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## Pfizer Animal Genetics to deliver unprecedented genomic innovations to cattle industry

*Significant industry advancement coming from research on full 50K chip targets the highest level of accuracy possible across a comprehensive suite of traits*

Cattle producers will soon have access to a powerful new suite of traits from Pfizer Animal Genetics that uses significantly more information to generate genomic predictions. The result, which will lead to a set of traits that exhibit the highest level of accuracy to date, will emerge with the launch of the company's first commercial genomic predictions based directly on the high-density BovineSNP50 chip. The new offering will be available within the next few months, following completion of the final validation studies.

"This product introduction represents a signature event for the beef industry and our company," says Dr. Nigel Evans, vice president of Animal Genetics for Pfizer Animal Health. "More than two years of extensive research approaching 10,000 cattle genotyped with the BovineSNP50 chip has yielded initial genomic predictions for a selection of economically important performance, efficiency and carcass traits. In the future, cattle producers will access many other innovative traits as they become available from Pfizer Animal Genetics' rich Research & Development pipeline."

The genomic predictions utilizing the SNP50 platform will be delivered using Molecular Value Predictions (MVPs). This advancement means substantially more genomic information than ever before will be captured and integrated into selection tools for breeding and management decisions.

Some of the new MVPs will enhance the reliability of traditional expected progeny difference (EPD) traits. Other MVPs, in addition to what is offered through EPDs, are for traits that are expensive and time consuming to measure using traditional means, yet are economically important.

"This will be a great opportunity for cattlemen to take advantage of technology that previously wasn't available," says Ronnie Green, Ph.D., senior director, global technical services for Pfizer Animal Genetics. "Breeders will be able to further identify elite animals at an early age that can offer premium genetics for their own herds and for potential buyers.

Visit [www.pfizeranimalgenetics.com](http://www.pfizeranimalgenetics.com) for more information coming soon.

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### Producer Profile



Providing buyers with reliable information to make sophisticated purchasing decisions is the name of the game at Bradley

3 Ranch. Learn how GeneSTAR MVPs are helping the family evolve the information provided to their buyers to select the bulls to meet herd goals.

### From the Expert

DR. RONNIE GREEN  
PFIZER ANIMAL GENETICS



**How will producers be able to make faster genetic improvements using the latest genomic advancements?**

Molecular Value Predictions (MVPs) derived from high density 50K genotyping promise to expand the scope (i.e., hard-to-measure traits) and accuracy of information used for selection. MVP-enhanced and -enabled information will empower producers to select animals that more securely deliver genetic merit for economically important traits.

## “We’re using GeneSTAR MVPs to improve the bottom line”

Meet the Seneca Beef Group, a producer organization located between Seneca Lake and Cayuga Lake in New York. This group was started 12 years ago and has grown to encompass more than 20 beef operations.

“What’s great about our group is that it’s a non-threatening environment where we all share the common interest of making our operations better,” explains Mary Fravil, a member of the Seneca Beef Group. “If one farmer shares a problem we can all work toward a solution together.”

Seneca Beef Group represents every aspect of the beef industry—feedlot, cow-calf and seedstock. Grass-fed and natural operations are involved while others members direct market their product to local grocery stores. Simply put, the Seneca Beef Group is an eclectic group brought together with one goal—improving their beef operations.

**“DNA-marker technology results will help us baseline our herds and progress over time.”**

**— Jim Fravil**

### Group efforts with DNA-marker technology

Two years ago, the group discussed the genomics, but members quickly asked, “How much will this cost?” and “How can I make money from this?”

Jim Fravil, a Seneca Beef Group member, shared information about a grant through the New York State

Farm Viability Institute that would help pay for genetic testing. The grant would have to show how beef producers can make quick, practical changes to their operation to improve profitability.

Four group members completed the grant application, and the one-year grant was awarded to the group in the spring of 2009. While a one-year genetic testing program will not illustrate all of the DNA-marker testing benefits, the Fravils say it will provide the group with a starting point.

“DNA-marker technology results will help us baseline our herds and progress over time,” explains Jim. “We’ll also be able to learn where producers can make the biggest impact related to traits since each operation in the group has different goals.”

### Samples to action: moving ahead

Once the grant was received, the decision for the group was which company to use to test DNA samples. While the group considered multiple providers, a majority vote selected Pfizer Animal Genetics.

Samples were taken from 13 different farms and submitted to the Pfizer Animal Genetics testing laboratory. Each farm has received its results and will begin to use them to make management decisions with the help of the Pfizer Animal Genetics Technical Services Team.

