PRIFYSGOL ABERYSTWYTH UNIVERSITY

Animal Science

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NEWSLETTER

Autumn 2010

IBERS Institute of Biological, Environmental and Rural Sciences

New Building Construction

Construction work will soon get underway on the new teaching building for IBERS. This will be built on the Penglais Campus, alongside the other student facilities of Aberystwyth University. The building is due to open in July 2011. A range of lecture rooms, teaching laboratories and offices, along with a communal area for socialising are planned. This construction project is part of a larger development programme for IBERS that will see two new buildings in total, and is likely to cost in excess of £17 million pounds.

Architects impression of the new building on the Penglais Campus

List of Courses

BSc
Animal Science
Animal Behaviour
Agriculture with Animal Science
Equine Science
Marine and Freshwater Biology
Zoology
Zoology and Microbiology

Interested?
Phone **Fay Hollick** on **01970 621622**
Email: **ffh@aber.ac.uk**

CyberSheep champion!

As part of a second year module in animal breeding, Animal Science students in Aberystwyth have been pitting their wits against other students from Virginia Tech and Michigan State Universities in the United States, in an internet-based sheep breeding simulation game called CyberSheep. The goal of the game was for students to be able to make informed and effective decisions in a livestock breeding program, selecting which virtual animals to breed from and which to sell, and over the generations see the consequences of those decisions. Of course, the game was also used to teach the principles of animal breeding. Players had to avoid inbreeding in their flocks and reduce the frequency of the spider gene which causes serious bone deformities in lambs. The overall champion, having made the most money from her sheep, was Aberystwyth student Catherine Best, whose flock was also third in the race to maximise genetic improvement for growth rate. Well done her!

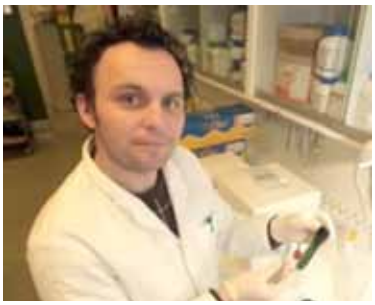
Major investment in University farms

The University's two dairy farms located on the Trawsgoed unit will shortly benefit from substantial investment and expansion. In order to capitalise fully on the recently installed updated herringbone milking parlour, an additional 30 cubicles will be built at the University's Ty Gwyn organic dairy unit to take herd numbers up to 160 cows.

In a much more dramatic, large scale development, the conventional dairy unit at Lodge Farm will have an additional 160 cubicles and a 50 bail rotary parlour installed to take the herd size up to 550 cows. These will be accompanied by new silage pits and a state of the art 'storm wash' system to transfer slurry to a newly installed separation unit with the separated water being recycled to repeat the flushing process at timed intervals. This will be accompanied by the construction of a new borehole with an estimated pay-back span of 9 months as the herds are expected to consume 40,000 litres of water weekly.

Faecal contamination of meat

An Aberystwyth graduate of Animal Science, now working in IBERS as a research scientist, is set to play a vital role in ensuring the safety of meat.



Dr Michael Lee, graduate of Animal Science, Aberystwyth University

Mass production of food can lead to an increased risk of contamination, which in turn can cause serious illness. These are seen regularly in the media, for example, as outbreaks of E-coli poisoning. One potential source of contamination in abattoirs is when micro-organisms in faecal waste material come into contact with the meat as it is being processed. The contamination can be in such small amounts that it is almost indiscernible. Dr Michael Lee of IBERS has won a research grant worth £460000 from the Welsh Assembly Government and industrial partners to investigate how this may be spotted.

"This three year research project will develop natural chlorophyll-based markers which can be added to animal feed. Carcasses will then be screened in the abattoir using fluorescent imaging which will show up the markers, thus identifying contamination of the meat by animal waste." said Dr. Lee. One of the key questions that will be considered is how these markers will be delivered i.e. whether to feed the markers to animals in concentrate feed, in water or mineral supplements. Thereafter, the whole system for imaging and visualising the markers on carcasses will be developed. Dr Lee of IBERS is enthusiastic about the outcome: "It's great that Aberystwyth University and its partners are working positively on a product that has the potential to make a real difference. The possible benefits arising from the project are huge, for meat producers, abattoirs, supermarkets and ultimately of course, the consumer. I'm really pleased that we can play a part in increasing the confidence that shoppers have in the meat they buy."

Student of the Year

Congratulations to Katie Roberts, graduating in the summer of 2010 and student of the year for the Animal Science degree scheme

Horse Simulator

The horse simulator for use in student training at the Lluest Equine Centre

A horse simulator is being used by Animal Science students with an interest in horses to improve their technique, correct riding faults and monitor their weight distribution. It is designed so that the rider can ride a dressage test including movements such as lateral work and flying changes and the rider can then view their performance on the computer screen. The simulator is used for many activities, including a recent dressage clinic taken by Mrs Jane Goldsmith, FBHS, and Jo Pringle, Human and Equine physiotherapist, to help riders focus on their position. The simulator is brought in for use from Pant Stables, Aberystwyth.

Dissertations in Animal Science

The Undergraduate Dissertation is not only the biggest single piece of work that makes up the Animal Science degree, but an opportunity for students to get involved in some hands on research in an area that motivates them. Students often come up with some brilliant ideas, but three examples from many in the last year include:

Irish Water Spaniel

An investigation of the heritability of the painful condition hip dysplasia in Irish Water Spaniels: Hip dysplasia is an abnormal formation of the hip socket that, in its more severe form, can eventually cause crippling lameness and arthritis of the joints. It is a trait that is controlled by many genes, which is also affected by the environment the dog grows up in and Irish Water Spaniels can be prone to this condition. The pedigrees of 8225 dogs were obtained from the Breed Society. Within these, there were 676 sets of data on hip score for both parents as well as the pup, thus allowing for the first time a calculation of the heritability of the condition.

Irish Water Spaniel

Another study was on the effect of **iodine in the diet of pregnant cows** on the immune status of the calf when born: previous experiments in IBERS have shown that too much iodine in the diet of pregnant sheep can impair the immune status of the lambs when they are born. This undergraduate dissertation has shown for the first time that this is also the case for cattle as well.

A third study asked if there is a correlation between the **health and lifestyle of pet dogs and their owners**. This imaginative dissertation took the form of an online survey, to which 348 people (and their dogs) responded. Perhaps not surprisingly, a higher level of exercise by the owner, a greater consumption of fruit and a lower owner body mass index was associated with lower expenditure on veterinary visits and a more appropriate weight for the dog.