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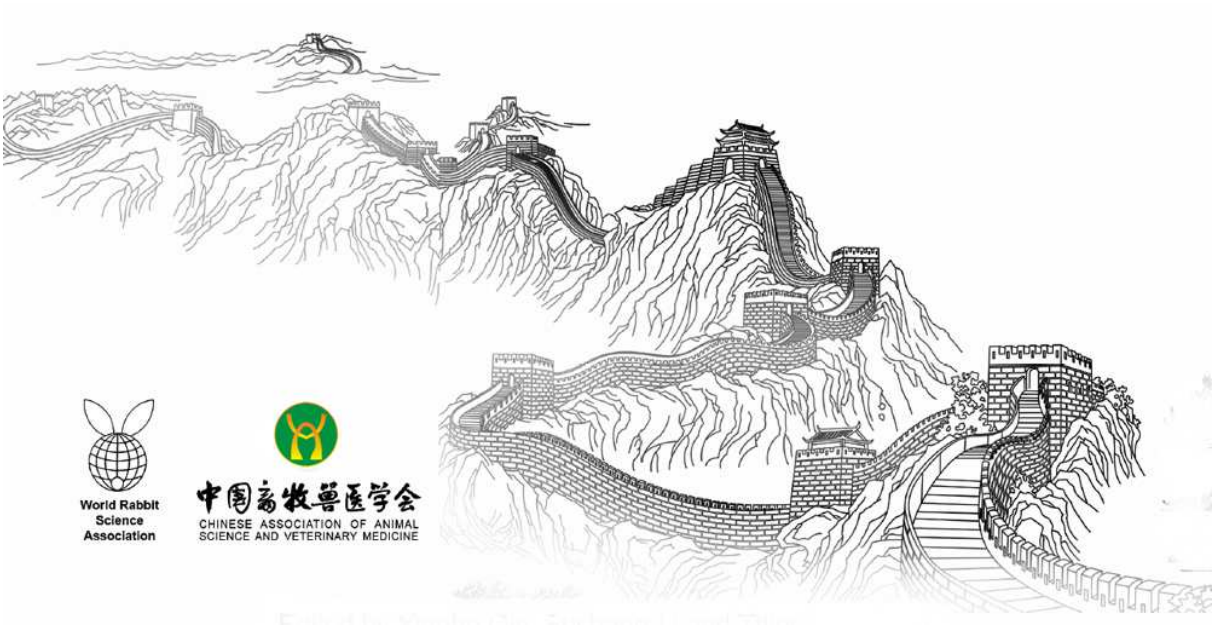

ULCERATIVE PODODERMATITIS ON A REX RABBIT FARM, SPAIN, 2005-2015.

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ABSTRACT

In this study we determined the prevalence of ulcerative pododermatitis or sore hocks (PSH) in Rex breeding rabbits, during 2005-2015. We obtained the information by carrying out 11 visits to a commercial farm housing 1150 does and 355 males, with several types of Rex. We examined 620 Chinchilla Rex females and 172 bucks from a population of 2008 Chinchilla Rex does and 1998 bucks at risk in the course of the 11-year study. Mean PSH was 3.2 % (minimum to maximum: 0 to 10 %) in does, and 2.5 % in males (minimum to maximum: 0 to 6.7 %). These occurrences were low, and similar to the results observed for PSH on farms housing meat rabbits, with footrests. Susceptibility of Rex rabbits to sore hocks should be measured in cages without footrests. Nowadays, in view of existing information concerning the efficiency of footrest in the prevention of sore hocks, and due to sanitary and welfare reasons, we cannot recommend cages without footrests, to perform a study of susceptibility.

Key words: Disease prevention, Prevalence, Rabbit, Rex, Ulcerative Pododermatitis, Sore Hocks

INTRODUCTION

Quality Assurance and Welfare are amongst the main goals in modern rabbit production (de Jong et al, 2011) and good health is a basic step towards achieving them (Broom and Fraser, 2015). Ulcerative pododermatitis, or sore hocks (PSH), occurs in domestic rabbits (*Oryctolagus cuniculus*), housed in wire mesh cages (Templeton, 1955). It is a cause of discomfort, pain or death (Henriksen, 1982). There are several risk factors of "this secondary condition to some other physical, conformational or husbandry problem; besides the pressure, shearing forces, friction and moisture, other predisposing causes, such as large breeds kept in wire cages" (Harcourt-Brown, 2002). This condition may occasionally be seen in other types of rabbits, *e.g.*, rabbits with the "rex gene" (Heekerens, 2009). Pododermatitis is common in pet rabbits. However, Rex rabbits are not usually kept as pets (Mancinelli et al., 2014), and they are mainly raised for fur and secondarily for meat.

Our previous experience concerning ulcerative pododermatitis was focused on its prevention by implementing the use of footrests on commercial rabbit-meat farms (Rosell and de la Fuente, 2009), and the favorable effect this had on prevalence, measured on 664 farms visited, during 2001-2012 (Rosell and de la Fuente, 2013). Each year during 2005-2015, we visited a farm in Spain, housing only Rex rabbits, to widen our knowledge of sore hocks in this breed.

