

ORIGINAL PAPER

Effect of a homeopathic complex on reproductive performance in a commercial pig farm



Dario Deni^{1,*}, Antonino Caminiti^{1,2}, Olga Lai¹, Lavinia Alfieri¹, Daniela Casati¹, Mario Sciarri³, Paola Scaramozzino¹ and Giuseppina Brocherel¹

¹Istituto Zooprofilattico Sperimentale del Lazio e della Toscana, Rome, Italy

²Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia-Romagna, Brescia, Italy

³Scuola Superiore di Medicina Veterinaria Omeopatica "Dott. Rita Zanchi", Cortona, Italy

Background and aim: Alternative therapies based on homeopathy can be effective in improving reproductive performance in intensive pig breeding. In this study, the effect of a homeopathic complex on reproductive performance of sows under intensive farming has been investigated.

Material and methods: Over period of three years, 186 sows were recruited from a farm where a large proportion of animals were suffering from prolonged weaning-to-oestrus intervals (WEI) and weaning-to-service intervals (WSI). Sows were allocated to two groups; once per month, one group was given a homeopathic complex (*Borax 10 mK* plus *Lycopodium 10 mK*), while the other group was given a hydro-alcoholic solution (placebo). The follow-up period started one week before the expected date of oestrus, continued for two pregnancies and ended after the weaning of the second farrowing. To evaluate reproductive performance, during the follow-up we collected data on quantitative parameters such as the average number of stillbirths, newborns, and repeat services per farrowing. Time-related data such as WEI, WSI, length of the two pregnancies and weaning periods were also collected to measure the length of the follow-up of each sow. Differences in quantitative parameters between the two groups were evaluated using parametric and non-parametric statistics. Time-related data were used to plot Kaplan–Meier curves and in Cox regression models to evaluate whether treated sows had a higher probability of experiencing a shorter follow-up in comparison to untreated sows.

Results: We did not find significant differences in the number of newborns, while the number of stillbirths was higher in the treatment group, even if the difference was slightly significant (p -value = 0.03). The number of repeat services was lower in the treatment group, and this difference was highly significant (p -value < 0.001). Results from the Cox regression models suggest that the end of the follow-up was reached by sows of the treatment group at about twice the rate of sows of the control group (model 2, Hazard Ratio_{treatment} = 2.27; 95%CI: 1.56–3.24). *Homeopathy* (2015) 104, 9–14.

Keywords: Intensive farming; Pigs; Reproductive performance; Borax; Lycopodium

Introduction

The use of homeopathy for the prophylaxis and treatment of common health disorders is increasing in livestock farming. So far, many studies have reported significant results on the effectiveness of homeopathy under intensive

*Correspondence: Dario Deni, Via U. della Faggiola 52100 Arezzo, Italy.

E-mail: dario.deni@izslt.it

Received 7 January 2013; revised 12 December 2013; accepted 23 May 2014

farming,^{1–3} and some have found homeopathy to be effective in improving reproductive performance in pig breeding.^{4–6}

Reproductive performance affects the productivity (and so the profitability) of the pig farm business and is often used to evaluate breeding herd efficiency.⁷ Indicators of reproductive failures are, for instance, prolonged weaning-to-oestrus intervals (WEI) and weaning-to-service intervals (WSI).⁸ In fact, these time intervals are considered non-productive or empty days during which sows consume resources without producing anything. In more detail, WEI corresponds to the period between the day of weaning and the first day on which the sow shows standing heat, while WSI corresponds to the period from the day of weaning until first service.⁹ When WSI and WEI increase, the number of parities decreases and so does the number of weaned piglets per sow per year. Therefore, the shorter these time intervals are, the larger the profitability of the farm.

