0.00 Dark Cutter (35.00)Over 30 Months of Age (16.31)*Cutability Yield Grade, Fat/Inches 1.0-2.0 < .10" 2.0-2.5 < .20" 0.00 -8.00 3.86 0.00 0.00 -5.00 2.00 0.00 2.5-3.0 < .40" 3.0-3.5 < .60" 0.00 -5.00 0.00 -0.00 0.00 0.00 3.5-4.0 < .80" 0.00 -0.00 0.00 0.00 4.0-5.0 < 1.2" (8.00) (25.00) - (10.00) 5.0/up > 1.2"(17.79)Carcass Weight: 400-500 lbs. (40.00) -0.00 (30.71)0.00 500-550 lbs. (22.47) (40.00) -0.00 0.00 550-600 lbs. (35.00) -0.00 600-900 lbs. 0.00 -0.00 0.00 0.00 900-1000 lbs. (15.00) -0.00 (2.00)0.00 1000-1050 lbs. over 1050 lbs. (50.00) -(5.00)(23.67)

Prime beef commands a substantial price premium on most industry grids to the point that every animal reaching this elite marbling status will dollar up \$100 to \$200 per head above its lower-grading pen mates. Industry average Prime beef production rose from less than 3% a decade ago to more than 7% in 2018. This trend is likely to continue, with Prime reaching 10% early in the coming decade.

For a growing number of cattle producers who understand the financial opportunity represented by top-of-the-curve marbling, Prime has become the new target. Those selecting for high-marbling genetics over multiple generations report they consistently produce groups grading 30% to 50% Prime or even higher. Results like that may indeed be a window into the future, where low Choice becomes a ho-hum commodity, Upper 2/3 Choice offers a modest reward, and Prime rings the money bell (along with pounds and feed efficiency, of course). In such a marketplace, Select beef would fade to a small, heavily discounted and mostly unwanted by-product. Every Select grade carcass – like Standard carcasses today - would be considered a failure for being unable to reach even the lowest rung of consumer acceptability.

There is still room for improvement in quality grade asserts a central region packer representative. "The industry has more than doubled its Prime percentage, but there's still plenty of opportunity for more. Currently, the market is experiencing periods of lower premiums for Prime and Certified Angus Beef, but the spread between Choice and Select has remained strong. Part of this is due to the decline in Select tonnage. Some retailers have been forced to switch to Choice beef simply because the Select volume is significantly lower. And after a meat marketer moves up a rung on the ladder of quality, it is difficult to move back down because consumers will notice a difference."

The apparent consensus among packers is that the current quality emphasis is here to stay, and that consumers will continue to demand beef with high levels of marbling. Nearly all predict increased demand for Prime and upper 2/3 Choice beef. Generally speaking, they also believe there will be more consumer demand for natural beef in addition to the emphasis on higher quality grades.

Summary and Outlook

The amount of Select beef in the marketplace is being gradually replaced by a higher percentage of carcasses grading Prime and Choice. Market signals ignited this trend and producers throughout the supply chain are responding. Consumers demand high-quality beef and are willing to pay more for it. Cattle producers, feeders and packers have met this demand through genetic selection, improved feeding and management practices, and the industry's development of a value-based grid system that rewards the production of highly-marbled beef.

Add to that the growth in branded beef programs, most of which emphasize high levels of marbling, and the table is set for a continuation of these trends. Select grade beef is on its way to becoming an afterthought in the U.S. beef business, and could become strictly a "residual supply product" within five years. Furthermore, none of these trends will be redirected unless consumers demand such a change, which appears unlikely for the foreseeable future.

How Low Might Select Beef Production Go?

Select will account for between 17% and 18% of all graded beef in 2018. Extending the current downward trend another four years would push Select beef tonnage to 10% of the quality grade mix by 2022. A further decline to near 5% would then be possible by 2025.

The established trend could continue at or near its present rate (-1.7 percentage points per year, on average) well into the next decade, assuming no major increase in feed grain prices. On the other hand, the trend might slow, resulting in Select beef tonnage taking longer, perhaps until 2030, to reach 5% or less of the graded beef supply. Precise projections and timing are always difficult, though continuation of this downward trend is virtually guaranteed.

