CORN BELT

Profitability to Corn Belt cow-calf operations means tending to details, taking advantage of low-cost resource situations and not over investing in capital expenditures. Some may believe only the lowest cost producers make money, while others think only the highest production herds make money. Well the truth of the matter is that neither group has a monopoly on cow-calf profits.

Records from Iowa show that while total cost per cow is important, total cost per hundred weight of production is more highly related to profitability. This means a producer has to strike a balance with many factors within his operation: production cost, reproduction, weight gain, and market value.

CORN BELT MATCH

Breeding cattle for maximums, whether it be growth, milk, or carcass traits, has rarely resulted in sustainable profit for the commercial sector. Instead, producers that have found a "match" of cattle size, milk, growth, and carcass traits to their farm's resources and market conditions have succeeded. This means commercial producers need to find this "match" quickly and proceed to enhance their genetic resource to maximize profitability. The greatest challenge for them is can they find the genetic resources and can the Angus breeder help them recognize when they have found the correct genetics?

Corn Belt environmental conditions are thought to be soft and cushy for the beef cow. The Corn Belt has suffered through many stressful weather conditions. Genetics that cannot adapt to conditions such as, over 90 degree summer heat, -30 degree winter cold, shortages of quality forages due to drought or floods, or wading through knee-deep mud are not useful to the Corn Belt producer. Unfortunately, many seedstock producers do not make their herds compete in similar environmental situations.

Defining genetic packages for the Corn Belt is not easy. Yes, there is a set of general environmental conditions. But each farm presents its own unique environment and I see these varying tremendously. For instance, in Iowa the summer forage systems vary from timber pastures with unimproved bluegrass that requires five to eight acres per cow to highly improved grass-legume-warm season grass, intensively managed rotational systems. Wintering systems vary even further, with some cow herds depending totally on cornstalk grazing and stockpiled grass, while others utilize harvested corn silage, hay, and purchased supplements. Obviously, genetic packages that fit these resource systems should, can, and must be different.

TRENDS TO WATCH

If I were to point out a trend, it appears more Corn Belt cow-calf producers are letting the cow do the majority of forage harvesting, thus reducing equipment investments and operational charges. Additionally, they are becoming larger in herd size and demand mother cows that require little to no management. What does this mean to the seedstock producer and in particular the Angus breeder? Your genetics better be able to rustle after feed via grazing, maintain body condition under more stressful conditions and be trouble free.

Commercial producers will continue to moderate both cow size and milk production in the near future so their cattle better fit these circumstances. Still, keep in mind the end-product from the commercial breeding program must fit the consumer demand side.

The Angus breed is fortunate that a strong performance database exists, therefore, allowing producers to select the milk production and mature size level that best fits their clientele's environmental system. A large share of Corn Belt producers have incorporated high milk breeds into their genetic base. Many have gone too far with milk production and are now adjusting their genetics to better fit with the nutritional programs. It would appear these situations would need an Angus milk expected progeny difference (EPD) in the +5 to +15 range.

Other Corn Belt producers have not incorporated high milk breeds and may be needing additional milk production from their traditionally bred females, yet do not wish to arrive at a cow that will not flesh and rebreed. These types will likely need an Angus milk EPD ranging from +10 to +25.

MATURE COW SIZE

As indicated earlier, a farm's environmental situation will dictate a great deal from a genetic standpoint. A size study done at Iowa State University during the 1970s and 1980s showed large frame size can work under some systems, but not others. As table 1 indicates, large frame (6 to 7 frame score) females under a fall calving regime did not cycle, breed and calve at a rate that is competitive with either small (3 to 4 frame score) or medium (5 to 6 frame score) females. However, in the spring calving regime the large frame females fit the system and performed at an equal rate.

From a commercial production standpoint I see and hear of too many cases where cow size has outrun the farm resources and rebreeding rates are suffering and adding undue cost to the production

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system. Don't be surprised when you hear commercial producers asking you for bulls that will modify their cow size and put them back in harmony with their feed and management resources.

Table 1. Impact of size group on reproductive parameters in first-calving female.

	Size Group		
	Small	Medium	Large
Cycling Rate			
Spring Calving %	98.5	98.3	97.9
Fall Calving %	83.8	81.5	63.1
Calving Rate			
Spring Calving %	84.9	84.5	81.6
Fall Calving %	73.8	67.5	53.0

Buttram and Willham, 1987 ISU Beef Research Report

VALUE-ADDED PRODUCT

A higher percentage of Corn Belt commercial producers retain ownership on their calf crop. For some this may represent marketing as short yearlings, while others may finish their calf crop. The end result of this decision is producers retaining ownership will need to be more cognizant of feedlot efficiency and end-product desirability.

The recently released "Beef Industry Long-Range Plan Task Force Report" indicated the No. 1 leverage point for the beef industry to regain market share was to improve product quality and consistency. Serious-minded, early adopting, commercial producers are already asking for and seeking out seedstock that will enhance the end-product, thus ensuring their future competitive position.

