

Commercial Genetic Tests

Cattlemen can control stockmanship, affect cattle performance.

by *Kasey Brown*, senior associate editor

Many factors go into predicting complex trait performance. Michael Gonda, associate professor of animal science at South Dakota State University, likened complex trait prediction to a student's GPA at the beginning of the semester. A student's success can be affected by how often they go to class, study hours, visiting office hours, etc. However, he added, those factors can't solely determine the student's success — it's not a perfect prediction.

Like predicting animal performance, more information makes better predictions. DNA tests are now available to commercial cattlemen, he told attendees of the Range Beef Cow Symposium in November. DNA tests give greater accuracy to predictions.

DNA tests are developed by using discovery populations in various areas of the country to test for association between genes and complex traits. Then, he explained, DNA tests are validated with herds in other parts of the country. Once the tests are validated, they become commercially available. However, he warned, these different herds are genetically different and managed differently. He suggested asking DNA test representatives about the management of the discovery and validation populations to see if they are similar to your own.

There are differences between DNA tests designed for seedstock cattle and commercial cattle, Gonda explained. Seedstock tests are incorporated directly into genomically enhanced expected progeny differences (GE-EPDs) and many are breed specific, so results are reported to breed associations. These tests are more accurate, but they are more expensive.

Commercial tests are stand-alone tests that are reported directly to producers and are purchased directly from the testing company.



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► DNA tests are now available to commercial cattlemen, Michael Gonda said.

They are less accurate, but less expensive. There are some breed-specific tests, and some are for all *Bos taurus* cattle.

He highlighted commercial tests from both Neogen and Zoetis. Neogen offers the Igenity Gold and Silver profile tests. The Gold profile tests for 13-15 traits and costs \$40 per head, and the Silver tests for six traits for \$25 per head. Both tests offer parentage testing at no additional charge, though the potential parents need to have been DNA-tested.

Zoetis offers GeneMax® (GMX) Focus™ and Advantage™. The Focus test, offered at \$17 per head, tests for gain and grade potential. The Advantage test, offered for \$44 per head, tests for cow advantage, feeder advantage and

total advantage. These tests need to be used on cattle that are greater than 75% Angus or more, he noted. Parentage is also offered, but again, potential parents need to have been DNA-tested.

GeneMax Advantage also offers smart outlier reporting for tenderness, cow cost, docility and marbling, and breeders can determine their desired parameters for the percentage range to classify as an outlier.

For cattle that are not 75% Angus or more, he added that Zoetis offers the PredicGen test, which tests for carcass and grid

merit for \$19.50.

How do you pick the right test? Consider the breeds you own and which traits are economically relevant to you, he recommended. Also consider which animals you should test. He suggested sorting replacement heifers into a top group you'll definitely keep, the bottom that you will sell, and the middle group of which you may be less certain. DNA-test the middle group to help sort them more accurately, though remember that it is only a piece of the puzzle when you make your final decisions, he concluded.



Editor's Note: This summary is part of the Angus Journal's online coverage of the 2015 Range Beef Cow Symposium Nov. 17-19, 2015, in Loveland, Colo. For additional coverage, to review this presentation's PowerPoint or to listen to the presentation, visit the Newsroom at www.rangebeefcow.com. The Angus Journal's coverage of the event is made possible through collaboration with the event committee and sponsorship of LiveAuctions.tv.

As part of the Angus Journal's full meeting coverage, you can listen to Michael Gonda's presentation at <http://bit.ly/22DLz4W>.