VICTAM anniversary show with FIAAP & GRAPAS powers ahead

Still with eight months before the shows open in Cologne, the VICTAM anniversary event looks as though it will be a success again. What could be a sell-out show will also be supported by a number of conferences.

Talking to Victam International’s General Manager, Henk van de Bunt, (left) told Showtime that the 2015 event will again take place in Cologne, Germany and that the show dates are 9 – 11 June 2015.

**Successful formula**

He went on to say that “the event will be similar in concept to the highly successful first edition held in the Koelnmesse venue in Cologne, once again there will be a specialist exhibition and conference for ingredients and additives used in the production of animal feeds, dry petfood, aquafeeds, etc. This is the newly introduced FIAAP exhibition that has proved so successful in our recent shows in Bangkok, Thailand. Within this exhibition you will see companies exhibiting the latest range of ingredients, additives, etc that are available to the market.

Another show and conference that has also proved successful in our Asian event is GRAPAS and this will be included again in the Cologne event. GRAPAS is profiling a highly specialised industry sector and that is grain processing. Exhibitors will be displaying the latest technology that is used in flour milling, rice milling, grain processing and its preservation, storage and movement, as well as the production of breakfast cereals, extruded snacks, etc. Lastly there will be the 50th Anniversary Show of VICTAM. I am particularly proud to have followed in the steps of previous General Managers of Victam International BV and that it will be in my time that we are able to celebrate 50 years since the very first ever VICTAM show. We will be holding what I hope will be a memorable event to celebrate this achievement and to thank our very many supporters from within the industries we serve for their support over these decades.

**What’s on show?**

So what will all the visitors that come from all over the world see when they are within the VICTAM exhibition? Well of course they will see what is probably the widest assembly and range of equipment and technology that is used in the production and processing of animal feeds, dry petfood and aquafeeds. But it is not only this specialist technology that will be on display, there will be a wide range of...
Integrated Solution Provider

- Knowledge and expertise sharing
- Feed equipment and processing line
- Turnkey project
- Customer training and service
ancillary equipment and systems on show as well, these will comprise such things as silos, conveyors, dryers, bagging machines, pcs and programs and much, much more. Of course all of this equipment is not only used in feed mills but they are also used in flour and rice mills, grain plants, etc and another industry sector that Victam has embraced – biomass.

Biomass? Yes. I can see that maybe you are thinking why biomass in a feed and grain processing show. Well it’s really quite simple. The technology used in the production of biomass pellets is similar to that used in animal feed pellets and therefore many of our exhibitors who produce pellet mills for feed also manufacture and supply biomass pelleting machines. So our exhibitors are able to market their technology to a number of different industry sectors all at once."

All under one roof
Showtime asked why when other industry shows were getting smaller that these shows were growing in both size and the number of exhibitors. Henk, who is also a former feed mill owner, was able to respond from personal experience. “The shows are able to offer to many of our international visitors the opportunity to find and discuss under one roof over three days their requirements with a wide range of suppliers. This is one of the reasons that as you walk around the show hall you see many serious and detailed conversations between exhibitors and visitors. This applies to both large and small stands. The shows have grown because companies in the industries have heard about the success of the event and have also realised the added value of exhibiting within a number of related shows.”

Henk was then asked about the series of conferences and symposia that will be held during the event. “This year we have a number of conferences that are discussing subjects that are related to the exhibitions. They are as follows:

• The FIAAP Conference
• Aquafeed Horizons
• Petfood Forum Europe 2015
• Feed Safety Assurance certificate
• The IFF Feed Conference
• Global Milling Conference with GRAPAS International 2015
• Biomass & biomass pelleting

There will also be a number of technical workshops (seminars) that will be presented by some of our exhibitors. We should be able to publish the full technical programme within a few weeks. We will then publish the full programmes, secretariat contact information, etc on our websites.

Visitor registration
Our on-line visitor registration system will go live as at 01.01.2015.

This is an easy system to use, visitors need only to go to one of the following websites – www.fiaap.com, www.victam.com or www.grapas.eu and click on the visitor registration button and follow the simple instructions, and instructions will also be in a number of languages. There is no charge for entry into the exhibitions for industry related visitors and any ticket will enable entrance to all three shows.”

Showtime thanked Mr. van de Bunt for the interview and we look forward to an update on the event in our Spring 2015 edition.

Conference programme

Tuesday 9th June
The FIAAP Conference – Organised by WATT Global Media, publishers of Feed International & Feed Management.
Aquafeed Horizons – Organised by Linx Conferences, aquafeed.com
Biomass & Biomass Pelleting – Organised by AEBIOM (the European Biomass Association)

Wednesday 10th June
Feed Safety Assurance certificate – Organised by GMP+ International.

Thursday 11th June
The IFF Feed Conference – Organised by IFF Research Institute of Feed Technology, Germany.

Post show industry tours
Victam International will organize a number of different activities for visitors attending the FIAAP, VICTAM & GRAPAS exhibitions.

As part of her 50th anniversary Victam International BV will organize a series of one day industry tours for selected groups, they are as follows: FIAAP & VICTAM: The new Feed Design Lab in the Netherlands and a modern state-of-the-art Dutch feed mill.

Additional information on any further tours will be published in the near future.

Visitor promotion
VICTAM is again working in cooperation with a number of industry magazines and national associations to arrange organised travel to the 2015 event.

Another exciting activity will be a lunch for the production managers and nutritionists from the top 5 feed mills within each of the major feed producing countries in Western Europe. They will receive a personal invitation for this lunch very soon.

And finally, VICTAM will promote the event through the media and will advertise in over 80 magazines throughout the world as well as using online media.
Animal agriculture and industry stakeholders have their sights set on advances in feed additive technology to maximize animal and ingredient performance today and into the future.

The expansion of the feed additive industry has been driven by the rising middle class in developing markets, who are increasingly using their disposable income to purchase animal proteins. This upward demand trend is predicted to continue. Consequently, to meet the need for more animal products and the related efficiencies for producers to remain profitable, the feed additive market is projected to grow by 4.2 percent to an estimated $20 billion by 2020.1

“The structure of animal production is under evolution,” says Didier Jans, secretary general of the EU Association of Specialty Feed Ingredients and their Mixtures (FEFANA). “The added value of additives in supporting the use of diversified raw materials and/or meeting the evolving societal expectations towards animal production and animal products is high. This is true for the large diversity of well-established additives, but on top our industry is constantly exploring and unveiling new paths and new products.”

Beyond performance, enhanced nutrition and growth promotion, the increased emphasis on sustainable production practices and general animal welfare have also propelled the popularity of additives with an environmental benefit, as well as those that improve the overall health and performance of the animal while reducing the need for antibiotics.

Additives: antibiotic game changers

As scientific research and consumer awareness continue to sway the public’s opinion toward eliminating the use of antibiotics in livestock production, additive innovations have lessened the blow of phasing out or reducing the sub-therapeutic and therapeutic use of antibiotics.

