

# Use of Homeopathy in Dairy Farming Practice Lacks Explicit Target Orientation

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## Research Article

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## Abstract

Veterinary remedies, both allopathic and homeopathic, are a means to support animals in recovering from diseases. Treatment success depends not only on the efficacy of the remedies themselves but also on the availability of prerequisites necessary to implement the most successful treatment strategy. A study was conducted in France, Germany and Spain to assess the extent to which farmers performed a *lege-artis* treatment in cases of mastitis. A total of 64 farms were visited and the use of homeopathy was assessed via standardized questionnaires during face to face interviews, focusing on the general management of the farm and on both general and specific homeopathic treatment procedures. The study revealed that most farmers only had a poor level of awareness of homeopathic principles and made use of human products regularly without rededication by a veterinarian or made use of forbidden substances. Homeopathic treatment procedures were applied very heterogeneously and differed considerably between farms and countries. Most treatments were accompanied by insufficient treatment documentation and follow-up checks. Each farmer seems to have developed his/her individual homeopathic treatment strategy, lacking sufficient feedback on the positive or negative treatment outcomes. However, an inappropriate homeopathic treatment could certainly risk creating unnecessary and extended suffering for diseased animals. To prevent or minimize the risk to animals' health and welfare, there is a need to verify the effectiveness of treatments by regular monitoring of treatment outcomes at herd level.

**Keywords:** Homeopathic; Lege-artis; Similia similibus curentur; Cyto-Bacteriological; Diagnosis

## Introduction

Antibiotics are still overprescribed worldwide; in 2013 more than 8.000 tones of veterinary antimicrobial agents for food-producing animals were sold in Europe. In view of the current high consumption of antimicrobial agents in food producing animals in Europe and an increase in pathogen resistance [1], the use of homeopathic products has experienced a revival of popularity in recent years. The increasing expectations consumers have regarding foodstuffs without antimicrobial residues, no unintended side-effects and very low or no withdrawal periods might also be contributing to an increase in the use of homeopathy in food-producing animals [2]. The European Regulations on organic agriculture even promotes the use of homeopathy: "homeopathic products shall be used in preference to chemically-synthesized veterinary products provided that their therapeutic effect is effective for the species of animal and the condition for which the treatment is intended" [3]. While the efficacy of homeopathic remedies was addressed in a previous review [4], conditions necessary for success of treatment (expertise in homeopathic principles, a lege-artis treatment procedure, follow-up checks and treatment documentation) have not been investigated so far. Homeopathy is a challenging individualized treatment method; particularly for lay people.

While those who treat have to consider various homeopathic principles and clinical symptoms of diseased animals, which are often nonspecific. The basic principle of homeopathy, "similia similibus curentur", is to find the remedy that best matches all symptoms and characteristics in the diseased animal. The people treating it have to select the most appropriate remedy out of thousands of different homeopathic medicinal products available on the commercial market [5]. This means that the selection of an appropriate remedy requires a lot of expertise and experience in homeopathy. Moreover, a medical treatment comprises several steps as part of a lege-artis treatment procedure. A lege-artis case handling procedure includes a profound anamnesis and clinical investigation, including diagnostic measures, formulation of a diagnosis, and selection of an appropriate remedy and evaluation of the therapeutic outcome [6]. Last but not least, documentation plays also a key role in a target-oriented treatment as it can ascertain its effectiveness and detect changes in animal health over time on the farm level. Only a lege-artis treatment is expected to ensure the best possible treatment and can encourage maximum treatment success. This applies both to conventional medicine and to alternative treatment methods. The

objective of this study was to assess the extent to which farmers consider homeopathic principles and implement a lege-artis treatment concept in cases of mastitis, which is according to Leon et al. [ 2] and Roderick & Hovi [7] often treated homeopathically in dairy farming.

## Materials and Methods

Study was conducted on 64 organic and conventional dairy farms in France (20), Germany (20) and Spain (24). Initially, farms already identified as users of homeopathic remedies during cooperation in the European IMPRO-Project were invited to participate in the study. Two main options were used for getting in touch with further farmers to meet the envisaged number of 20 farms per country: an internet search for farmers, who announced that they used homeopathy on their homepage and contact information provided by veterinary practitioners on farms they know used homeopathy and organic advisors. Two different questionnaires (Table 1) for farmers were developed by scientists from different disciplines and veterinarians experienced in homeopathy from the International Association for Veterinary Homeopathy (IAVH).

