



By the Numbers

► by **Tonya Amen**, genetic service director

Using the GMX family of tests

Progressive use of genetic selection tools and reproductive technologies have been two hallmarks contributing to the success of the Angus breed. Since the major goal of a seedstock provider should be to meet the needs of commercial cattlemen, it follows that as the genetic improvement arm of the Angus breed, one of our missions should be to develop genetic selection tools that help commercial users of Angus genetics maximize their investment in our breed.

Initial efforts

In early 2012, Angus Genetics Inc. (AGI), Certified Angus Beef LLC (CAB) and Zoetis (then Pfizer Animal Genetics) worked together to develop and deliver genomic testing options to commercial users of Angus genetics. The partnership resulted in the first GeneMax® (GMX) test (since renamed GeneMax Focus™) and has continued with the launch of GeneMax Advantage™ in 2014.

The GMX family of tests is intended for use by commercial cattlemen on high-percentage (75% or above) Angus cattle. Both tests are built on a foundation of the powerful genomic tests used by Angus seedstock breeders, married with the economic assumptions underlying the American Angus Association's dollar-value indexes

Fig. 1: GMX® Feeder Advantage

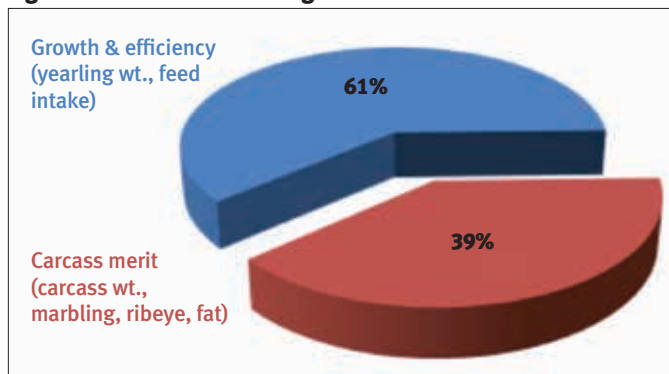
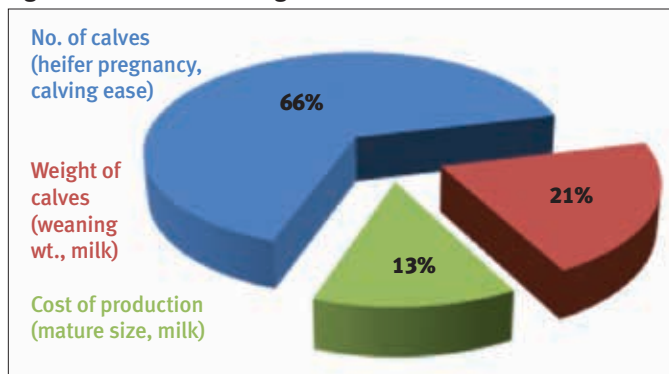


Fig. 2: GMX® Cow Advantage



(\$Values), such as weaned calf value (\$W) and total beef value (\$B), for example.

That original test, GeneMax Focus, offers predictions for feedlot gain (GMX Gain), carcass quality grade (GMX Marbling), and combined genetic merit for gain and grade (GMX Score) for an affordable \$17 per head.

Advancements

On the other hand, GeneMax Advantage, a more comprehensive test for high-percentage Angus commercial females, is offered for \$39 per head. The central feature of GMX Advantage results are a trio of bioeconomic indexes that target the various phases of production.

1. Cow Advantage — a preweaning index representing traits affecting profitability through weaning (heifer pregnancy, calving ease, milk production, weaning weight and mature cow size).

2. Feeder Advantage — a postweaning index representing traits affecting profitability after weaning (feedyard growth, efficiency and carcass merit).

3. Total Advantage — an all-encompassing index representing profitability from conception through carcass.

GMX Advantage also reports outliers representing extremes in expected cow costs (due to milk and mature size), unfavorable temperament, undesirable tenderness, and high or low marbling potential.

All GMX tests report results on an easy-to-interpret 1-100 scale, where higher numbers indicate more desirable genetics to enhance profit at that phase of production. In addition, both Focus and Advantage offer the option for sire assignment for tested cattle (called SireMatch), provided candidate sires have been tested with the Zoetis high-density (HD) 50K or i50K test.

In addition to all of the classic tools for selecting replacement heifers, we are excited to offer commercial cattlemen the opportunity to add genetic predictions to that toolbox to improve and enhance selection and mating decisions.

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Fig. 3: GMX® Total Advantage

