

# US DHI Herd Averages

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Many in the US dairy industry take great pride in boasting about the productivity of the modern dairy cows. If we compare cows today to those milking in 1960, we can say a cow today produces twice as much as a cow did then. DHI programs have contributed much toward achieving this through better genetics and management. Yet, something more amazing than the increase in milk yield, although less talked about, is the improvement in milk quality that has taken place during just the last decade

Let's go straight to the facts. DHI somatic cell count (SCC) has served as a convenient proxy for bulk tank SCC and milk quality; and the decrease in average SCC in DHI herds has been nothing short of spectacular over the last 12 years. More good news, this progress shows no sign of ending. Let's examine Figure 1 to compare the improvements in SCC and milk yield. While cows' average milk increased from 69.0 to 74.2 pounds, the DHI averages for SCC dropped from 322,000 to 200,000 cells / milliliter. While daily milk per cow increased one half pound per year, SCC declined by 11,000 cells / milliliter. The actual bulk tank SCC was even better – lower - since cows with known quality problems are withheld from the bulk tank even though tested and included in the herd SCC report.

## DHI Herds Use the SCC Option

SCC tests have been a popular feature of DHI since milk labs started using infrared machines in the US in the middle 1980s. Today 98% of cows enrolled on DHI are also on the SCC option, providing valuable management data for improving milk quality. Interest has remained high because most milk buyers provide bonuses for low bulk tank SCC levels. Bonuses were built into

four of the ten Federal Milk Marketing Orders in year 2000 which encouraged more producers to strive for lower SCC. Another step to even lower SCC more was taken last year as several milk buyers imposed tougher standards so they could continue to export dairy products to the European Union (EU).

For current US federal standards, regulatory action is taken any time bulk tank SCC (BTSCC) for three of five consecutive monthly shipments is >750,000. In contrast, using EU standards, a herd is noncompliant if the geometric mean<sup>1</sup> of three consecutive monthly tests exceeds 400,000 four months in a row.

## DHI Herds Have Higher Incomes Due to Lower SCC Scores

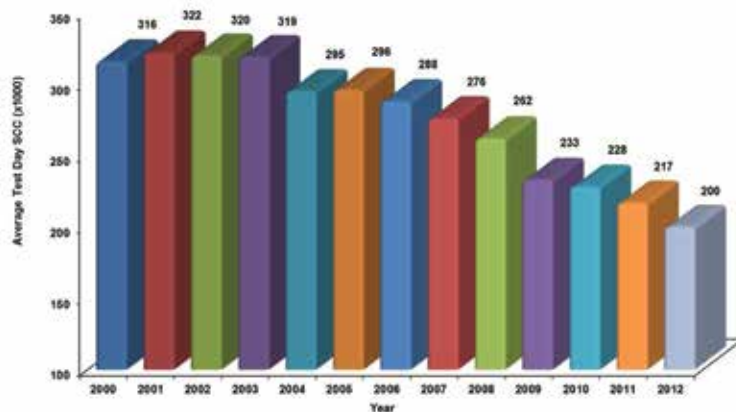
A recent study in collaboration with the Council on Dairy Cattle Breeding and the Animal Improvement Programs Laboratory used herd-test SCC from 13,000 DHI herds to examine non-compliance rates using different milk quality standards. Of interest was the trend during the last 2 years because the EU standards have been imposed upon many dairies producing for export. Results were derived from monthly tests and represented about 50% of US milk produced. Data compared were that from April 2009 through October 2010 to that from April 2011 through October 2012. Mean monthly herd noncompliance based on current US standards dropped from 0.9% to 0.4% over the 2 years. For the tougher EU standards, herd compliance, had it been used, would have dropped from 7.8% to 4.5% in just two years. Regardless of standard imposed, the improved milk quality produced by DHI producers two years later resulted in a considerably high probability of satisfying the milk standards necessary to

# ...s for SCC are dropping

continue operating. The percentage of milk affected by noncompliance was considerably less than the percentage of herds; only 0.1 and 1.4% of milk failed current US and EU standards, respectively because SCC was substantially lower in larger herds. Figure 2 shows a consistent decrease in SCC with larger herd size. Herds with fewer than 50 cows had SCC of 250,000 while those with 300 to 499 cows and >3000 cows had SCC of 198,000 and 168,000, respectively.

DHI data is needed to determine which cows need special attention to maintain high milk yield and quality; decisions need to be made expediently when infections arise. Successful management of bulk tank somatic cell is controlled by skillfully managing individual cow SCC. It is not uncommon that a single cow in a mid-size herd contributes five to 50% of the cells in the bulk tank. A single cow can have a devastating impact on the milk check, depending on the magnitude of premium for cell count in that particular market. The National Mastitis Council reported that 6% of the quarters could be infected in a herd with a bulk tank SCC of 200,000. The easiest way to deal with herd SCC is to be on DHI and use the somatic cell option provided. Opportunities are available in DHI to test for specific microorganisms so a decision can be made about the prospects for restoring the health of the quarter or whether it is more profitable to dispose of the animal. These options and opportunities will be decision making tools that help provide an even higher quality product for consumers and allow cows to be healthier in the long run.

**Figure 1. Average SCC of DHI Herds**



**Figure 2. Average SCC of DHI Herds During 2012**

