The DHI system has been working with U.S. dairy farms since 1905 – starting in Michigan and California, and spreading to the rest of the United States. Now, through collaboration and cooperation of data and research, international efforts in dairy management and genetics with U.S. participation are becoming common. This allows for added tools and research to be delivered to dairy producers across the world, but particularly to U.S. dairy producers. The Animal Improvement Programs Laboratory (AIPL), which is part of the Agricultural Research Service of the U.S. Department of Agriculture (ARS-USDA), is a key group of research and support staff that conducts management and genetic research on behalf of dairy operations participating in the DHI program.

Having DHI data voluntarily submitted to AIPL results in the largest number of data points and covers the most years of any dairy data set in the world. The AIPL research scientists and support staff aggregate these data to produce management benchmarks and genetic research results for cooperators in the dairy industry. Being able to return these results to U.S. dairy producers who have and continue to cooperate is the strength of the system. The industry cooperation has led the United States to remarkable management and genetic progress in the production, management, health and fitness traits currently measured. It also allows the cooperative effort to determine if additional traits and data collection are worth the return on investment as we move into the future.

So, all this being said, “The United States has gained through the efforts of the DHI data and AIPL research for the benefit of the cooperators in the system, which include the breed associations and artificial insemination organizations. This ‘got dairy data’ has served the U.S. dairy industry well,” states Jay Mattison, CEO and administrator of the National Dairy Herd Information Association. Duane Norman, the research leader at AIPL, supports the “got dairy data” idea as it is the access to these data that is important in keeping U.S. dairy producers efficient and sustainable for the future.

A good resource to review the different descriptions, table reports and graphs is the AIPL web site, which is available at: http://aipl.ars.usda.gov/publish/dhi.htm, and includes the Annual K series reports from AIPL and DHI participation. Graphic trends of these data are available at the www.dhia.org/annualdata web site.

**Trends**

The biology of the cow’s lactation, feeding and health have changed as much in the last 20 years as the previous years combined. There are also a diverse number of production systems in the dairy industry today. These include intensive grazing, crossbreeding and varying herd sizes, including tie-stall and freestall facilities. All these operations are data driven in decision making. Having regional and national data to compare with helps dairy producers, milking equipment suppliers, nutritionists, veterinarians and extension staff cooperate for the benefit of the dairy producer. Trends indicate progress being made, potential problem areas and areas that need attention in the short term.

Obvious measures and trends that have been around for a long time are milk per cow and 305-day milk. By relying on DHI data, AIPL and other researchers can identify new areas and the economic impact of various traits. This has a huge effect on each dairy but has an even larger impact when it is applied over the entire industry.

How much does high Somatic Cell Count (SCC) cost? Research has clearly shown that as SCC increases in excess of 100,000 cells, milk yield decreases. And, the higher the SCC, the larger the milk decrease. In work using DHI data, National Mastitis Council and University of Wis-
Wisconsin research shows the estimated differences in lactation milk yield associated with an increase in SCC or somatic cell score (SCS). The trends and analysis show how monitoring SCC data on individual cows is important and is relatively easy to do at the dairy.

In recent work, Norman analyzed the conception rates of U.S. Jerseys and Holsteins from 1998 to 2008 (Figure 2). The analysis revealed that conception rate declined from 1998 to 2002 and has been increasing or holding steady since 2002. Turning these data into information and getting results back to dairy producers has resulted in identifying the conception rate problem and providing solutions to positively impact economic returns to the dairy.

What is the impact of reproduction problems? Recent research from the United States and Canada shows that for a herd to improve from a 28% pregnancy rate to a 30% pregnancy rate adds more than $100 return per cow per year to the income from that cow. It is important to get cows pregnant and start the next lactation.

There are other traits and indicators that monitoring will have an impact on for DHI herds and their financial results. Each animal and trait can be improved through genetics and managed to make a difference. The importance of the work and effort of the DHI system and the participants is the benefit realized every day at the farm. It does make a difference that data are available. This allows the “got dairy data” system to provide benefits and realize the system is a cooperative effort.

Figure 1. Estimated differences in lactation milk yield associated with an increase in SCC or somatic cell score (SCS)

![Figure 1](image1.png)

1Comparisons are with lactation yield at a SCS score of 2 (SCC=50). Yield losses are related to duration, intensity and type of infection. Adapted from University of Wisconsin data.

Figure 2. U.S. Conception Rates

![Figure 2](image2.png)