The development phase, which lasted several months, was followed by an on-farm test phase where the questionnaires were employed. In each country, the interview consisted of two parts each performed separately by one of two interviewers (a scientist and a veterinarian from IAVH). The first questionnaire (the scientist's responsibility) focused mainly on general farm management, including animal observation practice, prevention of disease, diagnostic measures and the type of stall construction. Additionally, questions dealing with general and specific homeopathic treatment procedure implemented by farmers were covered in the second questionnaire which the veterinarian asked. All homeopathic questions were based on the principles of classical homeopathy. This is a form of homeopathy in which the remedy consists of only one substance which is the best match for the essence of the malady and the totality of symptoms. The survey questionnaires (translated into national languages) were designed to identify prerequisites when treating an animal with homeopathy. Following the translation process, all 64 farms were visited and the farmers were interviewed according to a standardized procedure, beginning with a stall tour and inspection of stall pharmacy followed by an interview with farmers run by the scientist and the veterinary expert in homeopathy. All of the respondents' answers were recorded using an online survey tool. After

completing data recording, one excel file per questionnaire was extracted. Every question was evaluated individually by a scientist and was assigned to different categories of prerequisites, depending on

questions' content: prerequisites for stall construction and for general treatment procedures and lege-artis use of homeopathy too.

Questionnaires	Content of questionnaire	Interviewer
Questionnaire on farm management	Inspection of the housing conditions, storage environment for remedies, measures for early detection of diseases, performance of animal observation and diagnostic procedure where disease suspected	Scientist
Questionnaire on the use of homeopathy	Identification of farmers' general and homeopathic treatment procedure, their knowledge of homeopathic principles, performance of anamnesis, diagnosis, selection and application of homeopathic remedies, follow-up checks and documentation of treatments	Veterinarian experienced in Homeopathy

Table 1: Type of questionnaires applied to farmers.

The following fundamental principals in classical homeopathy and general treatment procedures were taken as the basis for analysis. A thorough anamnesis is essential to formulate a diagnosis which influences as to whether a homeopathic treatment is appropriate and the choice of the corresponding remedy. The process of anamnesis involves inter alia recalling the most relevant parts of the animal's history, respondents were thus asked where they obtained the historical health records of the diseased animals (multiple answers were permitted). Homeopathy requires careful observation of an animal, in order to detect the smallest changes in animal health and behavior. An early treatment may offer the best prospect for the success of treatment. Thus, farmers were asked how much time per day they spent observing their animals at herd level (results are based on farmers' self-assessment). Studying physical and mental symptoms characterize a homeopathic clinical investigation. The more striking, uncommon and peculiar the symptoms found, the higher the chance of selecting the most suitable homeopathic remedy. Both general and undefined symptoms (such as loss of appetite and fever) demand little attention if they cannot be more accurately described. Generalized symptoms are observed in almost every disease and prompt the use of almost every remedy [8].

Furthermore, it is necessary to identify the type of bacteria present in the udder prior to starting any kind of mastitis treatment. Where homeopathic treatment does not succeed, the results of the laboratory milk analysis can be used to orientate or optimize mastitis treatment strategies. The farmers were therefore asked for their diagnostic procedure before a mastitis treatment started. Farmers were also asked to illustrate whether and if so

how they performed a comprehensive clinical investigation and what kind of diagnostic measures they used. A homeopathic diagnosis is the process of identifying the nature of an illness and relies on thorough anamnesis and clinical investigation. This process is often challenging for lay people. Hence the respondents were asked how often they seek the opinion of a homeopathic professional during the diagnosis process. The basic principle of prescribing homeopathic remedies is to find the remedy that best matches all symptoms. Homeopathy treats each animal as a unique individual: according to Hahnemann's first rule "similia similibus curentur", the characteristics of the sick animal must be similar to the characteristics of the remedy [8]. Each medicine has unique characteristics and symptoms that it covers. A similar disease (diagnosis) with different individual symptoms can often be cured by various remedies; conversely, one remedy can cure different diseases. In order to achieve the best selection, a repertorisation is necessary. This means that the homeopathic remedy picture and the clinical picture of the diseased animals must be compared with one another step-by-step. If the correct remedy is selected, then it will act quickly and curatively in any potency; conversely, an incorrect remedy can be either inactive or disruptive to an illness, regardless of which potency is administered [9,10].

