



Iowa Cattle Feeding – Beyond the Margins

CATTLE FEEDING IN IOWA

Iowa has more feedlots than any other state in the United States, making cattle feeding an important farming enterprise and a vital sector of Iowa's economy. Over the past two decades, Iowa's market share of cattle on feed has increased from 7.8% to 8.8%. Iowa, in combination with Nebraska, South Dakota, Minnesota, Wisconsin, Illinois, and Missouri, accounted for over 36% of US cattle on feed as of January 1, 2020, compared to less than 34% two decades earlier. Iowa and the upper Midwest have been maintaining market share in recent years due to many factors including competitively priced corn and corn coproducts, and improved production efficiencies as compared to other regions. Additionally, a reputation for producing high quality cattle and a proximity to a large cow-calf inventory enhance value-added opportunities. Due to several comparative advantages, Iowa cattle feedlots have a better opportunity to navigate through market challenges.

The economic environment

Cattle feeding is a competitive industry which means that total economic profits (not accounting profits) will be close to zero in the long run. That is, market participants can expect an average return for their resources (capital, labor, and management), where the average returns reflects the risks in the particular industry or enterprise. For example, average returns on money invested in cattle finishing are considerably higher than average returns on money invested in certificates of deposit, but the risk is also much higher.

Cattle feeding enterprises are characterized by having a tremendous variance in profitability across producers and over time. Generally, this is true regardless of any type of agricultural enterprise (beef, dairy, swine, and crops). In all Iowa cattle feeding enterprises, profit opportunity can often reveal itself through key management styles. By effectively managing risk in an operation, and capitalizing on the distinctive benefits to feeding cattle in Iowa, producers can increase profitability and business survival.

Cattle feeding profits

Turning a profit in cattle feeding takes two specific management functions. One is finding an appropriate mix of farm-raised and purchased inputs to produce fed cattle efficiently. The second is developing a marketing program to optimize revenue, and therefore profit. Lowering costs does not automatically improve profit. Lowering costs and maintaining, or improving, revenue will boost profit. However, some cost-cutting moves may erode production and quality, resulting in lower revenue and less profit. Cost is only part of profit. Instead of focusing on becoming a low-cost producer, producers are challenged to think about being the best manager of costs and an effective marketer. This may require a shift in where money is spent, or increasing an expense.

It is important to understand that inputs have diminishing returns. At some point, each additional unit of input will produce less and less additional return. An example is when fed cattle prices drop, there may be a tendency for feedlots to want to delay marketing, add days on feed, and increase fed cattle weights in hopes of a price rebound. Marketing cattle later will increase feed costs as

total pounds of feed fed increases and pounds of feed per pound of gain increase at an increasing rate as cattle approach market weight. Revenue may also be reduced if prices do not rebound or cattle quality is negatively impacted (carcass weight discounts, more yield grade 4's and 5's). The economic decision rule for optimal marketing weight is where marginal cost equals marginal revenue. While the rule is simple, putting it into practice can be difficult because both costs and revenue change as the feeder grows.

At the same time, if the feeder cattle market is also dropping rapidly, there may be a tendency to want to delay placements. However, even in a negative margin environment it may not be an optimal decision to leave a feedlot empty or at reduced capacity. In the short run, as long as variable costs are covered and there is income remaining to cover some of the fixed costs, production is more profitable than letting the facilities lay idle. And, if the market does rebound at some point in the near future after a major price drop, cattle feeders who made feeder cattle purchases at low prices are in a position to make profits.

Managing price risk

Price risk management will continue to play a major role in cattle feeding. The reality of increasingly volatile markets set the stage for dynamic and challenging conditions as cattle feeders are exposed to increasing amounts of both input and output price risk. Producers have many factors to consider in attempting to reduce price risk and uncertainty, including enterprise combination, cash flow needs, financial situation, and attitude toward risk. To reduce the variability of income over time, or at least guarantee a minimum level of cash flow, producers can consider locking in input and output price points. This can be achieved through forward contracting, utilizing internal inputs, or purchasing contracts through the Chicago Mercantile Exchange. This allows more accurate planning for items such as debt payment, replacing capital assets, and operation growth. One way to establish price risk management objectives is to start with the cost of production and the amount of risk the operation can withstand.

