

## ORIGINAL PAPER

# Use of homeopathy in organic dairy farming in Spain



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**Organic farming principles promote the use of unconventional therapies as an alternative to chemical substances (which are limited by organic regulations), with homeopathy being the most extensive. Traditionally, Spain has had little faith in homeopathy but its use in organic farming is growing. Fifty-six Spanish organic dairy farmers were interviewed to obtain what we believe to be the first data on the use of homeopathy in organic dairy cattle in Spain. Only 32% of farms use some sort of alternative therapy (16.1% homeopathy, 10.7% phytotherapy and 5.3% using both therapies) and interestingly, a clear geographical pattern showing a higher use towards the East (similar to that in the human population) was observed. The main motivation to use homeopathy was the need to reduce chemical substances promoted by organic regulations, and the treatment of clinical mastitis being the principle reason. The number of total treatments was lower in farms using homeopathy compared with those applying allopathic therapies (0.13 and 0.54 treatments/cow/year respectively) and although the bulk SCC was significantly higher ( $p < 0.001$ ) in these farms (161,826 and 111,218 cel/ml, respectively) it did not have any negative economical penalty for the farmer and milk quality was not affected complying with the required standards; on the contrary homeopathic therapies seems to be an alternative for reducing antibiotic treatments, allowing farmers to meet the organic farming principles. *Homeopathy* (2016) 105, 102–108.**

**Keywords:** Dairy cattle; Homeopathy; Organic farming; Somatic cell count

## Introduction

Organic farming promotes a combination of providing good-quality feedstuffs, appropriate livestock husbandry systems, reduce the use of chemical products in favor of alternative therapies, and correct management practices to deal with the principles of health, ecology, fairness and care.<sup>1</sup> In USA, the USDA Organic Standard prohibits antimicrobial drugs for organic dairy cows,<sup>2</sup> and their use

leads to the loss of the organic status of an animal. The organic EU legislation limits, but does not prohibit, the use of antibiotics, although it explicitly states that alternative treatments, homeopathy and phytotherapy, should be used in preference to antibiotics.<sup>3</sup> However, within each country the level of application of homeopathy is different and greatly depends on the human tradition of their use: while in UK homeopathy is commonly used in organic farms as an antibiotic alternative,<sup>4</sup> in Sweden the organic regulation do not advocate alternative medicine over conventional veterinary medicine.<sup>5</sup> One of the biggest problems of the indiscriminate use of antibiotics is the development of resistances which have a negative impact in human health; in fact, World Health Organization speaks about a post-antibiotics era.<sup>6</sup>

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Alternative therapies are a collective term encompassing numerous therapies which vary widely in their theoretical basis, practice and use.<sup>7</sup> One definition of alternative therapies is diagnosis, treatment or prevention which complements mainstream medicine by contributing to a common whole, satisfying a demand not met by orthodoxy or diversifying the conceptual framework of medicine.<sup>8</sup> Within alternative therapies, homeopathic is one of the most extensive in organic farming.<sup>7</sup> In cattle one of the most common applications is in the mastitis treatment<sup>4,9–17</sup> due to the economical importance and the restrictions in the use of antibiotics. Mastitis is a serious animal welfare problem and causes losses to producers through reduced yield and the cost of treatment.<sup>18,19</sup> The presence of high somatic cell count (SCC) in individual cows indicates subclinical levels of mastitis.<sup>20</sup> As farmers are penalized for having high SCC in the bulk tank, the reduction of SCC below the penalty level at the herd level is a goal in its own right for farmers.<sup>21</sup>

However, despite homeopathy being promoted by international organizations as an alternative to chemical substances in organic farming, the results of its effectiveness at the farm level are contradictory: whereas some authors have found an effect in farms with homeopathic treatments,<sup>10,13,15–17</sup> other studies did not find any differences.<sup>9,11,12</sup> This non-consensus could be explained because there are differences in management routines between organic and conventional farms and it might also differ between studies.<sup>5</sup> A recent experimental study in herds with mild to moderate clinical mastitis indicates that cows treated with homeopathy showed significantly higher SCC than those treated with antibiotics.<sup>16</sup> When efficiency of homeopathy is compared with a placebo in cows suffering subclinical mastitis, Kiarazm et al.<sup>22</sup> found a significant decrease of the SCC and a reduction of the incidence of the disease in the group receiving homeopathy, even though Holmes et al.<sup>12</sup> did not find any significant effect of the treatment.