One of the most fundamental principles of classic homeopathy is the prescription of only one remedy at a time. If more than one remedy is prescribed, any positive or negative effects might not be assessed accurately as the prescriber cannot distinguish which components of a single remedy combination or of complex remedy was effective. In addition, it is not possible to predict the interactions which might occur between given remedies.

Therefore, farmers were asked which reference sources they used for choosing homeopathic remedies and what percentage of homeopathic complex remedies and single remedies they used for treating mastitis. Selecting the correct remedy requires a lot of expertise and experience in homeopathy; various homeopathic principles need to be considered during the selection process. Thus, farmers' level of awareness of homeopathic principles was cited by the veterinary experts in homeopathy and categorized using pre-defined levels (Table 2). For immediate treatment, it is necessary to keep the most frequently used homeopathic remedies in stock. An investigation of the stall pharmacy was also performed during the farm visit. Checking the outcome of treatment administered is also fundamental when using remedies [10]. A potential risk of homeopathy is when the user keeps treat the animals even when treatment is no longer required. It is recommended that homeopathy is not used for too long unless experts are supervising. The one administering care might induce unintentional "proving"; either creating symptoms the animal never had before or seeing it start to suffer from the symptoms that the remedy was supposed to cure again [11,12,8].

A significant risk in treating diseased animals, independently of particular treatment method, is delaying other effective medical treatments. Delaying treatment which would otherwise have been effective have less prospect of success, since valuable time has elapsed and a chronic disease might already have developed. In this study, the respondents were asked how they check treatment outcomes. Documenting treatments is important for various reasons: Firstly, people who treat food-producing animals are instructed by European and national legislation to document every treatment given to diseased animals [13,14]. This compulsory documentation serves to ensure the protection of public health. Secondly, there is always the risk that treatment is not successful and that the therapy or remedy has to be modified. The initial symptoms might have changed, due to the previous treatment. Without documenting initial symptoms, it is difficult - if not impossible - to find the appropriate remedy. Using the documentation, the prescriber is able to review the previous treatment process and to alter or optimize the treatment strategy immediately. Possibly the most important reason: documenting will help the prescriber to ascertain whether the treatment given was successful or not. For these reasons, the questionnaires also dealt with farmers' documentation procedure. In order to evaluate how comprehensively farmers documented, they were asked to choose from one of three possible options: never, partially or every time (meaning that all treatment steps

were documented every time). For the purpose of the evaluation, a ranking using Likert-scales from 1 to 3 or 5 and frequency distribution with or without previous categorization was used.

Level	Description
1	No knowledge: use of complex remedies
2	Basic knowledge: approved indications
3	Advanced knowledge: anamnesis performed in addition; individual assessment of single animals with repertory, acknowledgement of remedies (Material medical) and homeopathic remedy picture
4	Expert: hierarchy of symptoms compiled in addition; symptoms according to §153 of Organ on of medicine
5	Top level: miasm or core of a remedy performed
The subsequent level builds on the previous level	

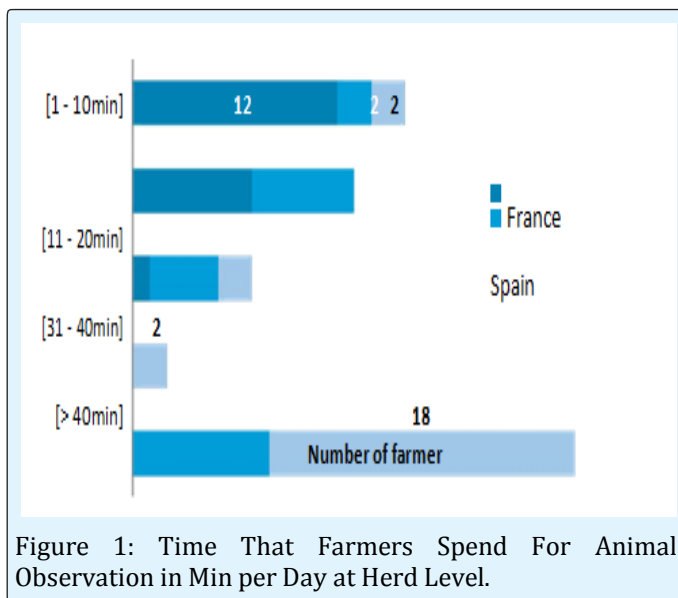
Table 2: Level of awareness of the homeopathic principles.