For example, according to the WATT Global Media’s 2014 Nutrition & Feed Survey, 80 percent of respondents report high to moderate efficacy in using probiotics as antibiotic replacements. Organic acids (70 percent) and probiotic/antibiotic combinations (30 percent) were also used to reduce antibiotic usage.

Perhaps slower on the uptake in many regions because of their reputation as a sensory stimulator, phytogenics also bring the promise of presumed antimicrobial and antiviral properties. Forty percent of respondents to the aforementioned survey report using essential oils in their formulations – and nearly 25 percent more are exploring the potential of their inclusion.

Beyond their ability to improve the bioavailability of nutrients and reduce feed costs, the evidence increasingly supports enzymes as a viable antibiotic replacement as growth promoters. As a result, 44 percent of respondents cited increasing their enzyme inclusions in 2013-14. Overall, regardless of region, the use of organic acids ranked high in terms of its antibiotic replacement efficacy (see figure 1 below).

Figure 1: Based on the results of WATT Global Media’s 2014 Nutrition & Feeding Survey, the graph demonstrates the popularity of different additives as antibiotic replacements by region

Source: Feed International magazine, July/August 2014

Related content: To view the full results from the 2014 Nutrition & Feed Survey, visit http://bit.ly/1p10X9g
Learn from additive, ingredient technology leaders

Europe is and has been on the forefront of successfully maintaining productivity, health and efficiency without the use of antibiotics.

Many of the developments in this area – as well as other developments in additive and ingredient technology and research – will take centre stage at the sixth Feed Ingredient and Additive Conference (FIAAP) held in Cologne, Germany, 9 June, 2015. The one-day seminar will be co-located with FIAAP & VICTAM International 2015, Petfood Forum-Europe and Aquafeed Horizons.

The FIAAP Conference provides nutritionist, veterinarians, feed mill management and formulators with a learning platform focused on new feed additive, ingredient and formulation solutions.

For more information about FIAAP 2015, visit www.victam.com/?i=180


The FIAAP Conference 2015 – Call for Papers: Oral Presentations

Does your company or organization have leading-edge research focused on advancing additive or ingredient innovations? Will you be attending FIAAP & VICTAM 2015? If you answered yes to both questions, submit an abstract for consideration to present at FIAAP.

For more information about the FIAAP 2015 Call for Papers, visit www.wattagnet.com/FIAAP_2015_call_for_papers_announced.html

European animal feed industry overview

According to Feed International’s 2014 World Feed Panorama, Europe* accounts for 23.5 percent world feed production.

Get a glimpse at the trends and companies shaping the European feed industry:

Top 5 countries in Europe for total feed volume in 2013:
www.wattagnet.com/Marketdata/feed/?id=167586

EU-27 trend in annual feed volumes by species 2000-13:
www.wattagnet.com/Marketdata/feed/?id=157578

Europe’s top feed companies:
www.wattagnet.com/TopCompanyFeed.html

Lower feed output by top EU players in 2013:
www.wattagnet.com/166828.html

*Europe includes Russia

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The continuing growth of aquaculture is no secret: a number of reports and surveys have been published recently that show the ever upward trend. In January the feed ingredient and additive company, Alltech, published the results of its second global feed survey, which provided yet another confirmation that aquaculture is expanding at an unprecedented rate. When analyzed by species, the survey showed aquaculture led the animal feed growth chart with a stunning 17 percent increase from 34.4 million metric tons (mmt) in 2012 to 40.36 mmt in 2013.

The stellar growth of aquaculture feed and the challenges it presents to producers, are part of the reason that delegates flock to Aquafeed Horizons, Aquafeed.com’s conference that takes place on the first day of FIAAP, VICTAM & GRAPAS. Over 140 professionals in the industry, representing feed companies from throughout Asia Pacific – and even from Europe and the Americas, packed Aquafeed Horizons Asia earlier this year to learn about advances in processing and formulation.

In Europe, aquaculture production reached 2,174,650 tons in 2013, a 13.6% increase compared to 2011. This was mainly attributable to Norwegian salmon and production of other species remained stable. According to the recently released annual report of the Federation of European Aquaculture Producers (FEAP), Marine cold water species represent 71.6% (1,557,444 tons) of total production, fresh water species 15.3% (333,451 tons) and marine Mediterranean species 13.1% (283,755 tons).

There is much to do for the Mediterranean aquaculture sector to realize its enormous potential: it has seen little technical progress in the last 12-15 years compared with other livestock and aquaculture sectors, a situation that was highlighted at the FEAP 46th Annual General Meeting, which took place in Rovinj, Croatia, in May. The federation concluded that it must be addressed urgently. The exact reasons for the lack of performance are unknown, given the different species, inputs and rearing conditions but feed related issues play an important role. FEAP identified a need for research into the nutritional requirements of the principal fish species raised and specifically the juvenile and adult phases. Another factor cited was the continuous rapid changes in feed ingredients used for all life stages by feed manufacturers and lack of consultation about this with aquaculture producers.

That Europe is taking aquaculture seriously is evinced by the start of the largest aquaculture research project ever funded by the European Union. The €11.8 million project, called DIVERSIFY, has 38 participating partners from Spain, France, Italy, Greece, Israel, Belgium, The Netherlands, Denmark, Norway, the United Kingdom, Germany and Hungary. The five year project will focus on the development of new and emerging finfish species that have the potential to expand the EU aquaculture industry. The species to be studied include meagre (Argyrosomus regius) and greater amberjack (Seriola dumerili), wreckfish (Polyprion americanus), Atlantic halibut (Hippoglossus hippoglossus), grey mullet (Mugil cephalus), and pikeperch (Sander lucioperca). DIVERSIFY will build on national initiatives for species diversification in aquaculture, in order to overcome known bottlenecks.

Practical production issues affecting aquafeed producers in Europe are the same as elsewhere in the world: the use of alternative protein sources, digestibility issues with novel ingredients, processing optimization and sustainable practices. The 8th Aquafeed Horizons Conference will gather industry experts to address what matters to commercial aquafeed producers in yet another not-to-be-missed edition of the meeting.

**Conference registration and details**

Aquafeed Horizons 2015 “Advances in Processing & Formulation” will take place 9am – 5pm, 9 June, 2015, Koelnmesse, Cologne, Germany. Technical presentations are invited from qualified speakers and you can find details of terms and conditions and how to submit presentations on the conference website, www.feedconferences.com. You can also find details of sponsorship opportunities and sign up to be notified when registration opens.
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11-14 Nov. 2014
Booth No. 23C03
Petfood Forum Europe has offered expert knowledge and valuable networking for European petfood professionals for almost 20 years. This special trade fair for the European Petfood market will again co-locate with Victam International 2015.

Mark your calendar now and make plans to attend!