Specific parameters can have a role in increasing the length of WSI and WEI, such as the number of repeat services and the return to oestrus after insemination. It is known that fluctuations in these parameters can be caused by stressful conditions that are typical of intensive farming and also certain infectious diseases, such as the porcine respiratory reproductive syndrome virus (PRRSV), porcine circovirus (PCV2) and porcine parvovirus (PPV).^{10–12} Viral infections occurring during the gestation period can increase the number of stillbirth, induce return to oestrus or even cause abortion.^{13–15}

In Italy, an intensive pig breeding industry has developed and viral infections are widespread: in fact, PRRSV and PCV2 are endemic, the former currently being present in 90% of pig herds.^{16–18} For these reasons, reproductive failures are common in Italy despite the use of allopathic treatments such as vaccinations, antiparasitics and wide-spectrum antibiotics (especially tylosin, tiamulin and amoxicillin).

When allopathic drugs fail to improve the *status quo*, the use of homeopathy can be helpful in the addition and support of routine treatments.^{19,20} In comparison to allopathic medicine, veterinary homeopathy gives some clear advantages in terms of value for money, animal welfare, low or absent toxicity and an absence of pharmaceutical residues in foods of animal origin and in the environment. It is important to note that this last aspect exerts a considerable and positive spillover effect on Public Health and environmental protection.

The aim of this study was to evaluate changes in reproductive performance in two groups of sows over time; one group was treated with a homeopathic complex, and one with a hydro-alcoholic solution. Reproductive performance was evaluated in terms of time to the end of a specific follow-up, and in terms of quantitative parameters such as the average number of stillbirths, newborns and repeat services per farrowing recorded during the follow-up. Time-related data were assessed with survival analysis tools.

Materials and methods

Selection of the farm

In early 2007, the owner of a pig farm complex of about 500 Large White sows called the veterinarians of the Istituto Zooprofilattico Sperimentale Lazio e Toscana (IZSLT), Arezzo headquarters (province of Arezzo, Tuscany region, Central Italy), because he had observed a significant increase of WEI and WSI in the previous six months. According to the farmer, this condition was probably due to repeat services and return to oestrus.

After the clinical examination of all of the sows and laboratory testing of blood samples, the presence of infectious diseases was excluded. However, egg-white vaginal discharge was noted in some sows that were currently not in gestation. Vaginal swabs were collected, but laboratory testing again gave negative results. At the same time, because other conditions could have caused prolonged WEI and WSI,^{21,22} the feed intake, diet, the artificial insemination procedure and the structural conformation of the housing system were also evaluated. Eventually, no specific cause was found and the farmer agreed to treat the sows with a homeopathic complex.

Farming system

Livestock was kept indoors in a compound of 3 physically separated and naturally ventilated buildings of ten pens each. Sows were penned by the farmer in groups of 10 to 20 according to the number of farrowings (gilts separated from sows which had farrowed at least once) and gestation week, without taking into consideration other variables such as the sows' age, weight or health condition.

Sows were ear-tagged for individual identification and an automated feed delivery system provided animals in the same productive status with a common dietary regime. Dietary regime was aimed at growth and maintenance for piglets as well as sows to be culled at the weaning, and flushing and reproduction for gilts and sows.

Farm information system

An information system (Isagri IsaPORC) was fully operational at the beginning of the study period. Through this application, the following data were collected per each sow: ear-tag number, breed, date of birth, farm of origin (if applicable), number of pen and date of entry in the pen, number of repeat services (that is, the number of insemination attempts before conception), date of conception, the expected date of farrowing, the interval between two farrowings, the WEI and WSI, number of stillbirths, number of newborns and number of weaned piglets.

Recruitment, follow-up and data collection

Sows were selected only in one of the three buildings over the study period. The study period was about three years, from March 2007 to July 2010. In the building, an average of 150 sows and gilts were regularly penned in ten pens. At the time of the study, approximately 40% of

Download English Version:

<https://daneshyari.com/en/article/2629353>

Download Persian Version:

<https://daneshyari.com/article/2629353>

[Daneshyari.com](https://daneshyari.com)