

25th International Alltech Symposium focuses on sustainability

Alltech recently held its 25th International Animal Health and Nutrition Symposium in Lexington, Kentucky, USA and International Pig Topics was in attendance. Among the presentations given, we felt that the ones covered in this article are of particular interest to our readers.

Goals and values

In the general session, Declan Coyle from Ireland looked at building high performance teams. In this he stressed the importance in difficult times of having inspired leaders who had vision – people who ‘saw it and were it’.

These people must have high visions and be focused on them. He highlighted the importance of self-image, goals and values and, interestingly, highlighted how children aged four years old are 96% positive in their self-images, yet by the time they have reached 14 years old they have become 98% negative!

By 12 years of age the average child has received 100,000 NBRs (negative belittling remarks).

Another interesting study has shown that the 3% of Yale students who had clearly focused written career goals went on to be worth more than the remaining 97% of their college contemporaries.

Declan highlighted the importance for managers to ‘get things going’ and when staff have achieved things

Table 1. Targets for the modern breeding herd.

Parameter	Target
Culling rate (%)	35
Sow mortality (%)	<5
Longevity (No. of parities)	5-6
Lifetime performance (piglets)	50-60
Wean-oestrus interval (days)	5-7
Empty days	<20
Litter size (piglets born alive)	12
Pre-weaning piglet mortality	8-10

to celebrate their successes with them. The first three minutes with staff determines the outcome of the next five hours! Senior managers must prioritise and studies have shown that the two key traits in successful senior managers are the ability to prioritise and to positively instil urgency into their teams.

In times of difficulty the greatest danger is that we set goals too low and achieve them! The important thing is to understand the 80:20 rule and to focus on the 20% that brings 80% of the returns!

The importance of making staff feel important, feel valued, feel appreciated and being told that what they do makes a real difference was stressed on several occasions.

It was intriguing that how management thought staff felt and how staff actually felt on key issues varied so much. When it came to exit interviews 46% of departing staff felt that they were not appreciated, 61% felt they were unimportant and 88% felt that they had been undervalued.

Sustainable pig production

In a very interesting and thought provoking paper, J. E. Pettigrew of the University of Illinois focused on the research needs for sustainable pig production. He defined sustainability as ‘the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs’ and that sustainability encompassed production, the environment, society and economics.

He also highlighted the challenging figure that food production will need to double over the next 40 years!

He added that it is easy to avoid environmental damage if you do nothing but unfortunately that is not an available option. This being the case, environmental sustainability will have to focus on the preservation of soil and water and the minimisation of greenhouse gases.

When we look at greenhouse gases in carbon dioxide equivalents, almost two thirds of the greenhouse gases associated with pig production come from feed production and its

digestion! So there must be opportunities here for reductions.

If we are going to sustain the environment we must improve efficiencies so the output per hectare of land is increased and we need to manage the manure.

To be in business we need the goodwill of society and to sustain our relationship with society we need to assure them about the conditions we raise our pigs under (animal welfare) and assure them that our products are safe to eat.

Economic sustainability centres around having a profitable industry that will attract quality people to it and to produce products that are affordable.

Sustainability is going to require research in several areas. In the area of pig health this needs to be management systems, vaccines, diet, genetic resistance and the cost of immune activation. On the nutrition side research need to focus on improving the measurement of dietary energy so that feedstuffs can be used more effectively and on potential feed resources in terms of new crops or crop varieties, energy co-products and utilising the waste streams from the food sector.

In another interesting presentation Tung M. Che, also from the University of Illinois, looked at whether immunomodulation with Bio-Mos could reduce the impact of PRRS virus infection.

In his study he used four groups of 21 day old pigs. These were a control, a group which only received Bio-Mos and two groups of pigs that were challenged with PRRS – one of which received Bio-Mos and one of which did not.

It was shown, as would be expected, that PRRS virus infection reduced feed intake, reduced weight gain and adversely affected FCR. However, feeding Bio-Mos tended to improve feed efficiency.

Bio-Mos also improved the number of white blood cells, the number of lymphocytes and the number of neutrophils. There were also positive effects on serum cytokines and acute phase proteins and Bio-Mos reduced the rectal temperature in PRRS virus infected pigs.

So Tung M. Che was able to conclude that immunomodulation by Bio-Mos may help to prevent the immunosuppression of immune cells associated with PRRS virus infection, it ameliorates the fever caused by PRRS virus infection and it improves feed utilisation.

Bill Close from the UK then discussed the impact of organic minerals. First, he looked at the breeder and he started by defining the targets for the modern breeding herd (see Table 1). In addition to these he stressed the importance of how depressed appetite in lactation impacts on sow body condition.

The role of minerals is important (Table 2) and various recent studies have yielded similar results for the sow’s requirements and shown how her needs in the first parity are significantly greater than in the third parity. G. Gourley from SGE in Iowa, USA, who have 28,000 sows and market half a million or so pigs a year then considered how NuPro fitted into his operation. By feeding NuPro to early wean piglets growth rate to 25kg was improved and this was reflected in better economic performance through to kill.

In addition, NuPro was found to be a viable alternative to blood plasma in young piglet diets. ■

Table 2. The roles of minerals in breeder sow nutrition.

IRON	Enzymes, haemoglobin, placenta, uteroferrin, immunoglobulin
SELENIUM	Prolonged farrowing, milk let down, MMAS, weak piglets,
CHROMIUM	Insulin, LH/FSH, progesterone, litter size, stress
COPPER	Enzymes, fertility, iron metabolism
ZINC	Enzymes, LH/FSH, uterine involution, milk synthesis, testicular sperm development
MANGANESE	Enzymes, corpora lutea, anoestrus, abortion, stillbirths