STUDY OF THE EFFECTS OF LAMENESS ON PRODUCTION AND REPRODUCTION IN DAIRY COWS

Facultat de Veterinària, Universitat Autònoma de Barcelona

Roger Bellet i Elias

INTRODUCTION

Lameness incidence have greats variability and the third cause of economic losses in dairy farms, after mastitis and reproductive inefficiency (Weaver et al., 2005).

The major cause of lameness is subclinical rumen acidosis, and it alters the follicular phase forming ovarian cysts (Blowey, 1998).

The rest of the cow and hooves trimming of the cows 2 - 3 times per year, reduces the incidence of lameness (Mill and Ward, 1994; Manske et al., 2002).

The aim of this study is to determine is the hoof trimming have and effect over reproduction and milk production.

MATERIAL AND METHODS

The study was performed on a high production dairy farm in Western Spain with 1159 cows censused.

The farm is provided with a surgical containtment cage for hoof trimming.

Lameness detection is based on the locomotion score.

In the farm it is distinguished 2 diferent hoof pathologies: Aigüerola and Phlegmon.

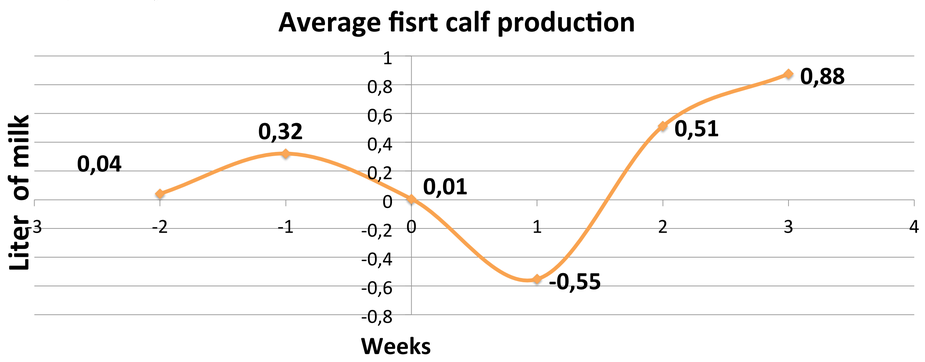
Podometers were used to detect oestrus. The gestation is diagnosed by ultrasonography at 28 and 34 days after insemination.

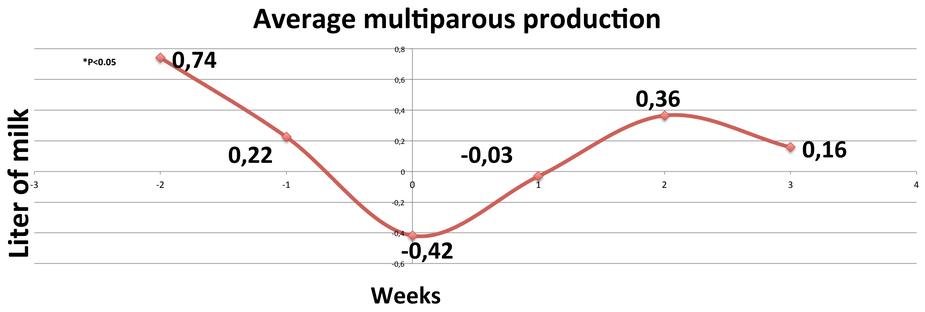
Only cows with lameness were included in the study. Production milk and reproduction data were collected from each animal.

Data was analyzed using the Student's t-test with the SAS statistical package.

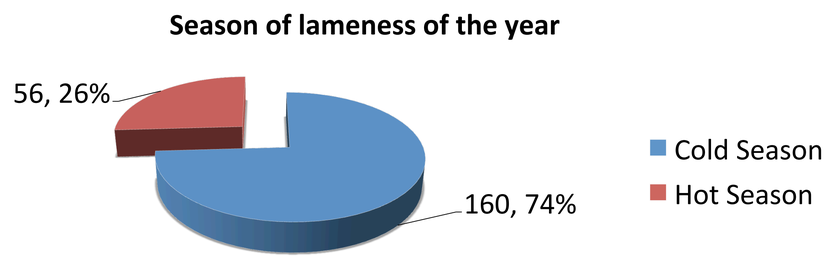
RESULTS AND DISCUSION

Milk production increased by 0.5 l, but not statistically significant. We think that the production losses could be higher, first by a lack of detection, since many farmers underestimate the prevalence of lameness in their cows considerably (Whay et al., 2002).

