

Ripe for Profit

Harvesting at the right time can improve profitability.

Story by
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Wouldn't it be great if marketing fed cattle were as easy as marketing tomatoes? Certainly, it takes market savvy to successfully merchandise agricultural products of any kind. But tomato growers have the "color" thing going for them. When their product turns red, it's ready.

Wouldn't it be great if cattle feeders had such a simple, reliable visual indicator of a fed steer's market readiness? Sure, a lot of veteran feeders, packer buyers and county fair livestock judges have keen eyes for live animal evaluation. But it would be easier for all of us if we knew an animal was ripe when its hide turned purple.

University of Illinois (U of I)-Urbana-Champaign animal scientist Larry Berger says marketers of fed cattle might be likened to a color-blind tomato farmer. They can study the outside of their product all day and still not know, with certainty, what it is like inside. That's risky when marketing cattle on a value-based (grid) system. The beef packer really doesn't want animals that are overripe, nor any that were plucked from the vine too early. It is for those animals not marketed at the optimum time that carcass discounts become profit-robbers.

Manage for maximum profit

To make the most of grid marketing

systems, Berger advises producers to identify and individually manage potentially discounted cattle. He doesn't deny the importance of good genetics. Cattle must be genetically programmed to perform in the feedlot and to produce a desirable carcass. However, Berger

believes four to five times more improvement to profitability may be achieved through management rather than through genetic selection. Superior genetics aren't enough, unless cattle are managed to avoid

discounts and capture potential premiums.

"Selling on an individual carcass basis highlights the importance of management," Berger says. "Without some estimate of carcass value, producers are guessing as to when their cattle are ready to market. They need to develop methods for evaluating optimum marketing opportunities."

A U of I feeding trial illustrates the importance of timely marketing. Conducted during a four-year period, the study involved steers representing uniform genetics, from a single production herd with an 80-day calving period. Each year, groups of steers

were weaned early, at an average age of 88 days, and fed a high-concentrate diet for about 84 days before entering a finishing period of approximately 250 days.

During the four-year study, 189 steers were harvested at an average age of 423 days. According to the carcass data, more



"Producers have to improve their ability to know what's inside the individual animal to determine the most profitable time to market."

— Larry Berger

Table 1: Profit per head at intervals prior to harvest and at harvest

	90 days prior	60 days prior	30 days prior	Actual harvest
Avg. profit	\$136	\$164	\$183	\$167
Maximum profit	\$355	\$379	\$357	\$318
Minimum profit	-\$156	-\$50	-\$51	-\$68

Table 2: Date of harvest for maximum profits

	90 days prior	60 days prior	30 days prior	Actual harvest
No. of head	3	19	85	82
Avg. loss	\$160	\$149	\$60	
Total \$ lost	\$480	\$2,840	\$5,116	
Maximum loss	\$297	\$306	\$232	
Minimum loss	\$52	\$3	\$1	

than 82% of the steers' carcasses fell within the USDA Choice Quality Grade. About 3% graded USDA Prime, while nearly 15% went USDA Select. The breakdown for yield grade (YG) was 15% YG 1, 60% YG 2, 21% YG 3, and 1% YG 4.

When priced according to a representative grid system, the cattle on average were profitable. However, while hot carcass weights (HCWs) averaged 895 pounds (lb.), they ranged from 651 lb. to 1,120 lb. Approximately 20% of the carcasses were too heavy, weighing more than 950 lb.

Were the cattle as profitable as they might have been?

According to Berger, the cattle could have been managed to avoid discounts for too-heavy carcasses, while claiming premiums for carcass merit and improving profit. He says the results of ultrasound measurements, taken at intervals while the steers were on feed, can be used to show that most of them were fed beyond their optimum time of harvest.

Ripe for the picking

At 90, 60 and 30 days prior to the actual harvest date, ultrasound measurements for marbling, ribeye area and fat thickness were used to estimate both yield and quality grades for each steer. Carcass weight was estimated from each steer's live weight. The estimates were then used to predict each steer's potential carcass value if sold according to the same value-based system that reflected the average of the four trial years. Table 1 shows the estimated profit or loss per head at 90, 60 and 30 days prior to harvest, and at actual harvest. Table 2 shows the number of steers that would have been most profitable at various dates. Dollar figures are approximate due to rounding.

"Many of the steers were fed 30 days too long," Berger says. "However, at (actual) harvest, 82 out of 189 steers had still not gone past their optimum profit end point."

Berger's analysis showed that \$8,117 in potential profits were lost on 107 steers marketed after their optimum market end points — more than \$75 per head. When spread out among all 189 steers fed, nearly \$43 per head could have been saved by sorting cattle for different marketing dates, rather than harvesting a whole pen of cattle at the actual harvest date of the study.

To weigh the relative value of marketing cattle at a time that is optimum for a whole pen, vs. sorting and managing cattle according to optimum individual readiness, consider the estimated profits shown in Table 1. Note the \$183-per-head average profit for cattle sold 30 days earlier. If all 189 steers were harvested at that time, the total profit would be \$34,587.

The total profit at actual harvest (\$167 per head × 189) was \$31,563, for a difference of \$3,024. Subtract that from the \$8,117 in total profits saved by sorting vs. actual harvest (\$8,117 -

\$3,024), and the difference is \$5,093, or \$26.95 per each of the 189 head.

"Sorting to harvest animals at their optimum profit versus the optimum profit for the whole pen gave an advantage of over \$26 per head," Berger states, noting that producers can use available tools to gain their own marketing advantages. Sorting cattle by weight and using

ultrasound to estimate carcass value will enable them to group cattle for multiple marketing dates.

"Cattle become more different in value as they are fed longer in the feedlot. The change in profitability of an individual animal is more a series of sharp steps up or down than a continuous curve," Berger adds. "Producers have to improve their

ability to know what's inside the individual animal to determine the most profitable time to market."

Otherwise, they are like that color-blind tomato farmer. When judging whether a pen of cattle is ripe for harvest, they can only guess.