## Results

The results of the investigation revealed large differences in constructional prerequisites (options to separate diseased animals, storage conditions for medicinal products and technique equipment for animal monitoring) and non-constructional prerequisites (hygiene management, preventive health care and early detection of diseases) between farms and countries. Only a total of 39 farms (France: 20, Germany: 11 and Spain: 6) met storage recommendations for homeopathic remedies. Poor hygiene levels in boxes for diseased and calving animals were found on many farms. While 22 farmers (34%) made use of the same boxes for both diseased and calving animals, 73% of them applied inadequate cleaning and disinfection measures. Amongst those 22 farmers, 16 of them did not use any kind of disinfection measures. Furthermore, early detection measurements such as Body Condition Scoring and California Mastitis Test were rarely performed. For further details, see the recently published IMPRO-project report on [www.impro-dairy.eu](http://www.impro-dairy.eu) [15].

## Anamnesis

A very heterogeneous result was delivered on how farmers from all countries dealt with the issue of anamnesis. 79% of Spanish farmers stated that they invariably had no historical information on the diseased animal or they tried to reconstruct its medical history from their memory. A similar situation was found in Germany where farmers also generally obtained the medical history from memory (70%). Only eight German farmers used information from health ledgers / cow files. In contrast, 80% of farmers in France used paper files in order to put together a medical history. All in all, only 11 out of 64 farmers in the three countries made use of professional herd management software for this procedure. A high variation was also noted in the quantity and quality of animal observation. Only seven farmers stated that they performed an animal observation while doing nothing else. The time they took to observe their animals differed a lot and ranged from 1 to more than 40 minutes per day. All other farmers stated that they observed the cows in combination with other activities, for example; milking routine, feeding and pasture. It can thus be assumed that farmers are often distracted, resulting in less thorough detection of diseased animals and relevant symptoms for homeopathic treatment. While French farmers observed animals for a period of 1 to 30 minutes, Spanish farmers took more time for this process, and claimed to often spend more than 40 minutes for animal observation per day (Figure 1).



## Clinical Investigation

The majority of farmers, in total 34 out of 64 farmers (8 French, 9 German and 17 Spanish farmers) agreed that a homeopathic clinical investigation needs to be performed when using homeopathy. Two French, 4 German and 5 Spanish farmers only performed general investigations (e.g. fever or flocks in milk) whereas 12 farmers (6 French and 6 German ones) stated that they looked for typical, well-known symptoms and chose a tried and tested remedy (approved indication). The remaining farmers either did not perform a homeopathic investigation (three farmers), or they got assistance from a veterinarian (four farmers) during this process. The procedure of clinical investigation was evaluated by the veterinary experts in homeopathy using a 5 score scale from very good to very poor. Independent of the type of clinical investigation, 50% of farmers were rated with "moderate"; 19% with "good" and 27% with "poor". The result "very good" was awarded only once and "very poor" twice. 34 out of 64 farmers (France: 13, Germany: 10, Spain: 11) never took quarter milk samples for laboratory cyto-bacteriological analysis before they treated mastitis. The remaining 30 farmers only took quarter milk samples depending on the severity of the mastitis, effort and time for labour or course of treatment. Almost half of farmers mentioned (16 people) only collected milk samples in the case of clinical mastitis (for all animals: 81% or for selected animals: 19%) and four farmers in the case of subclinical mastitis (for selected animals 100%). Eight farmers performed a milk analysis for both subclinical and clinical mastitis to different degrees of thoroughness; in 75% of all cases only for selected animals. Just one farmer in Spain and one in Germany stated that they took milk samples from all animals in every case (subclinical and clinical mastitis).