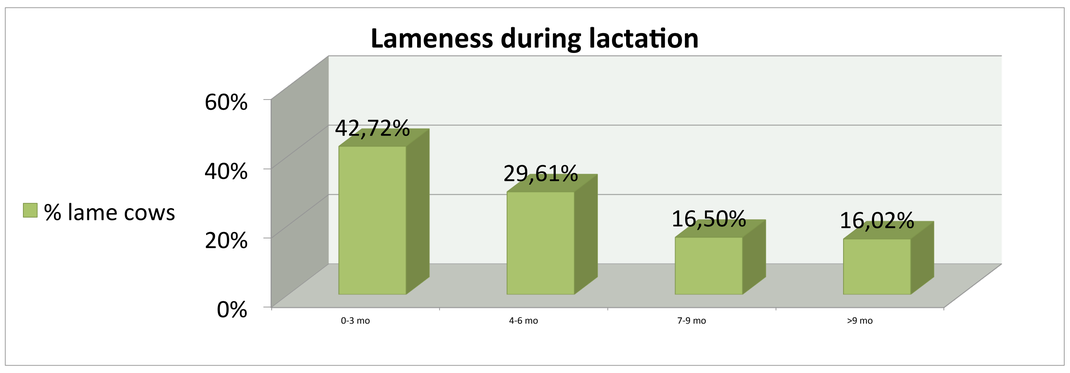




During the coldest months there was a 13.8 % and in the warmest ones it decreased to 4.8, coincinding wih the results Wells et. al, (1993) reported where the prevalence of lameness during winter was the 16 %.

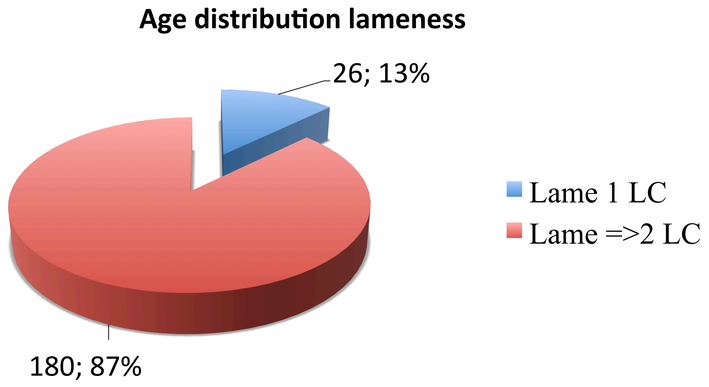


The prevalence of lameness after birth was 50% in the first four months of lactation. The results we obtained match Rowlands et al. (1983), where the sum of the first four months exceeds 50% of lameness exploitation.



There were 4.7% (57 cows) repeated two or more times, increasing the real incidence of lameness from 26,8 % to 30.6%.

We can clearly say that the distribution of lameness in cows is mostly more lactations. Increased longevity is related lameness, coinciding with Baggott and Russell (1981).



It was observed that cows that were lame after the first AI had a fertility of 19% and 67 OD. The cows that were lame before the first IA, showed a fertility of 57% and 87 OD.

Cows with lameness are 15% less likely to stay pregnant than other healthy cows (Bicalho et al., 2007b). The cows were lame before the IA, had better fertility outcomes than cows were lame after AI.

A lame cow has 3.5 times less likely to not return to estrus during the first 60 days after birth, compared with the healthy (Garbarino et al., 2004).

CONCLUSIONS

The treatment of lameness in dairy cows has a positive effect in milk production. On the other hand, we have not seen any benefit on the reproductive results.

REFERENCES

Baggott, D. G., and Russell, A. M. 1981. Lameness in cattle: Investigational and diagnostic check lists. Brit. Vet. Rec. Volume 141, Issue 1, January-February 1985, Pages 27–33.

Bicalho, R. C., F. Vokey, H. N. Erb and C. L. Guard. 2007b. Visual locomotion scoring in the first seventy days in milk: Impact on pregnancy and survival. J. Dairy Sci. 90:4586-4591.

Blowey, R. W. 1998. Welfare aspects of foot lameness in cattle. Ir. Vet. J. 51:203–207.

Garbarino, E. J., J. A. Hernandez, J. K. Shearer, C. A. Risco and W. W. Thatcher. 2004. Effect of lameness on ovarian activity in postpartum Holstein cows. J. Dairy Sci. 87:4123-4131.

Manske, T; Hultgren, J; Bergsten, C. 2002. The effect of claw trimming on the hoof health of Swedish dairy cattle. Prev. Vet. Med. 54:113–129.

Mill, J. M. and W. R. Ward. 1994. Lameness in dairy cows and farmers' knowledge, training and awareness. Vet. Rec. 134:162-164.

Rowlands, G.J., Russell, A.M. & Williams, L.A., 1983. Effects of season, herd size, management system and veterinary practice on the lameness incidence in dairy cattle. Vet. Rec. 113, 441-445.

Whay, H.R., Main, D.C.J., Green, L.E. & Webster, A.J.F., 2002. Farmer perception of lameness prevalence. In: Shearer, J.K. (ed.) Proc. 12th International Symposium on Lameness in Ruminants. Jan. 9-13 2002, Orlando, Florida, USA. pp. 355-358.

Weaver, M.D., G.S. Jean and A. Steiner, 2005. Bovine surgery and lameness. 2nd ed. Blackwell Sci., Oxford, pp: 198-258.

Wells, S.J., Trent, A.M., Marsh, W.E., McGovern, P.G. & Robinson, R.A., 1993. Individual cow risk factors for clinical lameness in lactating dairy cows. Prev. Vet. Med. 1517, 95-109.