For more details, go to: PetfoodForum.PetfoodIndustry.com
Petfood Forum Europe

Europe still a global petfood leader

Learn more about this regional petfood powerhouse at Petfood Forum Europe 2015.

Despite financial struggles in some European countries, pet care and petfood are still strong economic sectors in the region, with Western Europe accounting for about 30% of the total US$98.3 billion pet care market, according to Euromonitor International. While much smaller, Eastern Europe, at about 6% of the global market, is growing quickly at more than 6% annually.

Updates on the European petfood market – along with the latest research on companion animal nutrition, petfood safety, processing, new product development and more – will be presented during Petfood Forum Europe 2015 on 10 June in Cologne, Germany, in conjunction with VICTAM International 2015.

More information, including a call for papers, is available at: http://petfoodforum.petfoodindustry.com/PetfoodForumEurope

World leaders in Western Europe

Western Europe is home to four of the top 10 global pet care markets, as shown by 2013 data from Euromonitor: The UK is third (after the US and Brazil), France is fifth (behind Japan), Germany is sixth and Italy, seventh. All but Italy claimed pet care market values of more than US$5 billion.

The UK is also one of the leading markets worldwide in wet petfood, producing 2.465 million metric tons of product annually.

Figure 1: Pet care sales in Eastern European markets 2012

While Russia leads growth and sales in Eastern European pet care, other countries are also growing quickly, according to Euromonitor International.
Germany, France and Italy rank high for wet petfood, too, producing 1.811 million metric tons, 1.363 million metric tons and 1.26 million metric tons of product, respectively. France also makes the list of top dry petfood manufacturers, coming in at 1.961 million metric tons annually, according to Euromonitor.

Growth in Western Europe may be lagging but is not completely stagnant, with the region achieving slightly more than 2% growth from 2009 to 2014. Going forward, the categories within the pet market slated to increase vary by country. France will see top growth in cat food sales, at a compound annual growth rate (CAGR) of 1.8% (US$1.986 billion in 2013 to US$2.167 billion in 2018). Germany will see the fastest rise in its dog food market, at 0.8% (US$1.56 billion to US$1.621 billion between 2013 and 2018), as will Portugal (2.9%; US$226 million to US$260.6 million). Belgium will grow quickest in its small mammal/reptile food market, at 1.9% CAGR (US$12.9 million to US$14.2 million) between 2013 and 2018.

Nine of the 30 largest petfood companies globally are headquartered in Europe, based on 2012 revenue data provided to Petfood Industry for the Top Petfood Companies Database (www.petfoodindustry.com/TopPetfoodCompanies.html). Looking at petfood leaders within Western Europe, Germany hosts several top companies, with Spain, Italy and the UK also well represented (see www.petfoodindustry.com/49733.html).

Eastern Europe on the rise
Russia is also among the top 10 largest pet care markets, ranking eighth, just behind Italy. It is also the second fastest-growing market, behind only Brazil, and leads the way in Eastern Europe, where pet care and petfood spending is on the rise.

A significant portion of Russia’s US$3 billion in pet care sales comes from cat food, which reached US$1.8 billion in 2012, Euromonitor said. The category grew 21%, up from US$1.49 billion the year before, as more and more Russian cat owners began buying commercially prepared petfood. Dog food came in second in 2012 at US$836.5 million, with petfood for other species registering only $21.1 million in sales.

While other markets in Eastern Europe are not nearly as large as Russia, several are coming on strong and growing quickly (see Figure 1 on first page of article). For example, Romania pet care sales are increasing more than 7% a year. In the Czech Republic, dog food is showing 2.8% annual growth. In Hungary, Partner in Pet Food has staked its claim as a major manufacturer of private label and branded petfoods, ranking 21st globally according to the Top Petfood Companies Database.
SAVE THE DATE

2015 FIAAP International Conference
June 9, 2015
Koelnmesse
Cologne, Germany

Join Us For the 2015 FIAAP International Conference

The leading international event for the animal feed ingredients and additives industries

The 6th FIAAP International Exhibition and Conference at Victam will provide advanced insight about nutrition and ingredient technology utilized in formulating animal feeds and is attended by senior feed mill and plant operations executives from all over the world. The conference is geared toward the interests of nutritionists, veterinarians, feed formulators, feed mill management, integrators, co-operatives, hatcheries and more.

Make plans now to attend this important event!
IFF, International Research Association of Feed Technology, Germany, will once again organise a one day conference on the ever changing subject of “Feed Processing”. Experts will present a series of papers on this subject. The morning sessions will be conducted in German and the afternoon sessions in English.

**Timetable – 11 June 2015**

**Part I (German)**
- 10:00–10:10  Begrüßung (IFF)
- 10:10–10:40  Energieeinsparungen und –management in der Mischfutterproduktion (IFF)
- 10:40–11:10  Anforderungen an die Zerkleinerung mit Blick auf die Nachhaltigkeit (IFF)
- 11:10–11:40  Hygiene und HACCP in Mischfutterwerken (IFF)

Coffee break

12:00–13:30  Podiumsdiskussion
(One representative from IFF, two/three representatives of associations and industry)

**Part II (English)**
- 14:30–14:40  Welcoming (IFF)
- 14:40–15:10  Energy management in Feed Production (IFF)
- 15:10–15:40  Hygiene Policy and HACCP in Feed Production (IFF)

Coffee break

16:00–16:30  Sustainability in Feed Production (n.n.)
- 16:30–17:00  Hygienic feed production versus capacity (n.n.)
- 17:00–17:30  Reducing specific energy demands in the pelleting of feed (n.n.)

Closing Words

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Global Milling Conference with GRAPAS 2015

Conference to attract wheat, rice and cereals millers

GRAPAS Conference 2015 is joining with The Global Milling Conference to host a significant milling conference for millers in Cologne, Germany on 11 June, 2015.

The one-day event will be co-located with the FIAAP conference and held during the GRAPAS, FIAAP and VICTAM exhibitions at the Koelnmesse exhibition halls and will be called ‘Global Milling Conference with GRAPAS 2015’.

“Combining the two milling conferences at a European venue will allow us to offer a program that is more encompassing and draw on the experiences of an established milling conference from the Asia sub-continent that has been developed by GFMT and Assocom India,” says Roger Gilbert, patron and co-organiser of the event.

“We plan to attract wheat, rice and cereals millers to this one-day conference by providing a platform of speakers who you might not normally find presenting at conferences; experts in their fields who have a unique insight into developments around flour, rice and cereal milling regionally and globally,” he adds.

For millers to leave their mills and travel to Cologne for a one-day conference and a three-day exhibition, places demands on the program, says Mr Gilbert.

“The program has to be presented as one that millers cannot afford to miss. Therefore the calibre of speaker and presentation subject are paramount,” he says.

To offset the cost of engaging speakers, the conference will introduce for the first time, a registration fee of €75/person for the full day, or €30 per session. Coffee will be included between sessions. Those opting for all three sessions will be offered lunch.

