

## **Udder health in organic dairy cattle from Northern Spain**

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Short title: **Udder health in organic farming**

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## Summary

Mastitis is one of the most important production problems in dairy farms and its control supposes the main use of antibiotics in the farm. However, according to organic regulations, in organic farms blanket dry cow therapies are prohibited and antibiotic treatments are limited. Therefore, the use of alternative treatments such as homeopathy as well as prophylactic measures (mainly pre and post dipping and elimination of animals with chronically high SCC) appears as a control option, although most farmers still continue using a limited number of antibiotics. This research paper aimed to compare somatic cell count (SCC) —the main marker of udder health status— in organic farms without use of antibiotics (O) (n=6), organic farms (OA) (n=7) and conventional farms (CA) using antibiotic treatments (n=5). All farms included in the study were at pasture. LogSCC was statistically significantly higher in O ( $5.24\pm 0.01$ ) compared to CA ( $4.97\pm 0.02$ ), with the OA group being between them ( $5.03\pm 0.01$ ). Differences between groups increased with number of parturitions. Split analysis of SCC depending on the number of lactation and % of monthly SCC test with different linear scores (LS) indicated that there is no difference in udder health in the primiparous heifers from the three groups of farms, but it deteriorates in older cows because of chronic infections in O (possibly due to non antibiotic use). Our results suggest that the non-use of antibiotics had an effect in the udder health leading to a higher occurrence of clinical and subclinical mastitis. Therefore, preventive management practices on the mastitis control are essential in organic farms.

**Keywords:** udder health; organic farms; antibiotics; alternative therapies; somatic cell count.