This study was focused on determining the prevalence of ulcerative pododermatitis on a Rex rabbit farm, and obtaining related information by clinical evaluation of buck and doe samples, during eleven years.

MATERIAL AND METHODS

Animals and experimental design

We obtained our information by carrying out 11 visits to a Rex rabbit farm during 2005-2015. The farm housed 600 does in 2005, and 1150 does and 355 males in 2015. We chose the Rex-Chinchilla; there were 140 bucks and 510 Chinchilla does, besides the populations of Castorrex, Rex-White, and so on (FFC, 2000). The Chinchillas were divided into 2 areas, 300 m apart; we always chose the same one during the study, with 100-300 lactating does at risk, depending on the season (fewer does, e.g., 50 % were mated during December-March). The farm housed only breeding Rex rabbits and young breeders. Weaned rabbits were transferred to other farms. The rabbits were housed individually, in wire cages with lateral metal plates and plastic footrests; the footrests measured 25 x 38 cm for does, and 56 x 37 cm for males. The farm visit protocol is described elsewhere (Rosell and de la Fuente, 2013). Does were served 25 days postpartum and kits were weaned at 50 days old. We examined 10 % of every 8 batches of lactating does, except those mated in the previous 7 days. Examination was performed by a trained veterinarian (J.M.R.). Scoring of pododermatitis was binary. In our protocol, we did not consider hyperkeratosis to be a lesion, unlike Drescher and Schlender-Böbbis' criterion (1996); however, we did take into account the percentage of adults with calluses. Throughout the 11-year study, we examined 620 does and 172 males from a population of 2008 does and 1998 bucks at risk.

Statistical Analysis

Apparent prevalence (P in %) of sore hocks in males and does was calculated with the *WinEpi* software (de Blas, 2006), using the following data: population at risk (n_l lactating does), sample examined (n_e does), sick does found (n_s), and degree of expected confidence (95 %).

RESULTS AND DISCUSSION

Farm characteristics

The median size of the populations at risk, and sampled during 2005-2015, was 180 and 50 does (minimum to maximum: 63 to 300 and 30 to 100 does), respectively, and 140 and 35 bucks (minimum to maximum: 130 to 363 and 25 to 72 bucks), respectively. Six visits were made in spring, 2 in summer and 3 in autumn. Weights of 31 Chinchilla males and 65 Chinchilla females were described previously by de la Fuente and Rosell (2012). Adults were fed *ad libitum* with compound feed (16.5 % crude protein, as-feed), and water supplied via nipples. Only young breeders remained on the same farm at weaning.

Prevalence of sore hocks

Apparent prevalence of PSH (Figure 1) in does was between 0 (0 to 8.9 %) and 10 (2.8 to 17.2 %), with a median of 2.6 %, and a mean of 3.2 %. In bucks, P was between 0 (0 to 11.1 %), and 6.7 (0 to 14.7 %), with a median of 0 and a mean of 2.5 %.

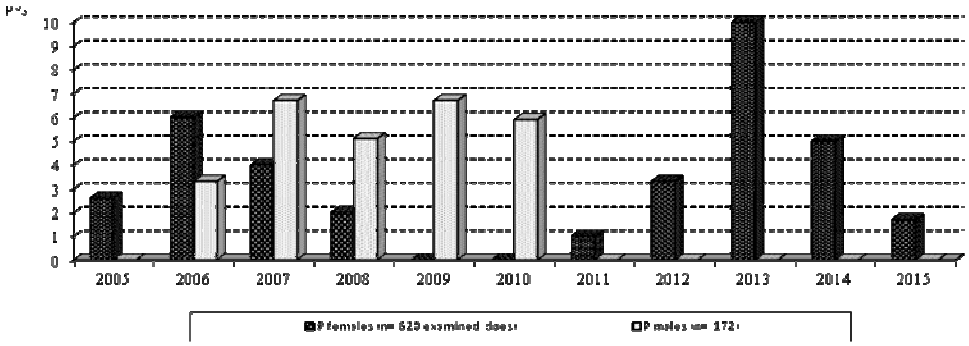

Figure 1: Prevalence of ulcerative pododermatitis on a farm housing Rex rabbits, Spain, 2005-2015.

Our aim was to determine PSH; in another study we measured the incidence of sore hocks in meat rabbits (Rosell and de la Fuente, 2009). In the opinion of Martorell (2014), scoring the lesions of ulcerative pododermatitis is useful in the clinical evaluation of one pet rabbit; in our practice with large samples in meat and fur rabbit populations, the binary result was appropriate, due to limited time. Concerning occurrence of hyperkeratosis, e.g., during the visit of November 5th, 2014, we examined 20 bucks and 60 does; there were 13 (65 %) bucks and 53 (88.3 %) does with calluses. In such cases, topical use of an aerosol with aluminium powder, might be useful.