## Diagnosis

The result of the evaluation illustrates a very widespread picture concerning the diagnosis procedure (Figure 2). While French farmers generally never consulted a professional (80%) or only in the case of selected animals (20%), 75% of farmers in Spain consulted a professional in every case of illness. The other 25% of Spanish farmers asked for professional advice. Most German farmers either never consulted a professional (35%); or only where no recovery was foreseeable for the diseased animals (30%) or only in specific cases of disease (25%). The remaining 10% of German farmers never consulted a veterinary professional or only selected animals were examined by a veterinary practitioner.



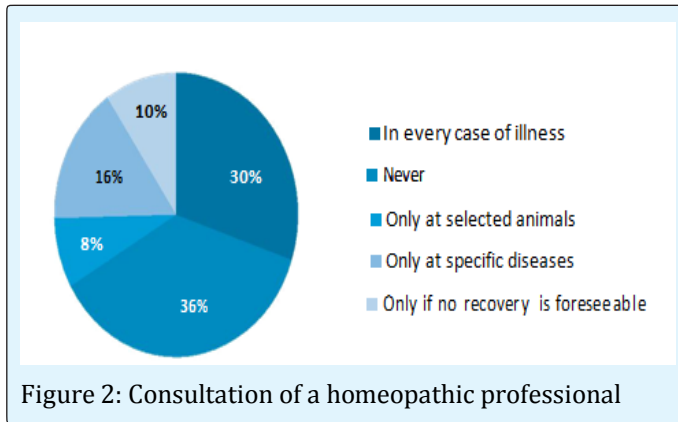


Figure 2: Consultation of a homeopathic professional

### Selection of a Remedy

French and German farmers behaved similarly concerning how they used reference materials for selecting a homeopathic remedy (Figure 3). Both mainly used short manuals (mostly containing approved indications) for the selection of homeopathic products. As far as the principles of homeopathy were concerned, only 5 farmers from France and 4 farmers from Germany used a repertory in combination with a Material Medical. In contrast to the situation in France and Germany, all farmers in Spain counted on the advice of homeopathic veterinarians via telephone or e-mail. In general, using software for repertorisation of symptoms was not very popular amongst the farmers. The category "other" included consulting other farmers / other homeopaths or non-veterinary practitioners and notes from homeopathic courses.

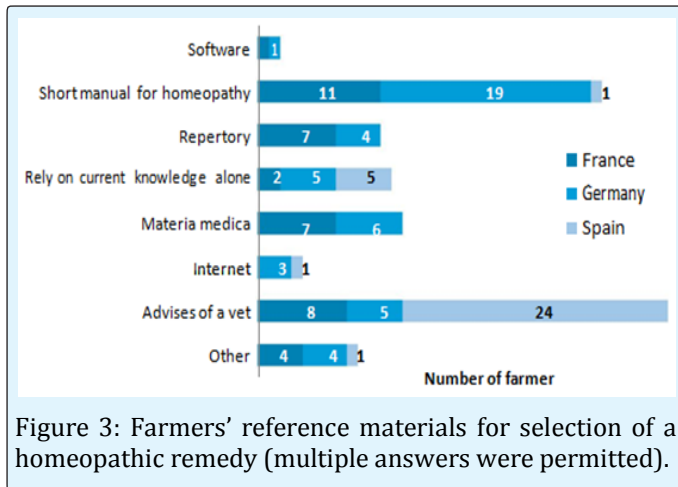


Figure 3: Farmers' reference materials for selection of a homeopathic remedy (multiple answers were permitted).

Concerning the competence of farmers to select the most appropriate remedy, farmers were most frequently rated with Level 2 (51%), meaning that they had only basic knowledge in homeopathic principles and often used approved indications. Only a small percentage of the farmers (27%) were capable of administering a

homeopathic and individualized treatment, thus they were rated with Level 3. A few farmers, rated with Level 1 (22%), only used complex remedies or chose a remedy arbitrarily where disease was identified. The top levels (Level 4 and 5) were never awarded (Figure 4 and Table 2).

