

FOOT-PAD DERMATITIS AND MORTALITY DURING TRANSPORT IN BROILERS



INTRODUCTION

Animal welfare has become an increasingly discussed topic in all the fields of modern society, meat production included. This one implies a high number of animals: tens of billions of broilers are slaughtered annually worldwide. Therefore, objective parameters have been fixed to correctly assess welfare of these animals.

Two of these welfare index are the **foot-pad dermatitis (FPD) score** and the **mortality rate during transport** to the processing plants. FPD is a contact dermatitis often referred to as ammonia burns. It is believed to be caused by a combination of moist litter and a high ammonia content of the litter. The postmortem scoring system has three levels, given in Figure 1.

$$\text{FPD score} = (\text{No. Level 1}) * 0,5 + (\text{No. Level 2}) * 2$$

$$\text{Transport mortality rate} = (\text{No. Dead on arrival birds}) / (\text{No. Initial birds})$$

Figure 1. Examples about different FPD levels. Ian Dowlsan, Aviagen – Ross Tech Note 2008.



AIMS:

- I. Describe the incidence of FPD and the mortality during transport to processing plants of broilers in Catalonia.
- II. Identify associated factors.
- III. Quantify their effect by using multilevel analysis.

MATERIAL & METHODS

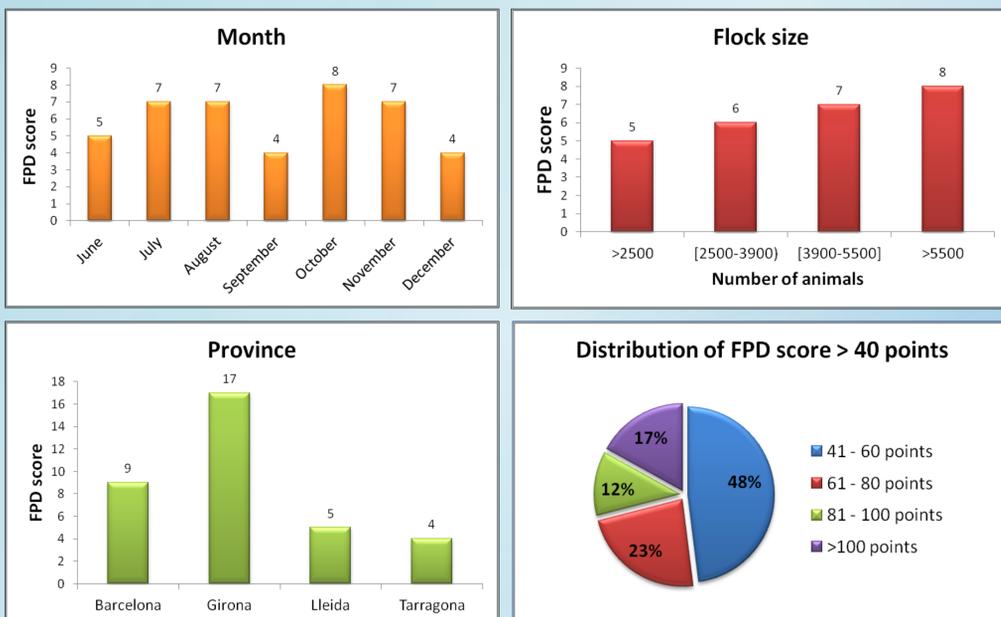
The study population comprised **9.597 broiler flocks**; that means 40.148.243 animals. These flocks had been slaughtered from June 2016 to December 2016 at 20 catalan processing plants and came from 808 different farms*. For each flock the following data were recorded:

- ✓ Processing plant
- ✓ Date
- ✓ Farm
- ✓ Flock size
- ✓ 'Dead on arrival' (DOA) birds
- ✓ Rate mortality during transport
- ✓ Number of FPD of Level 0/1/2
- ✓ FPD score

