

Management

Knowledge makes the diff

Nowadays the feed industry is considered to work with standards applicable to the food sector. Therefore continuous education is a necessity. Feed Tech explored the world of education and found many interesting courses of which the most important ones can be found in this article.

By Dick Ziggers

Feed compounding and manufacturing is more than just mixing ingredients. It can be so complicated that it is even possible to study for a master or PhD degree in feed manufacturing. As well, many courses are given to keep employees and management of a feedmill up to date with the latest developments. Sometimes a course doesn't match the desired knowledge and therefore many organisations offer tailor made courses that fits a group's requirements. In the following report you will find a line-up of what is available in international education on feed manufacturing.



Kansas State University

At the Grain Science & Industry Department of Kansas State University in the USA short courses as well as MSc and PhD education is offered. The Feed Manufacturing Short Course explores, in detail, the major elements of modern feed manufacturing and examines advances in feed technology. Course topics include grain storage; particle size reduction and grain processing; mixing; extrusion; feed formulation; pelleting; handling ingredients and finished feeds; energy use; steam generation and quality; moulds and mycotoxins; cost control; and feed plant design. The course also includes tours of industry facilities. Possible tour sites include feed mills, equipment manufacturers, livestock and poultry facilities, ingredient suppliers and marketing facilities.

The course material is focussed on feed mill owners, managers, supervisors, merchandisers, and maintenance personnel and managers of livestock, poultry and agriculture facilities.

The registration fee is US\$1100 and does not include transportation, hotel or incidental costs, food and field trip costs.



To obtain up to date knowledge on feedmilling many courses can be followed, often customised to the participants own needs.

(Photo: FôrTek, Norway)

It is held from September 23-October 4, 2002 and the number of attendees is limited to 10-35 participants.

In 2003 KSU has five short courses scheduled: Grain Purchasing (March/April), Flour Milling (June), Introductory Price Analysis Seminar (July), Price Analysis and Risk Management (July) and Feed Manufacturing (Sept./Oct.).

In addition to regularly scheduled short courses, International Grains Programme (IGP) can also develop special training programmes for co-operator organisations (US Wheat Associates and the American Soybean Association), as well as for other appropriate groups. Such special short courses can cover a variety of topics.

IGP personnel presents overseas technical assistance seminars and training programmes on topics such as grain quality, flour milling, milling technology, feed manufacturing, grain and soybean marketing, grain storage and feed manufacturing.

Graduate programme in grain science

At Kansas State University an MSc or PhD degree in Grain Science can be obtained. Grain Science faculty and students work closely with faculty from many other departments and adjunct faculty members from the American Institute of Baking and USDA Grain Marketing and Production Centre. Students tailor their programmes of study to their individual interests and that of their major professors. The cur-

erence



riculum is deliberately broad to allow students to build a framework of fundamental information so that they can rapidly assimilate new findings and concepts. However, it includes enough in-depth courses to permit students to fully develop their particular interests. As this study requires a full time involvement interested people should contact the university for in-depth information.

Texas A&M courses

Texas A&M University Food Protein R&D Center offers two feed courses every year. The first is in January, immediately after the Atlanta Poultry show, so participants from foreign countries can attend both programmes. This course is focused on Feeds and Pet Food Extrusion. The 12th annual Feeds and Pet Food Extrusion Course is scheduled in Jan. 26-31, 2003.

The second course on feed is focused on Aquaculture feed, nutrition and feed management. This year's one-week practical short course will be presented on August 25-30, 2002 at Texas A&M University by staff, industry representative and consultants. The programme covers information on designing new feed mills and selecting conveying, drying, grinding, conditioning and feed mixing equipment. Current practices for preparing full-fat soy meal; recycling fisheries by-products, silage, raw animal products, and secondary resources; extrusion and pelleting feeds; spraying and coating fats, digests and preservatives; use of encapsulated ingredients and preparation of premixes are reviewed. Practical preparation of sinking and floating feeds, pellet durability - larvae to feed-out size - are demonstrated on four major types of extruders - dry, expander-type, single- and twin-screw, using various shaping dies.

Registration fee for the short course and pilot plant demonstrations is \$1395 excluding hotel accommodation, breakfast and evening dinners. There is a 10% discount if three or more individuals from the same organisation register. Reservations are accepted on a first-come basis, as space is limited.

If employees need specialised training to improve the use of extrusion technology, Texas A&M offers customised training for individual needs at their well-equipped pilot plant.

NORWAY

FôrTek and NLH

FôrTek Centre for Feed Technology is a joint venture between three of Norway's largest feed companies

and the Agricultural University of Norway (NLH). The newly established plant serves the feed industry by carrying out research, educational and developmental assignments in the fields of animal and fish feed and nutrition. FôrTek is located on the campus of the Agricultural University of Norway.

Over the past years many seminars and tutorials have been held at FôrTek and for the first time two new MSc degree courses will start in the autumn of 2002. These 2-year studies are offered by the University using FôrTek as one of the educational centres needed for the teaching.

For those who don't have two years available FôrTek hosts short courses of between one and five days duration. Courses in feed milling technology, nutrition and feeding of animals and fish, fish farming, quality programmes, least cost formulation, plant design, etc. can be customised and prepared to suit special requirements. The courses typically have a three to five day duration and are held at NLH in Ås or at FôrTek's facility.

With prior arrangements the courses can be given at the customer's facility and in some cases local teachers (native speakers) can be included as instructors under total supervision by FôrTek and/or University personnel.

MSc in Feed Manufacturing Technology

The main objective of the MSc. study in Feed Manufacturing Technology is to provide expert training for high-level management in the feed milling and related industries. Emphasis will be put on understanding the principles of feed manufacturing technology as a basis for improvement of existing technologies. In addition the programme includes hands-on experience with the various types of equipment and production lines by fully integrating the possibilities offered by the Centre for Feed Technology. The teaching and training will partly be based on lectures; but a considerable part will be offered as demonstrations and training in groups.

