



Image: Farmers with livestock during an event on the Glenlivet estate



Award Scheme

2018 Winners

Assessing mineral deficiency of cross breed cows & minerals in the natural feed to improve fertility in Northern Province, Sri Lanka

JOANNA GILLINGHAM (VETERINARY STUDENT, UNIVERSITY OF LIVERPOOL)

LEANNE BROOKMAN (VETERINARY STUDENT, UNIVERSITY OF BRISTOL)

“We witnessed a hard-working and dedicated culture with a keenness to gain knowledge. They were very open to our input and receptive to changes we suggested. We found the excitement around the project, and willingness to learn, infectious and rewarding.”



During the 2009 civil war, Sri Lanka lost approximately 50-60% of its dairy cattle. With climate change having rendered paddy field rice farming insufficient to meet the food demands of the country, it is now government policy that a move is made toward dairy farming. However, one factor limiting the progression of their dairy industry is poor fertility.

There is some anecdotal evidence to suggest that mineral deficiencies are present, but it is possible that the results of mineral supplementation have coincided with cows returning to energy balance post-calving. The aim of this project was to determine which of these two factors are most influential to cow fertility. The work was carried out with YGro, a non-governmental organisation that provides support by loaning dairy cows and training via YGro’s extension workers.

The phytotherapeutic properties of Coconut Oil and Peppermint Oil in the prevention and cure of sub-clinical mastitis in *Bos Taurus* dairy cows

THOMAS W FURNESS (DAIRY HERDSMAN & BSC AGRICULTURAL LIVESTOCK SCIENCE, LANCASHIRE)

“On a global scale, increasing the knowledge base of herbal remedies could not only allow developed countries to reduce antibiotic use, but could allow them to utilize their natural resources as a cheap way of increasing livestock welfare and health without the potential for antibiotic resistance.”

Sub-clinical and clinical mastitis is a major cause of loss of production and profitability in *Bos Taurus* dairy cows. Its impact on antibiotic consumption has contributed to antimicrobial resistance, which is said to be the greatest risk to human health, and has sparked a surge in antibiotic alternative research such as Phyto-therapy (finding treatments of plant origin).

The antimicrobial properties of peppermint and coconut oils have been proven in vitro and in vivo, but no research has evaluated their use as cutaneous udder creams or their mode of action within the udder, despite extensive use of peppermint liniment cream in the dairy industry. The aim of this project is to assess the efficacy of coconut oil and peppermint oil as aids in the cure of sub-clinical mastitis using Milk Leukocyte Differential analysis to prove or disprove theories surrounding the mode of action of the oils when used as cutaneous ointments

