# CONSEQUENCE FOR DAIRY HERDS IN THE UNITED STATES OF IMPOSING DIFFERENT STANDARDS FOR SOMATIC CELL COUNT

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## Introduction

Most countries establish an upper limit for somatic cell count (SCC) for milk sold by a farm because SCC is a general reflection of milk quality. In the United States, the standard is 750,000 cells/mL (2). The limit assigned in most other major dairy countries is more restrictive than in the United States. Although the European Union (EU) had allowed U.S. imports based on a pooled milk SCC at the plant or tank truck of ≤400,000 cells/mL, new regulations require that SCC limit be met by every farm that contributes to the pool (1). Some large U.S. processors have already responded by imposing EU standards on their producers. The National Milk Producers Federation (3) recently proposed a stepwise reduction of the U.S. SCC standard: 600,000 cells/mL by 2012, 500,000 cells/mL by 2013, and 400,000 cells/mL by 2014.

Monthly recordings of somatic cell score (SCS) are available for 97% of Dairy Herd Improvement (DHI) herds (5). Because bulk tank SCC (BTSCC) is not readily available throughout the United States, SCS often is used as a reflection of milk quality. Monthly herd SCC generally is slightly higher than BTSCC because milk of cows treated for mastitis is excluded from the bulk tank but not DHI tests. Means and trends for BTSCC and DHI SCC over time are similar, and both have declined dramatically over the last decade (4). The objective of this research was to compare percentages of U.S. herds that were noncompliant for EU or U.S. current and proposed SCC standards as well as the amount of milk associated with those herds.

## Data and Methods

Somatic cell scores from 14,854 DHI herds were analyzed. Herds were required to have between 15 and 26 DHI tests from January 2009 through October 2010 and ≥10 cows. Each cow's SCC was derived from SCS by $SCC = 2^{(SCS - 3)}(100{,}000)$. To produce test-day SCC for the herd (thus estimating BTSCC), individual cow SCC was weighted by cow test-day milk yield. Herd test-day SCC were used to determine the percentages of herds and milk produced that would not satisfy current or proposed U.S. standards based on 3 of 5 consecutive SCC tests as well as the EU SCC standard based on 4 consecutive rolling 3-test geometric means of >400,000 cells/mL. Percentages were examined by month, herd size, and state.

## Results and Discussion

For current standards, weighted means for U.S. herd noncompliance for the last available 12 months (November 2009 through October 2010) were 0.9% for U.S. and 7.8% for EU standards (Table 1). Noncompliance for proposed U.S. standards of 600,000, 500,000, and 400,000

Table 1. Percentages of U.S. herds noncompliant with current or proposed U.S. and EU SCC standards by herd size from November 2009 through October 2010.

| Cows in herd (no.) | Herds (no.) | U.S. standard (cells/mL) | | | | EU standard (cells/mL) |
|---|---|---|---|---|---|---|
| | | >750,000 | >600,000 | >500,000 | >400,000 | 400,000 |
| 10–49 | 5,779 | 1.7 | 4.7 | 9.6 | 19.1 | 10.6 |
| 50–99 | 4,797 | 0.5 | 1.9 | 5.4 | 13.8 | 7.4 |
| 100–149 | 1,563 | 0.3 | 1.5 | 4.0 | 10.9 | 6.3 |
| 150–199 | 681 | 0.2 | 1.1 | 3.8 | 10.6 | 6.3 |
| 200–299 | 655 | <0.1 | 0.4 | 2.1 | 6.9 | 3.8 |
| 300–499 | 582 | 0.1 | 0.6 | 1.2 | 4.1 | 2.2 |
| 500–999 | 455 | 0.1 | 0.3 | 0.9 | 3.2 | 1.8 |
| ≥1,000 | 342 | 0.0 | 0.0 | 0.1 | 1.1 | 0.5 |
| All herds | 14,854 | 0.9 | 2.7 | 6.2 | 14.1 | 7.8 |

cells/mL were 2.7, 6.2, and 14.1% of herds, respectively. Only a U.S. standard of 400,000 cells/mL was more restrictive than the EU standard. Only 0.2 and 3.1% of U.S. milk failed current U.S. and EU standards; 0.7, 2.0, and 5.8% of U.S. milk would have failed proposed U.S. standards of 600,000, 500,000, and 400,000 cells/mL, respectively. Compliance for U.S. herds generally increased with herd size. For the current U.S. standard, 1.7% of U.S. herds were noncompliant when herd size was <50 cows, but ≤0.1% of each of the herd groups with ≥200 cows were noncompliant. For the EU standard, noncompliance declined from 10.6% for herds with <50 cows to 0.5% when herds had ≥1,000 cows. Herd noncompliance ranged from 2 to 15% for 6 states and Puerto Rico for the current U.S. standard and from 20 to 35% for 9 states for the EU standard. If U.S. producers must meet more stringent EU or proposed U.S. standards for SCC, they will need to place more emphasis on sound milking management practices and do more culling to improve milk quality.

References


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