

Thesis Abstract & Published Papers

Name:	Selene Huntley		
Project Title:	PhD: Longitudinal studies of intramammary infection in suckler ewes		
Project No:	7393	Date:	Sep 2008 – Oct 2011
<p>Abstract:</p> <p>Four longitudinal studies were conducted. The first study investigated the longitudinal pattern of udder half somatic cell count (HSCC) and intramammary infection (IMI) in 48 UK suckler ewes over the first 10 weeks of lactation. This was the first study to demonstrate that HSCC of suckler ewes followed a quadratic and cubic relationship with days in lactation over the first 10 weeks of lactation. Udder half somatic cell count was also explained by presence of bacteria. Ewes older than 6 years of age had significantly higher HSCC than younger ewes.</p> <p>The second study investigated the relationships between udder conformation, SCC and lamb weight. Whilst accounting for lamb age and birth weight, significantly lower lamb weight was associated with a ewe SCC of >400,000 cells/ml (-1.7 kg), a traumatic teat lesion (bite, tear or chapping) 2 weeks previously (-1.1 kg), and a ewe body condition score (BCS) of <2.5 before lambing (-1.3kg). Higher HSCCs were observed in ewes with a lower suspended udder, and older ewes in poorer body condition. The findings from this study make an important contribution to the knowledge of the impact of udder health of suckler ewes by demonstrating that udder conformation is associated with IMI and that IMI and teat damage are negatively associated with lamb weight.</p> <p>The third study investigated the effect of dry cow therapy (DCT) on subclinical mastitis in a lowland flock with a low incidence of clinical mastitis by recording HSCC and lamb weights in the following lactation. To the author's knowledge, there are no published reports of the effect of broad spectrum DCT on subclinical mastitis in suckler ewes in the literature. No significant effect was found between the use of DCT and HSCC or lamb weight in the subsequent lactation.</p> <p>The fourth study was a randomised controlled trial to assess the effect of DCT on clinical mastitis in a suckler flock with a high level of clinical mastitis. Dry cow treatment significantly reduced the incidence of clinical mastitis over one year, with a 70% reduction of clinical mastitis in ewes that received treatment from 6.2% to 1.8%. This was the first field trial to investigate and demonstrate the clinical benefit of the use of a broad spectrum DCT in suckler ewes.</p> <p>These studies have enhanced our knowledge of longitudinal patterns of infection and demonstrated the importance of udder health for optimising production of suckler ewes. Factors to control for when using SCC as a tool to measure intramammary infection were described.</p>			

Published Papers:

1. **S J Huntley et al. A cohort study of the associations between udder conformation, milk somatic cell count, and lamb weight in suckler ewes.** Journal of Dairy Science, Volume 95, Issue 9 September 2012, p5001-5010.

<http://www.sciencedirect.com/science/article/pii/S0022030212005140>