Spain has a poor tradition of using homeopathy although its use as an alternative therapy in the human population has been increasing over the last few years (33% of the population regularly use homeopathy) with a high degree of satisfaction among the new users (82% of patients are satisfied or very satisfied with the outcome of their treatment).<sup>23</sup> The use of homeopathy in veterinary medicine has been traditionally circumscribed to the pets of homeopathy-user-owners,<sup>7</sup> although in recent years it has been largely extended to organic dairy farming, because of its advantages (no limitations of use, no milk residues using very low doses), compared to antibiotics, even though within the dairy sector little is known about its use and effectiveness. The objective of this paper is to present what we think is the first data of the use of homeopathy in organic dairy cattle in Spain. A second objective was to compare the productive and sanitary situation of organic dairy farms using homeopathy with those using allopathic therapies.

## Material and methods

Data on which this paper was based was collected within a research project (Spanish Government Ref. AGL 2010-

21026) to evaluate the nutritional and sanitary situation of organic dairy cattle in Northern Spain in comparison with conventional production systems. This project involves all ( $n = 56$ ) organic dairy farms of the North of Spain representing nearly the 80% of organic milk production in Spain.<sup>24</sup>

Organic farmers were interviewed in qualitative semi-structured research interviews from February to April 2011. All interviews were performed by the same researcher (F. Rey Crespo) with the person responsible for the farm management, and included detailed information about different productive and sanitary aspects.

Veterinary treatments were collected during interviews from the treatment's cards of each farm to obtain all treatments used during 2011. For each farm, SCC was monthly evaluated in bulk milk tank during 2011. Data were obtained from the Dairy Control Records and were performed using flow cytometry.

All statistical analyses were done using the program SPSS for Windows (v.20.0). Normal distribution of data was checked using a Kolmogorov–Smirnov test. Data was not normally distributed; therefore differences between organic dairy farms using homeopathy or allopathic therapies on productive and sanitary parameters were analyzed by using the nonparametric Kruskal–Wallis test and data expressed as medians.

## Results

Summarized productive and sanitary data of the 56 organic dairy farms in this study are presented in [Table 1](#). Overall, organic farms have a mean size of 34.8 milking cows (ranging from 2 to 207) and a mean milk production of 18.5 litres/day (ranging from 11 to 32). Only 18 of the 56 farms in our study (32%) used some alternative medical therapies, 9 (16.1%) farms used homeopathy, 6 (10.7%) phytotherapy and 3 of them (5.3%) used both therapies. The use of homeopathy showed a clear geographical pattern, with a higher use towards the East ([Table 1](#)). The profile of the farms that used homeopathy, in terms of size (median milking cows = 31.7; [Table 2](#)) and production level (19.3 litres/day) did not statistically differ ( $p > 0.05$ ) from those using allopathic treatments (32.1 milking cows and 18.4 litres/day respectively).

When asking about the reasons for using homeopathy ([Figure 1](#)), the main motivation (44%) underlying the farmers' decision was the European organic regulations. Another important reason (24%) was the reduction of antibiotic treatments based on the risk of developing microorganism resistance. In this sense, farmers explained that conventional treatments did not always meet their needs, mainly the use of antibiotics to treat mastitis. To have a homeopathic veterinary doctor (21%) was also important since in our study only one farmer had homeopathic training to deal with. When asked about the general satisfaction with homeopathy, we found that 10 of 12 farmers (83%) declared to be satisfied or very satisfied and the effectiveness of treatment being the main reason to continue using homeopathy.

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