Iowa State University Extension and Outreach has additional resources for learning more about price risk management:

[Livestock Price and Market Risk Management Online Course Details](mailto:mailchi.mp/618a14143a79/growing-beef-newsletter-december-2018)
(mailchi.mp/618a14143a79/growing-beef-newsletter-december-2018)

[Ag Decision Maker website \(Livestock – Markets\)](http://extension.iastate.edu/agdm/ldmarkets.html)
(extension.iastate.edu/agdm/ldmarkets.html)



Feedlot systems in Iowa

Cattle feeding adds economic value to Iowa's corn and forage production, while allowing the efficient recycling of manure nutrients to reduce the cost of production for those crops.

The table below summarizes benchmark data prepared by Elanco Animal Health. Midwest region feedlots have the lowest cost of gain despite slightly poorer feed conversion compared to the other regions. This advantage is due to competitive grain and corn coproduct costs and access.

Regional benchmark steer data, 2015-2019

REGION	ADG ¹ pounds	F/G ² ratio	COG ³ \$/pound	VM ⁴ \$/head	PR+CAB ⁵ %	Choice %	Outs ⁶ %
Central Plains	3.53	6.29	.80	21.09	21.02	74.30	19.50
High Plains	3.13	6.54	.84	18.36	15.29	64.48	18.62
Midwest	3.30	7.09	.77	21.23	36.85	74.01	28.28
North Plains	3.57	6.52	.76	20.22	38.41	76.59	37.66

Source: Analysis of Elanco's Benchmark database 2015-2019.

¹Average daily gain. ²Feed to gain. ³Cost of gain. ⁴Veterinary/medicine. ⁵Prime and Certified Angus Beef. ⁶Outs include YG 4&5, light and heavy carcasses.

One advantage to cattle feeding that is often overlooked is the value of cattle manure as a crop nutrient. The manure value can, at times, even exceed the projected feeding margin for cattle feeding. Confined housing systems capture more manure value because the manure is contained and protected from environmental elements. This, along with feed efficiency, is likely a main driver for the increased popularity of these systems, despite increased construction costs. The following table demonstrates that the manure nutrient value can range from approximately \$30-\$70 per head space per year, depending on the housing system. Of course, this value is dependent on proper manure nutrient management through a cropping system.

Estimated manure value per head space per year¹

MANURE TYPE	N value	P ₂ O ₅ value	K ₂ O value	Total value
Solid manure from open lots	\$7.65	\$8.16	\$10.23	\$26.04
Liquid manure from open lots	\$0.85	\$0.68	\$3.41	\$4.94
Manure from bedded confinement	\$15.30	\$18.70	\$21.70	\$55.70
Deep pit manure	\$19.21	\$20.40	\$27.90	\$67.51

Source: [Beef Feedlot Systems Manual](https://store.extension.iastate.edu/Product/Beef-Feedlot-Systems-Manual) (PM 1867) (store.extension.iastate.edu/Product/Beef-Feedlot-Systems-Manual)

¹Based on 50% N availability, 100% P₂O₅ and K₂O availability, \$0.34 per pound N, \$0.34 per pound P₂O₅, \$0.31 per pound K₂O. Application cost not included.

Additional information can be found at the following websites:

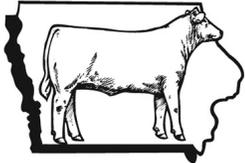
[Iowa Beef Center](#)

iowabeefcenter.org

[Iowa Cattlemen's Association](#)

iacattlemen.org

Iowa Cattlemen's



Association

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