

Effects of threshold levels for milk somatic cell count on ranking of dairy herds within and across European countries.

Karin Sjöström¹, Aurélien Madouasse², Julie Duval², Ulf Emanuelson¹, ¹SLU, Swedish University of Agricultural Sciences, Uppsala, Sweden; ²Oniris, Nantes, France. Contact: karin.sjostrom@slu.se

Somatic cell count (SCC) is used worldwide as an indicator of subclinical mastitis. An optimum sensitivity and specificity has been found at a threshold of 200 000 cells/mL, and this is commonly used worldwide, although other thresholds are also used. The objective of this study, a part of the IMPRO-project (www.dairy-impro.eu), was to investigate if the choice of SCC threshold influenced the ranking of farms according to SCC prevalence, between and within European countries. A total of 190 organic dairy farms in Germany (n=60), Spain (n=26), France (n=49) and Sweden (n=57) were selected and data from the milk recording schemes was retrieved. Based on test-day observations from June 2012 until May 2013, herd prevalence's of cows with SCC > 100, > 200 and > 300 thousand cells/mL were calculated. Spearman rank correlations were used to study the effect of different thresholds on the ranking of herds within and across countries. Also, the re-ranking of the 20 herds with highest and lowest prevalence was assessed. The mean herd prevalence, using 200 as the threshold, was 0.28 in Germany, 0.39 in Spain, 0.33 in France and 0.26 in Sweden. The highest rank correlation (0.96) across the countries was found when the thresholds 200 and 300 were compared, and the lowest (0.81) comparing 100 and 300. The same patterns were seen when testing within country, except for Sweden where a high correlation (0.96) also was found between 100 and 200. This could be explained by a higher proportion of cows with SCC below 200 in Sweden than in the other countries. Studying the ranking of top and bottom herds confirmed a picture of relatively little re-ranking across countries, where 16 of the 20 herds with highest prevalence based on the threshold 200 also were among the 20 highest when using 300 as a threshold. Corresponding numbers comparing 200 and 100 as thresholds were 14 out of 20. In this study we found that SCC threshold levels did not have a large impact on the ranking of herds across countries, and any of the chosen thresholds would be useful to pinpoint the herds with most subclinical mastitis. The thresholds did, however, matter for the within country ranking, and was affected by the general SCC-level. www.impro-dairy.eu