Conference outline
The one-day conference will take place from 09:30 on 11 June, 2015 in a conference room alongside VICTAM. It will be broken into three two-hour themed sessions with a coffee and lunch break in-between. The event will be held in English.

Registration will be online with delegates registering up until the day of the conference.

“We are aiming to offer this one-off conference to 75-100 delegates only. Space will be limited,” says Mr Gilbert.

The programme will be made up of three separate sessions which delegates can dip into and out of, or opt to attend all. We will favour those who elect to attend the whole programme in allocating space,” he adds.

The programme will include:

**Session 1: Food Safety**
1. Regulations – Working toward great food safety
2. One international standard for flour & wheat grading
3. Heat treatments
4. Training – The benefits from training and qualifications

**Session 2: Nutrition**
1. Diet – Gluten free?
2. Foodstuffs – A drinking yoghurt from wheat
3. Fibre – Challenges for human consumption
4. Flour & Rice Fortification – Millers fighting malnutrition

**Session 3: Markets**
1. Harvest reports – Soft and hard wheat supply & demand
2. The Roller Mill Revolution
3. China – Wheat and cereal product development in China
4. Dealing with customer complaints
5. Milling 24/7 – A miller’s experience

Conference registration and details
The full programme can be viewed as it develops and delegates can register to attend via this link: www.gfmt.co.uk/grapas2015
The International Pellet Conference
Challenges and innovations for the market

For over a decade, Europe has witnessed a rapid growth in its wood pellet sector which is now well established as a key player in the European energy mix.

The EU is the undisputed world leader in pellet production and consumption, and looks set to maintain this position in the coming years. As the development of the sector continues apace, wood pellets are increasingly able to offer an alternative, efficient, reliable and sustainable energy source to the European consumer.

Against this backdrop, the European Biomass Association (AEBIOM) will host an International Pellet Conference on 9th June 2015 in Cologne. The conference will be held in conjunction with the FIAAP, VICTAM & GRAPAS 2015 exhibition which expects to welcome over 250 exhibitors from around the globe.

The pellet conference will address the most pressing and topical issues for the pellet sector including EU legislative developments, sustainability and market development. Additionally, we will address some of the more technical topics such as pellet quality, pellet safety, efficiency in handling, and indeed, torrefaction - an extremely promising development for the bioenergy sector.
A growing pellet market
Both the European and world pellet markets have grown at an impressive rate in recent years. Since 2000, annual world pellet production has gone from just under 2 million tonnes, to over 24 million tonnes by 2013. Close to half of the pellets produced globally are from the European Union, with the other half produced largely in North America, Russia and China. The growth of the pellet sector has begun to attract new market players who are beginning to enter the fray, with production in Asia, Australia, South America and Africa gradually growing in significance as additional countries discover the potential of the sector. We look at pellet consumption, the EU also very much leads the way. A net importer of pellets, the EU currently consumes 70% of the pellets produced globally, with significant imports arriving in Europe from overseas.

2013 marked the first year in which pellet use for heat production exceeded its use for power production. Pellet demand in the heat market has steadily grown in recent years, and with a volatile demand for industrial pellets in Europe, industrial producers and international pellet traders are now discovering the heat market and its enormous potential. The integration of the industrial and heat markets that we are currently seeing is a game changing development for the pellet sector as it brings a significant increase in market liquidity and security of supply. The commoditization of residential pellets and the constantly increasing demand for pellets in the European heat market open up clear possibilities for large scale pellet market growth. This conference will look at the current trends and developments in the international pellet market as we discuss the present situation and the potential for the future.

Addressing quality and safety
With great market growth comes a pressing need to ensure a high quality product on the market. The ENplus certification scheme has made great strides in ensuring the high and consistent pellet quality we now see on the European market. The ENplus seal guarantees a high quality in both the product and its handling along the entire supply chain right up to the end consumer. ENplus also works to ensure sustainability along the value chain, strengthening the sector’s position as a sustainable fuel source. The ENplus scheme was developed by the sector, for the sector, and employs the services of independent bodies to fairly manage the certifications. The system is adaptable to the needs of the market, and all financial proceeds from the scheme are reinvested into the development of the pellet sector.

The impact of ENplus on the pellet market
In addition to this, there are numerous safety considerations that need to be looked at. The manufacturing, handling and use of wood pellets or pellets from torrefied biomass pose serious safety issues. Wood dust can lead to explosions and fires, pellets in storage can heat up, generate CO and even self-ignite. Safety and health issues can also occur along the supply chain and during the end use as fuel in power plants and heating devices.

We will look at both of these important aspects in Cologne. The ENplus scheme and its importance to the market will be presented and participants will be able to get a clear picture of how this scheme has benefitted the market since its initial introduction in Germany in 2010. On top of this we will look at some of the important safety considerations that are becoming increasingly important with the growth of the sector.

Looking at important innovations
The International Pellet Conference will also offer an excellent opportunity to discuss a key technological development; torrefaction is a thermal pre-treatment technology which produces a dry, brittle and water-resistant product with superior handling, milling and cofiring capabilities than other biomass fuels. Its characteristics make it much easier to grind and store than conventional biomass materials and reduce biological degradation in storage. Torrefaction is considered to be a breakthrough technology due to its ability to reduce handling and storage costs, and decrease investment costs for cofiring applications. AEBIOM’s International Biomass Torrefaction Council (IBTC) group will lead what promises to be a very interesting discussion on this topic.

The Organisers
This conference is organised by the European Biomass Association (AEBIOM). AEBIOM is the common voice of the European bioenergy sector and works to develop the market for sustainable bioenergy and ensure favourable business conditions for its members. Within AEBIOM, the European Industry of Pellet Suppliers (EIPS) serves as a platform of European companies focused on the wood pellet industry and is made up of 16 companies. Additionally within AEBIOM, the International Biomass Torrefaction Council (IBTC) is a networking platform of like-minded companies, formed to promote the use of torrefied biomass as an energy carrier in Europe, to undertake studies of projects, and to put forward a common voice.

We look forward to meeting you in Cologne!
Norvidan’s density control system recognized by Aquafeed.com

Norvidan Overseas A/S was the proud winner of the Aquafeed Innovation Award 2014, for contributions to the advancement of aquafeed.

Michael Larsen, CEO and President of Norvidan, accepted the award from Suzi Dominy, Publisher of Aquafeed.com, at a ceremony that took place April 8, during FIAAP/VICTAM/GRAPAS Asia 2014, in Bangkok, Thailand.

“We are delighted to acknowledge Norvidan for their Online Density System”, Suzi Dominy, said. “It brings an essential control element to the production of aquafeeds, delivering the information immediately so that changes can be made at once. This is an important development with financial consequences for the feed manufacturer, as well as control of the product quality”.

How it works
Density control is an important quality and process control step in all types of feed production, but for aquafeeds, it is crucial. Not only does product density determine the floating/sinking property of the finished feed, it can impact water quality by reducing waste and make a major economic contribution to both the feedmill and the farmer.