In a previous study in 664 rabbitries housing meat rabbits, mean prevalence/P of 105,009 examined does and 10,722 males was 4.9 % on farms with footrests, with lower frequencies in males (Rosell and de la Fuente, 2013). In this study, there was only 1 Rex rabbitry, housing rabbits with a lower weight than meat rabbits (de la Fuente and Rosell, 2012). To have criteria on the susceptibility of Rex rabbits to sore hocks, they should be housed on a wire cage floor, without footrests. According to previous experiences, from the perspective of rabbit care and welfare, we do not recommend performing a test without footrest. In other cases, sore hocks occurrence in a colony of Rex rabbits with footrests might increase due to other risk factors: e.g., the intercurrence of virulent strains of *Staphylococcus aureus*, ringworm, *Pseudomonas aeruginosa* infection of skin, or a systemic disease (Snook et al., 2013).

CONCLUSIONS

During this 11-year study on a commercial farm specializing in Rex rabbits, we examined a sample of lactating Chinchilla does and bucks yearly. Observed prevalences: 3.2 % in does and 2.5 % in bucks, were slightly lower than previous results for 2001-2012 on farms housing meat rabbits. In our opinion the key aspect was that all the cages housing adults and young breeders had footrests. Lower weight in this colony of Rex in comparison with meat rabbits might also be considered a favorable aspect.

REFERENCES

Broom, D.M.; Fraser, A.F. 2015. *Domestic Animal Behaviour and Welfare*, 5th *ed.; CABI, Wallingford, UK, pp. 237-245.*

de Blas, I. 2006. WinEpi software, working in Epidemiology. http://www.winepi.net/sp/index.htm, accessed, Sept. 30, 2015.

Drescher, B., Schlender-Böbbis, I. 1996. [*Pathological study of pododermatitis among heavy breeding rabbits on wire floors*]. *World Rabbit Sci., 4, 143-148.*

FFC (Fédération Française de Cuniculiculture). 2000. Les lapins de race.. Standars officiels. *Paris, France. 288 pp.*

de la Fuente, L.F., Rosell, J.M. 2012. Body weight and body condition of breeding rabbits in commercial units. *J. Anim. Sci., 90, 3252-3258.*

Harcourt-Brown, F. 2002. *Textbook of Rabbit Medicine. 1st Ed. Butterwotrh-Heinemann. Oxford, UK, 233-240.*

Heekerens, N. 2009. [*Pododermatitis at rabbits and guinea pigs*]. *Ph Thesis, Veterinary Medicine, Hannover, Germany,137 pp.*

Henriksen, P., 1982. [*Survey of post-mortem Findings in rabbits]. Nord. Vet.-Med. 198, 388-393.*

de Jong, I.C., Reuvekamp, B.F.J., Rommers, J.M. 2011. A welfare assessment protocol for commercially housed rabbits. First step in the development of the protocol. *Report 532. Wageningen UR Livestock Research, Lelystad The Netherlands. 23 pp.*

Mancinelli, E.,Keeble, E., Richardson, J., Hedley, J. 2014. Husbandry risk factors associated with hock pododermatitis in UK pet rabbits (*Oryctolagus cuniculus*). *Vet Rec. 174, 429-435.*

Martorell, J. 2014. Scoring pododermatitis in pet rabbits. *Vet. Rec. 174, 427-428.*

Rosell, J.M., de la Fuente, L.F. 2009. Effect of footrests on the incidence of ulcerative pododermatitis in domestic rabbit does. *Anim. Welf. 18, 199-204.*

Rosell, J.M., de la Fuente, L.F. 2013. Assessing ulcerative pododermatitis of breeding rabbits. *Animals, 3, 318-326.*

Snook, T.S., White, S.D., Hawkins, M.G., Tell, L.A., Wilson, L.S., Outerbridge, C.A., Ihrke, P.J. 2013. Skin disease in pet rabbits: a retrospective study of 334 cases seen at the University of California at Davis, USA (1984-2004). *Vet Dermatol 24, 613-e-148 (618).*

Templeton, G.S. 1955. *Domestic Rabbit Production, 1st ed.; The Interstate Printers and Publishers: Danville, IL, USA, 164-167.*

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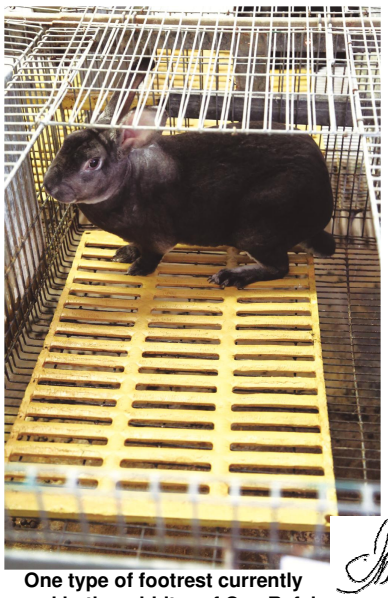

One type of footrest currently used in the rabbitry of Can Rafel

Another kind of footrest

Application of aerosol helps when prevention breaks

Normal hairy paw

Hyperkeratosis (callus)

Ulcerative pododermatis (sore hocks)

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