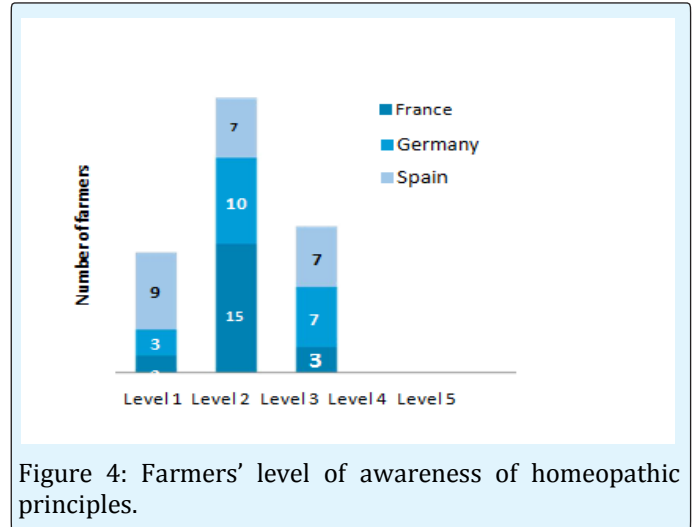


Figure 4: Farmers' level of awareness of homeopathic principles.

In total, 324 different homeopathic remedies were found (among them 240 pure/single remedies, 36 complex remedies and 48 nosodes). There was a high variation in remedies stored on farms. While German farmers stored from a minimum of 11 up to a maximum of different remedies, French and Spanish ones only stored up to 20 or 24 remedies (Table 3). Colchicine and Aristolochia, which are forbidden to be given to food-producing animals, were also identified on 11 farms. 78% of all farmers bought their homeopathic remedies in pharmacies or via internet (almost entirely German farmers). Furthermore, farmers often used human products regularly, without rededication by a veterinarian (a requirement in law).

	Germany	France	Spain		
Total Number of different remedies	314	40	47		
Number of remedies available	Minimum	11	Minimum	3	Minimum
	Median	55	Median	14	Median
	Maximum	218	Maximum	20	Maximum

Table 3: Number of remedies stored on farms.

### Checking treatment success

The majority of farmers (83%) stated that they checked the outcome of treatment. However, in most cases, the follow-up checks were merely performed visually. Sometimes, the California Mastitis Test or an udder palpation was carried out. Laboratory investigations were rarely performed. Moreover, farmers were asked if veterinarians regularly checked how successful their treatment had been. In total, 70% of all farmers did not consult a veterinarian for the follow-up checks. Assessing the treatment outcome was not (or only in very few cases) performed by local veterinarians in France (0%) and Germany (20%). In Spain, a follow-up check by veterinarians was more common, 63% of farms took advantage of this veterinary service and two of the Spanish farmers even stated that all animals treated were re-checked by a veterinarian. However, the number of animals (all of them or selected ones) which were examined by a veterinarian depended on each farmer's criteria and differed a lot between the countries.

### Documentation

In total, only 11 out of 64 farmers (9 from France and 2 from Spain) stated that the documentation of treatment (including diagnosis, administration and switching remedies and results of the follow-up check) was always carried out. In Germany, none of the farmers claimed they had documented every step in every case. Four French, 12 German and 17 Spanish farmers (in total 52%) did not document a single step in cases of disease. All other remaining farmers documented partially: depending on the severity or type of disease, on the amount of time available to farmers and on the type of treatment. Furthermore, 70% of German, 50% of French and 42% of Spanish farmers did not document homeopathic symptoms. The few remaining farmers took anamnesis records to a varying extent.

### Discussion

The use of homeopathy is controversially discussed in medical science. Although there are many clinical trials concerning the efficacy of homeopathic remedies, a clear result as to whether homeopathy is effective or not could not be provided [4]. However, clinical studies always focused on the efficacy of the homeopathic remedy itself; but the prerequisites for its efficacy and practical application (clinical trials under practical conditions in agricultural practice) were not regularly considered. The study provides a first insight on the existing prerequisites on farms for the use of homeopathy and on current homeopathic treatment procedures on dairy farms in

different European Countries. Due to the low number of participants, the representativeness of the study results must be treated with caution. Nonetheless, the heterogeneity of the results (e.g. insufficient diagnostic measures, inadequate follow-up checks and documentation, use of forbidden substances, non-compliance of homeopathic principles) is obvious and increasing the number of test farms would not reduce but actually increase the heterogeneity of the results.