The second MSc study is in aquaculture. NLH and the Institute of Aquaculture Research (Akvaforsk) have been major contributors to the development of the fish industry in Norway. During the last decade the involvement in intensification of aquaculture internationally has become increasingly important for the two collaborating institutions, with an international education programme as one of the natural consequences.

Management

SWITZERLAND

Swiss Institute of Feed Technology

The Swiss Institute of Feed Technology offers high-level specialised training while minimising the trainee's absence from his workplace. The course is recognised by the Swiss Feed Manufacturers Association, VSF and supported by Bühler AG.

Training takes place in two stages. First there is a preparatory correspondence course of about 30 weeks that starts seven months before the main course. It is designed for brushing up existing basic knowledge and teaching new aspects. The knowledge gained during the preparatory course serves as a basis for the main course.

During the main course (nine weeks), the students receive selective training in all-important areas of modern feed manufacturing technology. The emphasis of training (theory and practice) is on process technology and flow sheet design. During the course, written examinations are held in order to measure the success of learning. Course participants who successfully complete their studies are awarded the "Diploma for Feed Production Engineer".

Courses are given in either the English or German languages, which implies that participants need to have good linguistic skills. This specialised course is primarily designed for trained feed millers, flour millers, millwrights and other persons with a vocational training background and with practical experience in feed manufacturing.

GERMANY

German School of Milling

The German School of Milling in Braunschweig (DMSB) provides the right tools for training managers in the compound feed and milling sectors, as well as in mill and plant construction. The previous two

fields of 'Milling Engineering' and 'Mill Construction Engineering' have been merged into a single subject area under the name 'Mill Construction, Grain and Feed Engineering'. There are two focal areas – plant construction relating to milling and specialist process engineering. Students can study both focal areas within the two-year course and qualify simultaneously in both.

To offer more training opportunities it is planned to introduce the new subject 'Feed Technology'. This study emphasises product related process engineering, analysis, raw materials and works planning, focussing particularly on a contamination free production process. Future students will be able to choose from a range of several key areas and put together a course tailor made to suit their personal career choices and aptitudes.

The two-year courses lead to the following certificates:

- State examined technician for mill construction, cereal and feed technology, with specialisation in process engineering and/or plant construction
- Master miller or millwright
- Feed Certificate (authorises the holder to run a compound feed company)
- Qualification for admission to a university of applied science (polytechnic)

The course is taught in the German language, so students must master German verbally and in writing so that they are capable of following the lessons. There is no tuition fee as the school is a public, state-run school funded by the city of Braunschweig and the State of Lower Saxony.

NETHERLANDS

IPC Plant.Dier

IPC Plant.Dier was formed in 2000, after a merger between two innovation and practical training cen-

Education in the feed industry

Addresses to be contacted for additional information on courses and studies relating to the feed industry:

Grain Science & Industry

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tres: Livestock Production and Plant Production. The latter was established in 1992 after a merger of several Practical Training Centres. These centres have been in existence since the late fifties/early sixties of the last century. They have played a crucial role in the former agricultural education system and have been highly instrumental in the development of the Dutch agricultural production sector. IPC Plant.Dier is governed by a Board and is a non-profit organisation. The Board decides on the policy to be followed. The Dutch Ministry of Agriculture, Nature Management and Fisheries controls the quality of the training offered and subsidises a limited part of the operating costs of the centre.

IPC Plant.Dier has five training sites in the Netherlands. They all have their own unique specialities and facilities. Besides regular programmes at its own premises, IPC Plant.Dier organises 'in company' courses (in the Netherlands or abroad) and tailor-made training programmes.

IPC Plant.Dier Barneveld is one of the five mentioned training sites. Here a small feedmill for practical training is available to the (international) students. The Dutch compound feed industry is one of the most modern in the world. About 235 private companies and co-operatives annually produce a total of more than 15 million tonnes of compound feed. Roughly one third of the feed mills produce more than 50,000 tonnes of compound feed per year. Quality control is a major concern of the compound feed industry. The feed industry has established institutes for quality control, which operate in close co-operation with government authorities.

A two-week course on Modern Animal Feed Manufacturing is offered in Barneveld. The complete process of animal feed production must operate with maximum efficiency and control. The demand for food safety has resulted in tighter regulations and control systems to guarantee the feed quality. On the

other hand the margins in feed production are getting smaller. This training will provide the knowledge and techniques needed for these changes. Participants will be able to recognise bottlenecks, improve feed production and enhance feed quality control systems throughout the whole operation.

This programme is designed for feed mill managers and senior operators, extension officers, professionals in the periphery of the animal feed business, people who will remain in business for the next 10 years and those who like new challenges.

This year the course should have taken place from 10 June through 21 June, but due to a lack of interest of participants the course was cancelled. Organisers are still questioning if this course will be continued next year. When market demand is too low it will be too expensive to keep up experience and expertise in this field.

A second course on Feed Formulation had enough applicants and ran from 24 June to 28 June. The demand for safe food of animal origin results in tighter regulations and control systems to guarantee all elements in the livestock production chain. Quality of feed ingredients and optimisation of feed formulas requires special attention. This training provides the knowledge and techniques to stay ahead.

The costs for Feed Formulation as an independent programme are €1400 in combination with Modern Animal Feed Manufacturing the costs for Feed Formulation are €1200

Knowledge is what makes the difference in the poultry, pig and feed industry, whether it concerns technology or general management. The fast and countless developments in the whole agricultural chain mean that the level of knowledge and skills must be raised continuously to stay ahead. Those who don't keep up will disappear and those at the forefront have the future. ●



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