



## *Announcing... Cow Sense Genetic Services!*

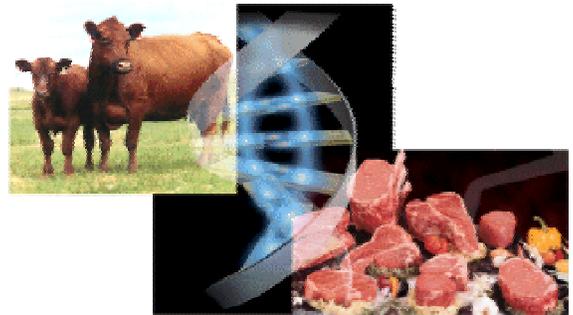
As cattlemen we know there is no more powerful technology for making genetic progress in our cow herds, than selecting the best animals in the population and making them parents.

Many operators are able to identify the dam side of the parentage equation. However, exact identification of parentage resulting from unknown matings or from multi-sire pasture matings is a major challenge to sire identification. As sires can make a much more rapid effect upon genetic progress, it is critical to be able to identify which sires are meeting production targets, and which ones are not!

**Cow Sense now offers the solution... Cow Sense Genetic Services!** Cow Sense was built on the concept of individual animal identification and management. Genetic testing can determine an animal's unique DNA profile, which is key to solving unknown parentage. Through our proprietary software **PairMatch™**, we can match that calves DNA profile, or fingerprint to the profiles on record of potential parent animals. This parentage result or verification is then returned to you and stored in your Cow Sense herd where you can apply it!

## **Benefits of Cow Sense Genetic Services**

- Automated collection and submission techniques save you time and money!
- Electronic reporting into Cow Sense allows you to maintain a genetic profile database of all animals tested!
- Confidence in the accuracy of results is achieved through strict Quality Control protocols.
- Prioritize management decisions based upon **known** parentage!
- **Accelerate genetic improvement in your herd!**



***Genetic Improvement has  
now been made easier!!!***

***Management and decisions that  
you once did not have the  
confidence to make, (as you were  
unsure of the parentage  
equation), are now simplified!***

### **How is it done?**

The process of DNA fingerprinting requires DNA to be extracted from a tissue sample. Blood, semen, muscle, and hair follicles are all examples of tissue that can be used to extract DNA. All tissue samples need to be relatively fresh in order to extract DNA of sufficient quality for testing.

A commercially viable DNA-based parentage or paternity test requires the identification of groups of markers (three or four markers per group) that can be tested simultaneously and that show a high degree of variability across different cattle breeds. Currently a standard set of 12 DNA markers tested in up to three separate marker groups is used in the Cow Sense Genetic Services DNA fingerprinting process.

Extra groups of markers are available if further resolution is required. The combined results of all markers produce a DNA profile for each animal and the chances of any two animals having the same profile lies somewhere between three in 10 million to three in 100 billion, depending on the breed.

## Collect, Store, Audit, MATCH!

Cow Sense Genetic Services offers five options:

### Parentage Profiles

We provide you with the proper materials or kit for DNA sample collection. You collect the samples (blood, hair or semen) for "fingerprinting" or profile of potential parent animals, and submit to Cow Sense. The genetic fingerprint is stored in the Genetic Services database. A profile report is returned to the customer. Choose from our optimized panel of markers for low cost, high volume processing, or from the breed panel to obtain results that may be standardized between laboratories.

### Parentage Solutions

Samples are taken from progeny of unknown or otherwise unverified parentage. PairMatch™ then allows us to determine through an exclusion process, the possible parent(s). This is most helpful in situations where multi-sire group matings occur, whether natural service or AI (mixed semen).

### Trait Solutions

Some genes may be analyzed to predict economically important traits. *Evaluate parent animals to help your breeding program improve the bottom line.* Cow Sense Genetic Services offers tests for marbling, tenderness, and coat color.

### Audit Solutions

Audits enable you to use the power of DNA to track an animal for positive identification from birth to retail counter. This is particularly useful in situations where the product may otherwise have lost its original identity. DNA provides you a tremendous tool for auditing process in the harvest facility and validates true source verification.

### Storage Solutions

Genetic profiles are stored as data and returned on all samples tested. However, the physical samples also may be stored for later testing or retesting. This service provides you the flexibility to test as your management practice dictates. For instance you may sample all animals in a given group, and based upon the target outcome, choose to analyze only the outliers of that group.

***You can easily collect samples and submit data through a Cow Sense automated process. Reports are returned electronically and downloaded directly into Cow Sense, which allows you to use the data immediately.***



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## Who can benefit from Genetic Services?

- Commercial Cow Calf Producers
- Seedstock Producers
- Breed Associations
- Integrated Beef Companies
- Beef Packing Companies

## Use Genetic Services to...

- Identify sires from multi sire matings.
- Identify dam if unknown.
- Develop a credible audit trail.
- Identify both ends of the spectrum for performance evaluation and culling decisions.

## Pricing

Quantity of Samples	Analysis	Hair Kit
1 to 10	\$17.00	\$1.75
11 to 100	\$16.00	\$1.75
101 to 500	\$15.00	\$1.75
Over 500	\$14.00	\$1.75
Processing fee of \$25.00 per analysis order, which is waived for orders of 11 or more samples analyzed.		
Automation discount of \$0.50 per sample submitted electronically through Cow Sense.		
Breed panel (2 additional markers, ISAG), add \$3.00 per sample analyzed.		
Blood or semen kits add \$.75 each.		
Coat color, \$38.00 per test (call for quantity pricing).		
Sample storage quoted on request.		

## Marbling and Tenderness

More information call 800-584-0040.

**Contact us today to learn more about how you can reap the benefits of Cow Sense Genetic Services!** *Cow Sense Genetic Services can provide the necessary tissue collection tools and service order forms (electronic or manual).*

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*Midwest MicroSystems is dedicated to improve the economic position and success of our customers by providing the most current, highest quality, integrated information management systems for the beef industry...*