While density control is hardly a new concept, feedmill process control and optimization company, Norvidan Overseas A/S, Odense, Denmark, has come up with a system that can monitor at almost any stage of production, allowing for immediate adjustment to take place. These attributes earned it the unanimous vote as winner of the Aquafeed Innovation Award, presented by Aquafeed.com at FIAAP/VICTAM/GRAPAS 2014, in Bangkok in April.

The Norvidan On-line Density System (NODS) can continuously and automatically test the density of pellets, powder and meals, allowing the density to be kept within very tight parameters. NODS can give an alarm or even adjust the density automatically, before the threshold limits are breached.

The Norvidan On-line Density System consists of a pneumatic sampler, density tester with integrated control, PC with NODS software with graphic trend diagram, statistics, access database and recipe database. It can be implemented as a stand-alone system, or it can form an integral part of extruder control, complete plant process control or other control systems from Norvidan or other suppliers.

The system automatically takes a sample of about 1.4 liters of sample material in the chosen location within the material flow. The sampler is a pneumatically operated drawer that is pushed into the material flow.

The sample falls into a volume cup. The weight of the sample is determined, the density is calculated and the volume cup is emptied and ready for the next test.
The density is displayed graphically on the PC and the values are registered and stored in the database. This means high reproducibility, and the ability to do 30 tests an hour, without the need for calibration needed.

Norvidan Overseas A/S has more than 30 years of experience with development and integration of computerized process control systems for optimizing production in feedmills all over the world. The company has a broad range of systems available to the aquafeed industry, from total plant control and key equipment control and optimization to online

### About the Award
The Aquafeed Innovation Award is presented by Aquafeed.com to honour the achievements and contribution of the allied industries to the advancement of aquafeed development.

“The sustained growth of aquaculture is dependent on the development of appropriate feed. So much of the success enjoyed today by the aquafeed sector is the direct result of developments by the supply industry”, Suzi Dominy said.

Entries were judged by an international panel, selected for their practical, commercial feed production experience and expertise.

The 2014 panel comprised:
- Dr. Dean M. Akiyama, Senior Vice President PT Central Proteinaprima (CPP) and Managing Director Shrimp Improvement Systems, Jakarta, Indonesia
- Dr. Richard Smullen, Technical Manager, Ridley AgriProducts Pty. Ltd., Australia
- Yeo Keng Joon, Chairman and Managing Director, Bharat Luxindo Agrifeeds Pvt Ltd, India
- Peter. Hutchinson, Director ENH Ltd. /Director Extrusion Co., Auckland, New Zealand
- Dr. Warren Dominy, Senior Technical Consultant, Aquafeed.com, Kailua, Hawaii

Aquafeed.com will once again present the Aquafeed Innovation Award at FIAAP/VICTAM/GRAPAS 2015, in Cologne, Germany. To be considered, products need to create significant benefit to the manufacture of aquafeed in terms of innovation, efficiency, profitability, safety or sustainability. Exhibitors should submit the entry form in the exhibitor manual.

The first award, in 2012 award was presented to Wenger Manufacturing for its Extrusion System for High Capacity Small Diameter Aquafeed Production.

### AllAboutFeed Innovation Awards

As has become a tradition, AllAboutFeed in association with VICTAM will once again present the popular Innovation Awards during VICTAM International 2015. AllAboutFeed is an independent, truly international brand reaching a varied readership within the animal nutrition and feed manufacturing industry. AllAboutFeed entails a magazine, website, newsletters, events and much more to reach feed experts around the world.

The Innovation Awards are an important part of this outreach. At the recent VICTAM Asia exhibition, the winner of this prestigious award was Biomin (see right) for its product FUMzyme, a purified enzyme to detoxify mycotoxins in animals. The runner up was Kemin with its multi-enzyme product Kemzyme MAP.

Will your product be the next winner? Please keep an eye on the website of AllAboutFeed, as we will announce the rules of participation soon. An independent international jury will judge the entries on their relevance and value to the feed industry. All nominations will be published in a special edition of AllAboutFeed dedicated to VICTAM International 2015. This special issue will be distributed throughout the feed sector to selected subscribers who are involved within the animal feed sector and related industries.

Nominations and winners will also be published on the website www.allaboutfeed.net. For more information, please contact us at info@allaboutfeed.net
This highly successful event was held from 8th to 10th April 2014 at the Bangkok International Trade and Exhibition Centre (BITEC), Bangkok, Thailand.

The exhibitions were held within Halls 103 and 104 of BITEC (The Bangkok International Trade & Exhibition Centre), Bangkok, Thailand. There were in all 219 exhibitors and they came from 29 different countries, the net exhibition floor area was almost 16% larger than the 2012 show and there were also more exhibiting companies than in 2012 when there were 166 exhibitors.

The show was fully booked, and there were even companies on the list waiting for a possibility to exhibit.

Contented exhibitors
As always the exhibitors were asked to complete a survey in order to assess the event and also to assist us as the organizers.

Just over 92% of the exhibitors who completed the survey stated that they would exhibit again at the event in 2016.

When asked a number of questions and to score the general organization of the event, with 10 being the maximum, the highest was an impressive 8.5, the lowest was 7.4, except for the Wi-Fi supplied by the venue, this was unfortunately 4.8. We have, once again, expressed our concerns to the BITEC management about this and made it clear that it is unacceptable.

No exhibitor cancelled or even asked to cancel their participation.

High-quality visitors
Over the three days of the exhibition there were 6134* visitors to the shows; 28% were from outside Thailand, a slight decrease on the 6198 visitors which attended the 2012 event.

This is not surprising as there was civil unrest in Thailand and especially Bangkok, although this unrest was in small areas which were well away from BITEC, the hotels and the business areas. The demonstrations had received negative news coverage all over the world and especially in Asia.

Both Indonesia and India held general elections during the event, and we understood that potential visitors decided not to fly owing to the unfortunate disappearance of the Malaysian Airlines plane. All of these had an adverse affect on the number of visitors to the event and especially foreigners and if none of these had happened then the number of visitors to the shows and conferences would have certainly be higher.

“The visitor figures have been independently audited by an UFI approved auditor that was appointed by TCEB (Thai Convention & Exhibition Bureau).

Almost 30% of the visitors to the exhibitions were of director level. Many had travelled from all over South & South East Asia. In fact there were visitors from 63 countries.

Almost 92% of the visitors intend to visit the shows again in 2016.

The majority of the visitors, as you would expect, came from the animal feed, aquafeed and dry petfood production sectors. However there was a marked increase in the number of visitors from rice and flour millers, grain processors, noodle, breakfast cereal and snack producers.

Some visitor quotes
“I have no specific comments to make, just wanted to inform you that our group visiting from Bhutan were totally impressed by the high standard exhibition and seminars. The products were very relevant in our context and we hope to bring some in our country too. Thank you for the great time you offered to us. We really appreciate it. Many thanks to the organizers and all those who were involved in the exhibition. It was really successful”

“Was a very good exhibition!”