“We’re excited to meet with Pfizer Animal Genetics to discuss the results and how we can best implement them,” explains Jim Fravil. “We are interested to see how the results will fit each operation’s goals since we are all looking for something slightly different.” The group met with Pfizer Animal Genetics on October 13.

“Pfizer Animal Genetics is committed to helping the Seneca Beef Group use GeneSTAR MVPs to make customized, informed decisions,” says Dr. Mark Allan, associate director of global technical services with Pfizer Animal Genetics. “The meeting in October allows the group to set a baseline with their results and make breeding and management decisions to further improve their herds.”



### The genomic future is wide open

The Fravils have identified benefits with GeneSTAR® MVPs™ that will help the future of their operations.

“We’ve identified cow families that have performed below the rest of the herd and DNA-marker technology will continue to help us identify the bottom end of the herd,” says Jim. “When MVP results are used alongside the other selection tools, we can become more efficient, leading to greater on-farm profits.”

*As the Seneca Beef Group makes breeding and management decisions with GeneSTAR MVPs, updates will be provided on the results seen in efficiency and profitability.*

## Genetic defect and parentage testing facilitate fall management decisions

This fall provides another great opportunity for you to collect DNA and screen animals for genetic abnormalities and document their parentage. Genomic tools are able to provide critical information as you make breeding, management and marketing decisions this year.

### Correctly identifying parentage, abnormalities

It's important that producers test for genetic defects in suspect animals prior to making breeding, management and purchase decisions, explains Dr. Kent Andersen, Associate Director, Technical Services—North America with Pfizer Animal Genetics. Since possible errors in an animal's pedigree might conceal the existence of carrier ancestors, parentage testing authenticates documented pedigree information.

**Genomic tools are able to provide critical information as you make breeding, management and marketing decisions this year.**

"Genetic abnormality testing and accurate pedigree information are needed in concert to provide the most reliable information about each animal," says Dr. Andersen. "An animal may actually be a potential carrier of a genetic abnormality, but the incorrect pedigree may lead a producer to assume it is defect-free. That's what makes dependable information and appropriate testing so critical."

Historically, required and random parentage testing conducted by breed associations identified pedigree errors in at least five percent of recorded animals. These mistakes have a variety of origins, from roaming natural service sires and errors in recording artificial insemination and embryo transfer breeding information, to cross-fostered calves at birth.

### Managing genetic abnormalities

When carrier females are identified, there are multiple options to manage them, including:

- 1. Eliminate carriers from the herd.** Carriers with below average performance or older animals can be eliminated to remove the potential of passing on the gene.
- 2. Breed carriers to a defect-free animal.** Breeding carrier females to defect-free sires cannot result in an affected calf. If offspring are retained for breeding purposes, the resulting calf should be tested to ensure it is not a carrier.
- 3. Use carriers as ET recipients.** Carrier females can be used as embryo transfer recipients, where embryos from unrelated, defect-free animals are transplanted.

### Purchase decisions this fall

Dr. Andersen also says producers should carefully consider their purchases this fall. "Be mindful of the potential for error in pedigrees," explains Dr. Andersen. "It's okay to ask for authentication of parentage to ensure an animal is properly represented, for more reliable genetic predictions (EPDs) and for the possibility of genetic abnormalities. Carrier animals are visually indistinguishable from defect-free animals."



### Breed Association Genetic Defect Policies

Most breed associations have implemented policies and timelines in an effort to manage genetic defects and minimize their frequency in registered cattle populations.

To assist in the decision-making process, breed associations have made test results public. This includes identifying genotypes for defects on documents and Web-based queries, as well as being able to obtain lists of carriers and defect-free animals.

Depending upon the association, policies also call for testing of suspect animals to ensure they are eligible for registration. For example, the American Angus Association requires all bulls with a registered Arthrogyrosis Multiplex (AM)-carrier parent to be tested by the end of 2009 to be eligible for registration. All females with a registered AM-carrier parent must be tested by 2011.

Each breed association has its own genetic defect policies. Consult your breed association to learn about their approach to managing genetic abnormalities.



# Pfizer Animal Health

## Animal Genetics

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## Pfizer Animal Genetics Field Sales Territories

Pfizer Animal Genetics is committed to providing you with the expertise you need to effectively utilize our genomic technology. The map shows the sales representatives by region, allowing you to contact a local representative to learn more. Or you can contact the Pfizer Animal Genetics customer service team at 1-877-BEEF DNA (1-877-233-3362).

