BSAS Conference, Chester

This year's British Society of Animal Science (BSAS) conference returned to the University of Chester on 26 and 27 April. The two-day event focused on the future for global animal science and production, looking at developments in scientific technologies as well precision agriculture techniques. Audiences were presented with data from more than 100 PhD studies looking at a wide variety of topics, including antimicrobial resistance, genetics and nutrition. The emphasis on forage crops as a key contributor to improving whole-farm efficiencies was notable throughout the two days.

Findings from numerous projects which are looking at the feasibility of manipulating the rumen microbiome were presented on both days. Although a lot of investigation is still needed for a true understanding of rumen microbiology, it is thought feed conversion efficiencies could be improved and methane production reduced through improved management of the rumen microflora. All the projects noted the importance of balancing rations to maximise rumen efficiency. Findings from a number of AHDB Dairy-sponsored PhDs were presented, one of which is looking at the effect of particle size in a total mixed ration (TMR).

Grass silage is the most widely used forage for winter feeding in the UK and chop length is now thought to be one of the most critical components in a TMR. Longer grass silage particles reduce milk yield, but milk solid content is increased, whereas shorter particles lead to a reduced rumen pH. Sub-acute rumen acidosis (SARA) is costing UK beef producers £111 million per year (University of Aberdeen, 2016). By improving our understanding of microflora interaction with various feedstuffs, including grass silage, it is hoped that this figure will be reduced.

Cattle and sheep only utilise about 20% of the available protein from grass, with the rest being excreted in faeces and urine. Most of this is recycled by the sward, but the some will be leached away as nitrates or volatilised into the atmosphere as nitrous oxide – one of the main greenhouse gases.

High-sugar grasses are ryegrass varieties selectively bred to express substantially higher water soluble carbohydrate (WSC) concentration than standard ryegrass varieties. The higher WSC content provides more energy to rumen microbes, which can increase the utilisation of nitrogen (N) (from protein digestion). Findings from another study showed a 26% reduction in urine N excreted from dairy cows in late lactation fed a high-sugar grass versus cows fed a control grass. These grasses could also play a role in mitigating GHG output often associated with beef production.