“I would like to see more effort to promote the biomass technology sector, which is a stated aim of the Thai government, but doesn’t seem to have much traction”.

“Event was excellent”

“VICTAM was very profitable for me. I made good contacts within the fair too. With flour & feed mills and other sectors we supply equipment. I am planning to participate at the fair with a booth in 2016.

“Keep up the good work!”

“The exhibitions, as always, provided the perfect platform to launch new products and services to the market”

“Very well organised event”
New products launched

Many new products were on show as the exhibitions provide the perfect platform to launch new products and services to the market. Some of these were awarded the highly coveted “Innovations Awards”. The winners were as follows:

1. The Aquafeed Innovation Award: The Aquafeed Innovation Award was won by Norvidan for their NODS - Norvidan Online Density System.

2. The FIAAP Animal Nutrition Award: FUMzyme, a purified enzyme from Biomin to detoxify mycotoxins in animals has won the FIAAP Animal Nutrition Award. The runner up was Kemin with its multi-enzyme product.

3. The GRAPAS Award: 4B Braime Elevator Components won the GRAPAS Award with their Hazardmon product. Recommended were Morillon for their Super SHG Hydrascrew and Buhler for their Combistoner.

Conferences and Symposium

The event was supported by a series of technical conferences:
- GRAPAS Asia Conference 2014
- Aquafeed Horizons Asia 2014
- Petfood Forum Asia 2014
- FIAAP Asia Conference 2014
- The First ASEAN Feed & Rice Symposium

These conferences were organized by independent specialist organizations, except for the ASEAN Symposium. We understand that they were organized well and that the delegates were pleased with the venue, the conference programmes and content.

There was also an increase in the number of delegates that attended the conferences despite the late cancellation of the biomass conference.

The First ASEAN Feed & Rice Symposium

Victam organised the first ever ASEAN Feed & Rice Symposium and this was held during the event.

A full auditorium of industry VIPs listened attentively to the keynote speeches which were delivered by senior executives from the Asian Development Bank, the ASEAN Economic Community and the Food and Agriculture Organisation (FAO) of the United Nations. (Transcripts of these speeches can be found on our website)

These included issues such as the impact of the ASEAN free trade zone on the feed and rice industries and critical feed safety, security and sustainability issues facing the region in 2015 and beyond.

ASEAN Feed Summit

Another first for this event was the inaugurating session of the ASEAN Feed Summit, again organised by Victam and hosted by the Thai Feed Mill Association.

Held in closed session and chaired by Mr. Pornsil Patchrintanakul, President of the Thai Feed Mill Association, and moderated by Ms. Alexandra de Athayde, IFIF Executive Director, brought together senior feed regulators and industry representatives from Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand and Vietnam.

During the discussion a number of issues were identified for further potential cooperation, including capacity development for feed safety, efforts towards regulatory harmonisation, as well as the need to work with all stakeholders on agri-food chain on common challenges.

Mr. Mario Sergio Cutait, IFIF (International Feed Industry Federation) Chairman, welcomed “the opportunity to join this important Summit and to work towards closer collaboration in Asia.”

The Summit concluded in the formation of a Federation of ASEAN Feed Associations and the Chairman, Mr. Pornsil Patchrintanakul, was elected unanimously.

Additional marketing

For the future Asian events Victam will undertake additional promotional and marketing programmes. These will include:
- Employment of a specialist visitor promotion manager: Ms. Catelijne de Gooijer
- The visitor promotion manager will visit the major countries within the region, meeting with associations, government departments and agencies, major companies, travel agents, etc.
- Maintain co-operation with relevant and related associations within South and South East Asia.
- Develop and assist the successful formation of the Federation of ASEAN Animal Feed Associations. Victam will also assist in regional meetings of the ASEAN Feed and Rice Associations, as well as at a symposium which will be held every two years during FIAAP, VICTAM & GRAPAS Asia.

We look forward to seeing you in 2016!
INTERNATIONAL PELLETS CONFERENCE
Challenges and Innovation for the Market

9 June 2015 | Cologne, Germany

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Organized during the Victam International 2015
Antibiotic-free –
The European experience

The EU has firmly established itself in a “post-antibiotic” era where antibiotics are administered only therapeutically. The process of banning antibiotics in the EU took place in stages over 30 years, before the complete ban in 2006, by Richard Markus & André Van Lankveld, Technical Managers, Swine, BIOMIN Holding GmbH.

The number of large animal-feeding operations in swine, poultry, and cattle has been increasing across Europe. With the growth in farm size come disease challenges that impact animal health and production. As antibiotics enable animals to grow faster and gain weight more efficiently, their use in growth promotion became a common practice in animal husbandry. Different studies have shown the effects in the past of these antimicrobials on different species (Table 1, below). In the US, approximately 80% of total antibiotic usage is in food producing animals. The use of certain antibiotics as growth promoters is regulated regionally and/or by country.

Table 1: Effects of in-feed antimicrobial additives in various species (n=12,153)

<table>
<thead>
<tr>
<th>Species</th>
<th>Weight gain (%)</th>
<th>FCR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler</td>
<td>+3.6</td>
<td>-3.4</td>
</tr>
<tr>
<td>Layer</td>
<td>+2.8</td>
<td>-2.7</td>
</tr>
<tr>
<td>Turkeys</td>
<td>+3.1</td>
<td>-2.2</td>
</tr>
<tr>
<td>Pigs</td>
<td>+8.1</td>
<td>-4.8</td>
</tr>
<tr>
<td>Fattening pigs</td>
<td>+3.2</td>
<td>-2.0</td>
</tr>
<tr>
<td>Piglets</td>
<td>+15.7</td>
<td>-8.6</td>
</tr>
</tbody>
</table>

Source: Rosen (1995)

Antibiotics in livestock

Antibiotics in livestock production can be used in two ways – therapeutically and sub-therapeutically. Therapeutic usage involves a higher dosage over a shorter period in order to treat a specific disease. Sub-therapeutic usage requires a lower dosage over a longer period to prevent diseases, limit subclinical infections and improve growth rates. Until bacteria become antibiotic resistant, the use of antibiotics would limit subclinical diseases and improve performance.

However, with antibiotic resistance, the farmer is faced with no other option but to increase the use of pharmaceuticals. Increased mortality, decreased body weight gain, and worsened feed conversion are further outcomes that would trigger an increase in production costs. In addition, bacterial resistance in animals may affect human disease control. The World Health Organization observed resistance among Enterococcus faecalis and Enterococcus faecium isolated from pigs at slaughter after long-term tylosin use for growth promotion (Figure 2, below).