A limited-quantity "thresholding effect" might well be encountered in the near future, putting even more pressure on Select grade carcasses. As more retail and food service end users switch to Choice or even upper 2/3 Choice, due to limited and inconsistent Select beef supplies, the price of Select might fall under extreme pressure. Under this scenario, the Select price discount would become larger and perhaps re-establish itself near -\$20 per hundred-weight or even worse, representing a near doubling compared to the average price discount observed in recent years. Such a situation would hasten the departure of Select beef as producers in all segments of the supply chain worked even harder toward its elimination.

USDA will ultimately find it more difficult to quote the twice-daily Choice/Select price spread as Select beef supplies continue to shrink. This historically important price information may eventually become almost meaningless to those involved in the wholesale beef trade, because Select beef prices will not matter as in the past. The likely replacement will be the low Choice to upper 2/3 Choice price spread, which is already amply tested in the market daily and will become even more so over time. USDA's effort in quoting the wholesale beef market is therefore likely to shift to more closely tracking upper 2/3 Choice and Prime price spreads versus low Choice, while gradually paying less attention to Select.

Implications

The phasing out of Select beef represents a positive milestone for the U.S. beef industry. Reducing the production of a lower-value product that is less desired by consumers is expected behavior in any business environment. However, the segmented nature of the beef supply chain and less-than-perfect communication between beef-producing segments has made such a change more difficult to achieve. However, the good news is that tremendous progress has been and will continue to be made.

There are at least five major implications associated with the phasing out of Select beef that are certain to impact industry participants in coming years:

- Greater consumer satisfaction with U.S. beef. Less Select and more Choice beef has already and will continue to support beef demand growth, leading to higher average cattle prices and creating opportunity for improved profits throughout the beef supply chain.
- Quality leadership around the world. To continue being successful in the world beef market, the U.S. must remain distinct as the quality leader among beef exporting nations. Reducing Select output, along with the increased production of Choice and Prime beef, should further solidify this position for decades to come.
- Select exits the mainstream beef market. With continued shrinkage, Select beef will eventually fall to "rail out" status, being handled by the large packers as a lower value by-product that is sold off separately to niche beef processors at a sizable discount. Select beef carcasses would then be handled in the same manner Standards, dark cutters and yield grade 4s and 5s are dealt with today.
- Continued emphasis on high-marbling genetic inputs. Strong demand for high-marbling breeds, and high-ranking marbling EPDs within all major breeds, will remain at the forefront of commercial cattle producers' selection decisions. Producers, perhaps in a greater way in the past, will seek to avoid the discounts associated with the low end of the marbling spectrum, while pursuing premiums at the top end. To accomplish that goal, they will eschew low-marbling genetic inputs, favoring instead those breeds and individual animals within

various breeds that improve marbling potential in their herds.

• Larger price premiums for high-marbling potential feeder calves. Because marbling is an important value determinant for wholesale beef and fed cattle, and because the industry is actively working to eliminate Select beef, cattle feeders can be expected to increasingly emphasize marbling genetics in the feeder cattle they purchase. Marketability and price premiums for verified, high-marbling potential feeder cattle and calves will tend to increase in the years ahead, while discounts on those with low or unknown marbling potential become more severe. Growth and feed efficiency will, of course, remain very important as well.

Conclusion

The U.S. beef and cattle market has become increasingly quality focused during the past several decades, with marbling positioned as the centerpiece of this movement. The downward trend in Select beef production is simply the result of producers and feeders responding appropriately to market-based signals.

There is no indication that the phasing out of Select beef will stop in the years ahead. In fact, the greater likelihood is that this trend will continue until Select represents 5% or less of graded beef tonnage. Price discounts on lowly marbled beef can be expected to remain large or become even larger, such that the disincentive to produce Select beef becomes more protrusive.

U.S. cow-calf producers, cattle feeders, packers and branded beef marketers are to be applauded for their collective efforts to shift the beef industry's production toward the upper end of the value spectrum. The job is not finished, but progress to date is admirable. Generally speaking, the faster Select beef is phased down to minimal levels, the better off the beef industry will be.

Acknowledgements

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- Brandi Buzzard Frobose, director of communications, Red Angus Association of America, served as editor for this report.

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We also want to recognize and thank the university and industry personnel who offered their perspectives on the phasing out of Select beef.

"Because consumer preferences are being reflected in the grid pricing mechanisms utilized by the industry, pressure to improve eating quality characteristics and hit consumer targets will continue to escalate the production of U.S. Choice and Prime grades at the expense of Select."

- Dr. Keith Belk, professor of meat safety and quality, Colorado State University.

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