

## AN EXPLORATORY SURVEY OF LUNG LESIONS IN CULLED SOWS

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### SUMMARY

The aim of this small-scale survey was to assess lung lesions in a sample of culled sows in order to prepare further investigations on respiratory diseases in farrow-to-finish pig operations. Lungs of 60 sows belonging to 36 pig herds were collected at slaughterhouse in Brittany. Pneumonia and pleuritis were scored. Healing pneumonic lesions were also recorded. The results indicate that lung lesions are of rather mild severity and that they are found at a low frequency in culled sows. These preliminary findings are in contrast with the high prevalence of pneumonia commonly detected at the slaughterhouse in fattening pigs.

**Keywords:** lung lesions, culled sows

### INTRODUCTION

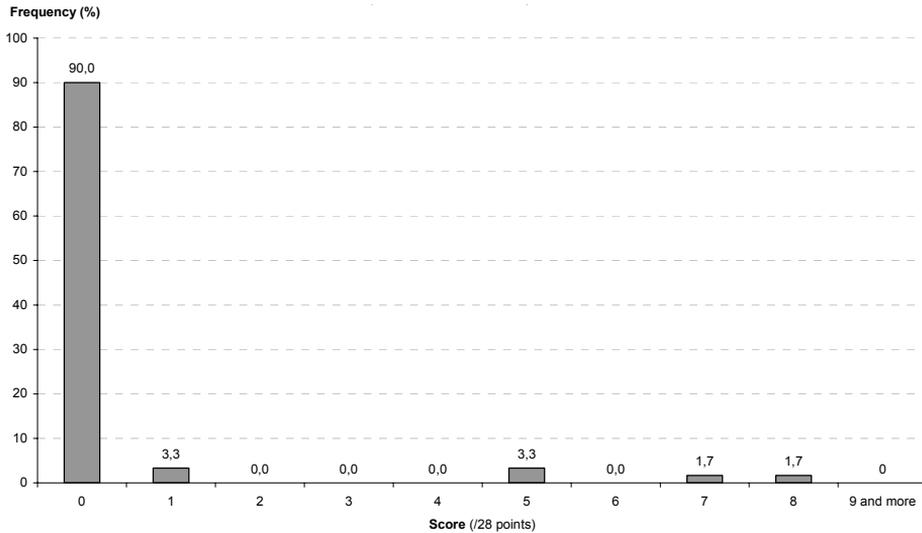
Respiratory disorders are considered as the most serious problem affecting finishing pigs worldwide. Lung lesions like pneumonia and pleuritis are observed since decades in a high proportion of fattening pigs arriving to the slaughterhouse (Cleveland-Nielsen et al., 2002; Leneveu et al., 2004). Even if the clinical signs of the disease are not evident until the mid-to-late finishing phases, it has been suggested that the disease process started very early in life (Dee, 1996). Since pathogens associated with respiratory troubles have been isolated in the upper respiratory tract of pigs as soon as weaning, contamination by the sows may be suggested (Fablet et al., 2007). Furthermore, *Mycoplasma hyopneumoniae*, a primary respiratory infectious agent was isolated from the nasal cavities of sows (Calsamiglia and Pijoan, 2000). Even if the shedding status of sows has been investigated for some respiratory pathogens, to the best of our knowledge, few data related to the health of the respiratory tract of sows are available. The purpose of the study was to assess the type and the extend of lung lesions in a small sample of culled sows in order to prepare further investigations on respiratory disorders in farrow-to-finish pig operations.

### MATERIALS AND METHODS

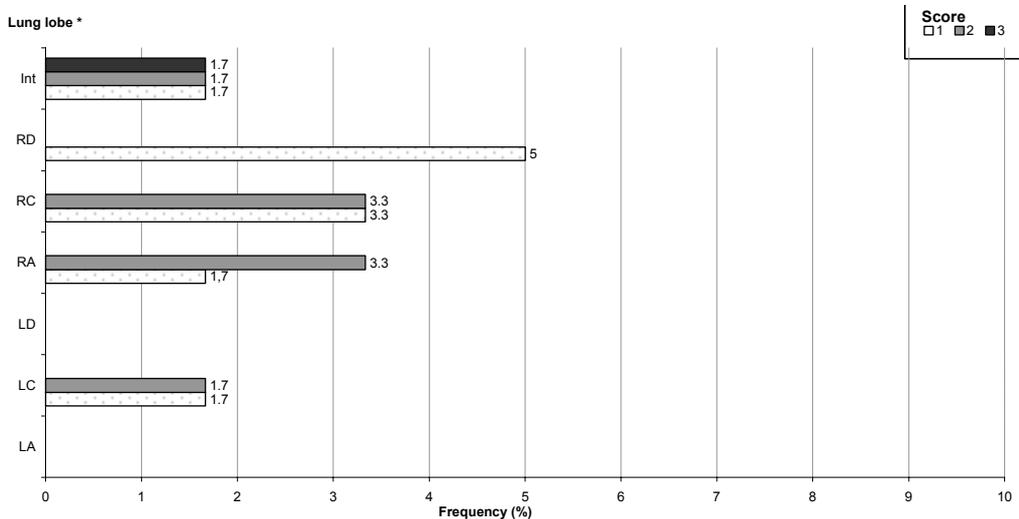
The study was carried out in a slaughterhouse in Brittany, France. The lungs of 60 sows belonging to 36 pig herds were randomly collected. Each lung was submitted to macroscopic examination for pneumonia and pleuritis. Pneumonia was scored (scale: from 0 to 28; from zero to four for each of the seven lobes according to the consolidated surface). Healing of pneumonia was also recorded. Pleuritis was evaluated (scale: from 0 to 4 according to the proportion of affected tissue). The scales used were those previously established by Madec and Derrien (1981).

**RESULTS**

Distribution of pneumonia scores and affected lobes are presented Figures 1 and 2. Pneumonia was observed in 10% of the sows (6/60). The mean pneumonia score was rather low: 0.45/28 (SD=1.6) with scores ranging from 0 to 8. The right cardiac and apical lobes were the most frequently affected ones. In 11 sows, pleuritis was detected (18.3%). Healing pneumonic lesions were noticed on the lungs of 3 sows.



**Figure 1.** Distribution of pneumonia scores (60 culled sows, 2004).



\*: LA : Left Apical Lobe, LC : Left cardiac Lobe, LD : Left Diaphragmatic lobe, RA : Right Diaphragmatic Lobe, RC : Right Cardiac Lobe, RD : Right Diaphragmatic Lobe, Int : Intermediate Lobe.

**Figure 2.** Distribution of pneumonia scores according to the lung lobe (60 culled sows, 2004).

## DISCUSSION-CONCLUSION

The results of the present study indicate that lung lesions are of rather mild severity and that they are found at a low frequency in culled sows. They give a first indication for eventual further investigations of the same type carried out on a larger scale. These preliminary findings are in contrast with the high prevalence of pneumonia commonly detected at the slaughterhouse in fattening pigs. Indeed, Leneveu et al., (2004) who examined at slaughterhouse 77 087 lungs of fattening pigs belonging to 778 Brittany herds found that 74.5% of pigs were affected by pneumonia. Whether, the sows continue to shed the pneumotropic pathogens to the newborn remains to be further investigated. The finding of extended lesions in some sows does not exclude an activity of pneumotropic pathogens in the sow herd of certain farms.

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