Early responses

Resistance genes disseminated via the food chain, both from meat consumed and through the dispersion of antibiotics into soil and water, and can make their way into the digestive tract of humans. In 1986, Sweden became the first country in Europe to address the problem of antibiotic resistance and regulate the use of antibiotics in food-producing animals. Consequently, Swedish sales of in-feed antibiotics were reduced to one-third, from 45 tonnes in 1986 to 15 tonnes by 2009. Soon after, the Swedish agriculture ministry reported significant clinical problems emerging in piglets after the withdrawal of antibiotic growth promoters (AGPs). Post-weaning mortality increased by 1.5% and chickens took 5-6 days longer to reach 2.5 kg. Despite these drastic consequences, other countries like Denmark, the United Kingdom, and the Netherlands soon followed the Swedish example. In Denmark, the use of AGPs fell from over 105 tonnes in 1996 to nil by 2000.

The European regulation also started to follow the Swedish and Danish examples. In 1997, the EU banned the use of avoparcin and remaining AGPs on the basis of the “precautionary principle”. In 1999, the EU put a ban on olaquindox and carbadox and suspended authorization of bacitracin, tylosin, spiramycin, and virginiamycin. From 2006, the EU enforced a complete ban on all AGPs.

The Danish experience

Globally, there are only limited studies that take into consideration antibiotic usage and their effect on the productivity of animals. Aarestrup et al. (2010) prepared a

![Figure 2: Tylosin use for growth promotion and erythromycin resistance among Enterococcus faecalis and Enterococcus faecium isolated from pigs at slaughter from 1995 to 2001 in Denmark. Source: World Health Organization (2002)](image-url)
A detailed study on the changes in antimicrobial consumption and productivity of Danish swine between 1992 and 2008. According to their study, Danish pig production increased from 18.4 to 27.1 million head between 1992 and 2008. The average number of finishing pigs per sow per year also rose from 21.5 to 25 within 16 years (Figure 3). In 2008, the average consumption of antimicrobials was 49 mg/kg per hog, from 100 mg/kg in 1996. This decline was mainly due to the ban on the sub-therapeutic use of AGPs. The average daily gain (ADG) of weaners (<35 kg) decreased from 1992 until shortly after the ban in 2000, and increased thereafter. In 2008, ADG was about 8% higher than before the AGP ban in 1992 (Figure 4). Average mortality of weaning pigs increased slightly from 1992 until 2004 when it reached its peak at almost 5% before falling back to 2.5% in 2008 which is close to the 1992 level. The mortalities were most probably influenced by porcine reproductive and respiratory syndrome (PRRS) and post-weaning multisystemic wasting syndrome (PMWS) which occurred in 1996 and 2001, respectively. The ADG for finishing pigs (>35 kg) was higher (around +25%) in 2008 than in 1992, but mortality rates for weaning and finishing pigs were similar in both years (Figure 5). AGP consumption per kilogram of pig produced in Denmark fell by more than 50% between 1992 and 2008. With productivity showing improvements, the ban on AGPs is not seen to negatively impact swine production in the long term.

**Life after AGPs**

The Danish experience shows that there is life after AGPs but several measures have to be implemented. These include management, biosecurity, a well-balanced diet to reduce stress factors and mycotoxin risk management. Over the last ten years, the ban on AGPs led to the need for a change in feed formulations. Today, there is greater knowledge on the use of additives in the different feed formulations. Alternatives to antibiotics, such as the use of phytogenics in combination with pro-, prebiotics and acidifiers have become better accepted. Trials conducted with the Biomin phytogenic line Digestarom® showed that performance gains were comparable to gains achieved by AGPs but without any danger of antimicrobial resistance developing. Continual investments in research on non-antibiotic growth promoters can help overcome new challenges in animal production, and allow the industry to adapt to changing trends.

References are available on request.

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**The ban**

Beginning in 1972, countries in the EU began their ban on different antimicrobials locally. This sequential ban ended in 2006 with the complete ban on AGPs in the EU. **1972** European countries ban the use of Tetracycline, Penicillin and Streptomycin as AGPs **1986** Sweden bans the use of AGPs **1996/97** Germany and subsequently, the EU ban the use of Avoparcin **1998** Denmark bans the use of virginiamycin and sub-therapeutic use of AGPs **1999** The EU bans olaquindox and carbachol; suspends authorization of bacitracin, tylosin, spiramycin and virginiamycin **2006** The EU bans all AGPs

Source: Cogliani et al., 2011

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**Figure 3: Swine production trend in Denmark after the AGP ban**

Source: Aarestrup et al., 2010

![Figure 3: Swine production trend in Denmark after the AGP ban](image)

**Figure 4: Danish productivity trends in weaners after the AGP ban**

Source: Aarestrup et al., 2010

![Figure 4: Danish productivity trends in weaners after the AGP ban](image)

**Figure 5: Danish productivity trends in finishers after the AGP ban.**

Source: Aarestrup et al., 2010

![Figure 5: Danish productivity trends in finishers after the AGP ban.](image)
Feed cost saving with the use of protease

Over the past decade, the use of feed enzymes and phytases in particular has played an increasing role in reducing poultry feed cost.

The extensive use of phytase in feeds has allowed more efficient use of plant protein meals and resulted in less reliance on inorganic phosphorus sources such as dicalcium phosphate. This has not only helped to preserve the Earth’s precious mineral resources and reduce environmental pollution, it also helps reduce the impact of volatile, and quite frequently, high prices for sources of inorganic phosphorus.

With continued evolution, enzymes acting on non-starch polysaccharides are increasingly used to improve the energy availability in finished feeds. These enzyme blends have the potential to contribute as much as 100 Kcal/kg of energy, which is equivalent to approximately 1.5 percent of oil/fat commonly used in poultry feed.

Taking into consideration the various options available, the next step is the use of protease enzymes, and offers the most promising and practical solution to reduce feed cost. Although many cocktail or non-specific enzyme preparations available in the market may contain some protease activity, nutritionists are increasingly exploring enzymes with a high, specific protease activity.

This provides an effective tool to optimize feed formulations with respect to crude protein and AA levels to achieve the maximum reduction in feed cost.

**Protease Enzyme**

Proteases or proteolytic enzymes have a very specific activity and utilize undigested amino acids as their substrates. CIBENZA® DP100 is a heat-stable feed protease offered by Novus International. The enzyme significantly improves the digestibility of dietary proteins for optimal animal performance. It is an aggressive serine protease that can increase the level of amino acids obtained from raw materials that would otherwise be unavailable to the animal.

**What is CIBENZA DP100?**

CIBENZA DP100 contains a Bacillus-derived serine endopeptidase with 600,000 protease units per gram of enzyme activity as defined by Novus standard procedures. The enzyme is derived from naturally-occurring thermophilic Bacillus bacteria which thrives at high temperatures and produces enzymes that intrinsically have a high level of heat stability. These results in an extremely active enzyme suitable for use in both pelleted and meal feeds.