The reasons for the enormous heterogeneity in the use of homeopathy are manifold, inter alia: the different perspectives and interests of the users, the complexity of this treatment approach, and the differences in the availability of homeopathic veterinary remedies or local veterinarians experienced in homeopathy. The study revealed results which were not expected beforehand. During the inspection of the stall pharmacies a lot of different homeopathic remedies were found. The main problem here is that the majorities of these remedies is designed for human use and are not prescribed by veterinarians. According to European regulations, only veterinarians are permitted to prescribe human medicinal products for treating food-producing animals [16]. And although forbidden [17], Colchicine and Aristolochia were found in the stall pharmacies on 11 out of 64 farms visited. There is reason to believe that these remedies were used to treat food-producing animals. On the other hand, farmers would like to reduce the use of antimicrobial medicine and are looking for alternatives. In the absence of local veterinary advice, farmers are compelled to make decisions on therapy alone or have to resort to pharmacies or non-veterinary practitioners for help. However, most of these pharmacies or non-veterinary practitioners have little or no experience or knowledge on farm animal diseases, and are even less well informed on the legislation that covers animal welfare, animal health and public health regulations in livestock production [18].

Furthermore, homeopathy treats each animal as a unique individual, and thus it requires individual treatment along with expertise in homeopathic principles. The study revealed that the users of homeopathy only had limited knowledge of homeopathic principles. Farmers often refrained from giving an individually-tailored treatment and used approved indications instead, which contradicts the fundamental rule of individual treatment. Probably the most important finding was the absence of documentation of treatment procedures and outcomes for homeopathic treatment, which might be caused by several reasons. Farmers could be reluctant to do so because they might be liable to prosecution if they use human

homeopathic remedies without rededication by a veterinarian when stall pharmacies are inspected by official veterinarians. Some farmers mentioned the additional work and lack of time as a reason for non-documentation, although they are legally obliged to document every treatment given to food-producing. Without thorough documentation a successful outcome cannot be evidenced and farmers cannot learn from treatment failures revealed by monitoring treatment. Additionally, the current assessment of the treatment outcome is based on farmers' subjective perception. But a treatment effect is the difference between the disease outcome with and without treatment. It is a mistake to think that untreated animals never recover and treated ones always do (Fajt, 2016). Only in the way of a thorough documentation of treatment outcome can the effects of a change in treatment procedure be assessed and the effectiveness of treatment in farm practice is verified [19].

However, the heterogeneous use of homeopathy does not automatically lead to worse treatment outcomes. A therapeutic success can be achieved in various ways. However, there is an increased risk that factors influencing the success of a homeopathic treatment might be overseen or that methodological errors – for example noncompliance of homeopathic principles during the selection of an appropriate remedy - might occur. Therefore, the implementation of a lege-artis treatment procedure is required to increase the success of treatment. According to the European Regulation No 889/2008 on organic livestock production, homeopathic remedies should be used in preference provided that their therapeutic effect is effective for the species of animal, and the condition for which the treatment is intended. The decision whether to use homeopathic or conventional remedies should first consider the prognostic validity of the treatment outcome. Focusing on the treatment outcome avoids discussion about the consequences of a heterogeneous use of homeopathy. However, the actual curing rates of treatment methods are presently hard to ascertain, due to the lack of appropriate follow-up checks of treatment outcomes and documentation. Therefore, appropriate control measures (treatment monitoring) have to be implemented for both alternative and conventional treatments, since a treatment with conventional remedies does not ensure therapeutic success [20-24]. Without implementing regular treatment monitoring, it must be assumed that were unsuccessful treatment goes undetected, it prolongs the suffering of diseased animals. After thorough consideration all the aforementioned facts, the use of homeopathic remedies can currently not be recommended unless a lege-artis

treatment procedure is implemented and the treatment outcome is monitored.

## Conclusion

The effectiveness of homeopathy is not limited to the efficacy of remedies as proven in standardized clinical trials. A target-oriented and successful treatment requires the implementation of a lege-artis procedure in the use of medicinal products. The study revealed that neither uniform treatment procedures nor a lege-artis treatment for homeopathy existed on the dairy farms visited. Each farmer seemed to have developed their own homeopathic treatment strategy. This subjective treatment approach using farmers' own criteria and neglecting to document anything in relation to the health issue is suspected to reduce the potential to treat successfully and might increase the risk of extended suffering of diseased animals if appropriate treatment was not applied. There is thus a need to verify the effectiveness of homeopathic treatment in farm practice. This can be achieved by regularly monitoring treatment outcome and the prevalence rate of disease at herd level.

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