

Title: A Comprehensive Literature Review on the Development, Treatment and Prevention of Shoulder Lesions in Sows – NPB #13-173 revised

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Scientific Abstract

Shoulder ulcers (shoulder lesions) in sows are a common occurrence in commercial swine production, with lesions appearing most commonly in the first weeks of lactation, following farrowing. The prevalence of shoulder ulcers varies greatly due to a range of contributing factors such as management, housing, genetics, health status, history of previous sores, and body condition. Estimations of the occurrence of shoulder lesions within herds range between 4% and 48% of sows. This represents a significant welfare concern in sows and a significant economic cost to producers for reasons including drug use, premature culling, and carcass trim at slaughter. Aside from a small number of studies focusing largely on the prevalence in commercial swine herds, little research has been done on shoulder lesions in North America. To date, the majority of research on shoulder lesions and their prevention in commercial swine production has been carried out in Denmark. Shoulder ulcers result from persistent and prolonged compression of the blood vessels in the skin around the tuber of the scapular spine, causing insufficient blood circulation, tissue necrosis, and subsequent ulceration. The prevention of pressure ulcers is of great importance in controlling losses. Although several contributing factors have been identified, maintaining an optimum body condition score is critical for the prevention of shoulder sores. Sows must have sufficient backfat going into farrowing, and must be able to maintain sufficient fat covering throughout lactation. Early signs of redness or irritation should be monitored regularly, as early detection and treatment are critical for preventing the progressive development of shoulder sores. When shoulder lesions occur producers are advised to house the affected sow in a pen with a soft lying surface. Recent research has shown that placing rubber mats in farrowing crates in combination with zinc ointment resulted in improved healing in affected sows. Sores should be cleaned and treated with a topical antibiotic, and in more severe instances, sows should be euthanized. Susceptible sows should also be identified and monitored closely in future parities, as sows that develop shoulder ulcers in one lactation are more likely to develop sores in subsequent parities. This information is of particular importance when selecting gilt replacements, as susceptibility to shoulder lesions is known to be heritable. The presence of lesions should therefore be recorded in farrowing in order to monitor prevalence and improve management of the herd. There are many gaps in scientific knowledge related to shoulder lesions. Further study is needed to better understand their development, the healing process, pain associated with different stages of lesion, and effective treatment and prevention methods.

These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

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