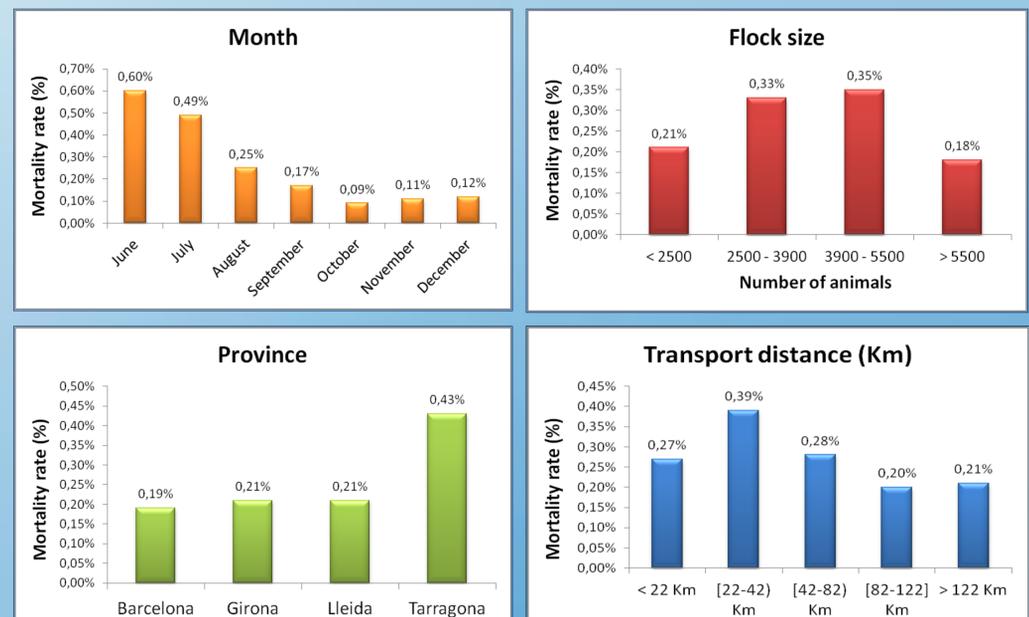
*The 49% of the flocks were from the province of Lleida.

RESULTS

FOOT-PAD DERMATITIS IN RELATION TO...



MORTALITY RATE IN RELATION TO...



Multivariate analysis

FOOT-PAD DERMATITIS	β	Wald	Sig.	Odds Ratio	C.I. 95 %
Farm	-0,002	62,822	0,000	0,998	(0,997-0,998)
Girona	1,192	78,317	0,000	3,295	(2,530-4,291)
Biggest flocks (> 2.500 animals)	0,573	28,742	0,000	1,774	(1,438-2,187)

MORTALITY RATE	β	Wald	Sig.	Odds Ratio	C.I. 95%
Summer (June/July/August)	2,233	87,037	0,000	9,234	(5,833-14,904)
Tarragona	1,030	12,367	0,000	2,800	(1,577-4,970)
Medium flocks (2.500-5.500 animals)	0,483	7,714	0,005	1,621	(1,153-2,279)

CONCLUSIONS

- I. FPD score mean was **6,24** points.
- II. **4,2%** of the flocks overcame 40 points
- III. Factors influencing FPD score were:
 - **Farm**
 - **Flock size** → over 2.500 animals had 80% more risk to get over 40 points
 - **Province** → flocks from Girona had 3,3 more risk to get over 40 points
- IV. Mortality rate mean during transport was **0,27%**
- V. **1,8%** of the flocks overcame 2% of mortality
- VI. Factors influencing mortality rate were:
 - **Month** → during June/July/August had 9,3 more risk to get over 2% of mortality
 - **Flock size** → between 2.500 and 5.500 animals had 60% more risk to get over 2%.
 - **Province** → flocks from Tarragona had 2,8 more risk to get over 2% of mortality.