I recently had a progressive producer tell me that in the last year he had been able to purchase seven young bulls with an ultrasound percent fat more than 3.0 percent. In Iowa this 3.0 percent ultrasound fat gives bulls that are 43 percent higher in the marbling indicator than average bulls. You tell me, is this fellow serious or not serious about enhancing product quality?

Remember, the task force report also indicated improved consistency of product. Currently the Corn Belt beef industry is guilty of a lack of consistency. We have big carcasses (more than 900 pounds, little carcasses (under 600 pounds) and everything in between. Additionally, our cattle population contains too many small ribeyes (less than 12 square inch) and some that are too big (over 15 square inch). Further evidence of inconsistency is fat thickness ranging from .1 to 1.0 inch.

The 1992 National Beef Quality Audit indicated "ideal" carcass weight was from 735 to 750 pounds. Furthermore, that same report indicated the "ideal" quality grade mix would be 7 percent Prime, 24 percent in the upper two-thirds of Choice, 40 percent Low Choice and 29 percent Select.

Table 2. Specifications for End-Product Targets

BIF Systems Committee Survey of U.S. Meat and Beef Specialists

	"Retail/Institutional" Target		
Trait	**"Ideal"**	**Min**	**Max**
Live weight	1159	1030	1299
Hot carcass weight	718	621	826
Ribeye area (sq. in.)	13.2"	11.1"	15.2"
Fat cover (13th rib)	.29"	.18"	.50"
% KPH fat	1.7%	1.1%	3.0%
USDA Yield Grade	2.0	1.1	3.1
Marbling score	Small[36]	Select[57]	Moderate[48]
USDA Quality Grade	Choice$^-$	Select$^+$	Choice$^+$

Source: Strohbehn and Gibb, 1993 BIF Conference Proceedings

At the 1993 Beef Improvement Federation conference a survey report of U.S. meat and beef specialists indicated the end-product target for "Retail/Institutional" beef would be as shown in table 2. To say the least, the beef industry has a ways to go in accomplishing this challenge of a product with quality and consistency. But the challenge can be met.

Data from about 2,000 steers in the Southwest Iowa steer testing program show these goals are attainable (see table 3).

Table 3. Cooler results of Southwest Iowa Steer Testing Program.

Hot Carcass Weight, lb.	758
Fat Thickness, in.	.36
Ribeye Area, sq. in.	13.4
USDA Yield Grade	2.39
% Average Choice and Above	21.7
% Low Choice	43.2
% Select	32.4

Source: Busby and Hall, ISU Extension Service

It's important to remember goals of this type are not likely met with one breed of cattle. The Angus breed is poised with its inherent characteristics of carcass quality and sound, functional female traits to help the industry immensely. However, don't try to become the muscle leader of the industry.

In reviewing the spring 1994 Angus Sire Evaluation Report, I found 47 sires above breed average for growth and milk, yet expressing positive marbling and ribeye EPDs and negative fat thickness EPDs.

With more bulls undergoing carcass evaluation and the advent of incorporating ultrasound data into genetic evaluation programs, opportunities abound for Angus seedstock production. Breeders can hone in on meeting the demand for bulls needed to enhance product quality and consistency. But breeders must react now, not two or three years from now. Remember, cows being bred in 1994 will be having bulls that sire calf crops that hit the finished market in 1998.

IN SUMMARY

Corn Belt cow-calf production can be profitable if the production system is built around a female genetic package utilizing waste products from grain production and forage produced on land not suited for intensive cropping systems.

Weather extremes will be the rule and cattle must be adaptable to those situations. Retained ownership will continue and likely increase in popularity in the future. Thus, Corn Belt producers will continue to emphasize traits that enhance feedlot efficiency and end-product desirability.

ABOUT THE AUTHOR

Daryl Strohbehn is an Iowa native, born and raised on a grain and livestock farm. His formal education includes a bachelors degree in animal science from Iowa State University and masters and Ph.D. degrees in nutrition, breeding and genetics from Michigan State University.

In 1974 Strohbehn joined the animal science staff as Extension beef specialist working with cow-calf production. He is involved in numerous research projects and demonstrations emphasizing applied new technologies.

In 1975 Strohbehn pioneered new methods for incorporating growth and carcass merits into one figure – carcass value added per day on feed. During the early 1980s Strohbehn started the first enterprise economic record system for cow-calf production. This has landed him several committee appointments on record systems and led to his work in helping the National Cattlemen's Association develop the Guidelines for Standardized Performance Analysis, which is the current standards for developing all best economic analyses.

Strohbehn is recognized in the Corn Belt as an expert in cow-calf production systems that utilize available resources and correct genetic systems to yield profit. His common sense approach to economic records in combination with performance records and farm planning lands him speaking engagements throughout the country.

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