**How does CIBENZA DP100 work?**

The protease contained in CIBENZA DP100 serves to supplement the endogenous or naturally secreted proteases in the animal’s intestinal tract. This additional protease complements the endogenous enzymes and allows for a more complete digestion of the protein fraction of feed ingredients. This enhanced digestion results in more amino acids becoming available for utilization by the animal. In essence, CIBENZA DP100 allows the animal to get more available nutrients out of the feed as compared to the same feed without protease addition. CIBENZA DP100 is a broad-spectrum protease and will digest a very wide variety of protein sources, thus improving their overall digestibility. Research has found that CIBENZA DP100 will successfully digest both animal and vegetable-derived protein sources. Studies conducted by Novus indicate that the less digestible the protein sources are the greater is the potential improvement in amino acid digestibility CIBENZA DP100 can provide.

A number of in vitro studies have been conducted to quantify the improvement in protein digestibility attributable to Cibenza DP100 in various types of both traditional and alternative feed ingredients. The Immobilized Digestive Enzyme Assay (IDEA®) kit, developed and validated by Novus International, is a good predictor for in vivo amino acid digestibility (Schasteen et al., 2007). The results clearly indicate that CIBENZA DP100 can improve protein hydrolysis of a variety of feed ingredients (Figure 1, below). The average of improvement in protein digestibility in vitro was about 7.5 percent.

Figure 1: CIBENZA DP100 increases in vitro protein hydrolysis in various ingredients
What is the return on investment by using CIBENZA DP100?

The feed cost reduction achieved using CIBENZA DP 100 is dependent on the type of feed, the nutrient specifications applied during feed formulation, the type of raw materials used, expectations of animal performance and the targeted improvement in digestibility of crude protein and amino acid content of the feed. Typically, optimized formulae utilizing the benefits of CIBENZA DP100 have less demand for conventional protein-rich ingredients such as soybean meal which can be replaced by a suitable combination of ingredients like maize and less expensive alternative protein sources. These alternatives generally contain higher levels of indigestible proteins and amino acids the perfect substrate for Cibenza DP100. The return-on-investment is driven by the price of protein and amino acids in the diet as well as the total amount of undigested nutrients in the feed. If protein prices increase or higher levels of less digestible raw materials are used in the formulation the return-on-investment for CIBENZA DP100 similarly increases.

Research and extensive commercial experience with the protease enzyme CIBENZA® DP100 has shown that this protease allows producers to use diets formulated with lower proteins and amino acids with no sacrifice in performance for broilers providing considerable cost savings. For example in the broiler diets at current soybean meal and corn prices supplemented with CIBENZA® DP100 shows a feed cost saving of $6.04 per ton of feed. At the same performance (body weight and FCR), CIBENZA® DP100 resulted in a cost saving of $0.01kg/bird. (Table1)

The increasing scarcity and high cost of feed ingredients are a major challenge for the future growth of the poultry and swine industries. Therefore, producing meat and table eggs at an affordable cost is crucial for the future sustainability for both the industry and consumers. Improving the utilization of nutrients is one of the potential tools that can be used to reduce feed costs as well as the cost to produce meat and eggs. Enzymes in general have started to play a key role in significantly reducing feed costs for feed millers. In light of volatile prices of major protein sources, the use of a protease appears to be one of the most promising solutions to significantly reducing feed costs.

CIBENZA DP100 is a powerful protease enzyme offered by Novus International that has been well-documented and demonstrated the greatest improvement in crude protein and amino acid digestibility in poultry and swine feeds - without compromising animal performance. CIBENZA DP100 improved the digestibility of amino acids in all the feed ingredients tested, allowing animals to better utilize and get more value out of the feed ingredients, even if they have lower amino acid digestibility coefficients. The addition of CIBENZA DP100 allows for the efficient use of locally-available, alternative and cheaper feed ingredients to replace high-priced ingredients like soybean meal and oil/fat, this results in a significant reduction in feed cost and still produces the same results. Since feed ingredient prices, specifically soybean meal, are expected to remain high, exploring the feasibility of using alternative feed ingredients with the aid of advanced technology remains the most viable option to control ever increasing feed costs.

Table 1: Feed and meat cost calculation comparison with and without CIBENZA® DP100

<table>
<thead>
<tr>
<th>Feed</th>
<th>Control</th>
<th>Protease</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feed intake</td>
<td>Feed price</td>
</tr>
<tr>
<td>Starter 0-10</td>
<td>288</td>
<td>490</td>
</tr>
<tr>
<td>Grower 11-24</td>
<td>1,219</td>
<td>483</td>
</tr>
<tr>
<td>Finisher 25-40</td>
<td>2,720</td>
<td>466</td>
</tr>
<tr>
<td>Feed Cost ($/ton)</td>
<td>473</td>
<td>467</td>
</tr>
<tr>
<td>Feed Saving ($/ton)</td>
<td>6.04</td>
<td></td>
</tr>
<tr>
<td>Body weight (kg)</td>
<td>2.80</td>
<td>2.80</td>
</tr>
<tr>
<td>Mortality (%)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FCR with mortality</td>
<td>1.68</td>
<td>1.68</td>
</tr>
<tr>
<td>Cost saving per kilogram bird</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 0 Chick</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Vaccine+Medication</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>Management</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Cost per kilogram bird ($)</td>
<td>1.21</td>
<td>1.20</td>
</tr>
<tr>
<td>Cost saving per kilogram bird ($)</td>
<td></td>
<td>-0.01</td>
</tr>
</tbody>
</table>

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Aquafeed.com, llc, Kailua, Hawai‘i.
Informing the aquaculture feed industry since 1998.
Recent research by Format International has focused on areas which affect feed manufacturing but which are not adequately managed by traditional Linear Programming (LP) techniques used in least-cost feed formulation software.

Those areas are the production parameters of weighing accuracy and silo availability, and constraints which are non-linear in nature.

These considerations have particular relevance in today’s animal feed, aquaculture and petfood industries. All production sites have practical constraints which determine how ingredients may be used, whilst a wide range of nutritional research continues to uncover the non-linear interactions between different characteristics of a diet and ingredients used within those diets. If it were possible to accurately account for such concerns in optimised solutions it would bring several benefits, including –

- Products which more accurately meet the required nutritional parameters.
- Improved selection of ingredients and their quantity.
- A competitive edge to those who used such techniques appropriately.

Format International has long appreciated the limitation of LP within the resource optimisation function; bringing innovative solutions to address the issues mentioned above has been a long-term goal of Format’s research program.

**The innovations**

**Non-linear constraints**

During the optimisation, it is now possible to consider an equation, specific to each product, which expresses the calculation of any non-linearity. The product may be constrained with a minimum and/or maximum value on these calculated values. Typical uses include –

- Calculation of non-linear nutrients, such as digestible energy.
- Calculation of the contribution to nutrient inclusion due to the inclusion of enzymes.
- Taking account of anti-nutritive effects of the use of certain ingredients (where the effect is non-linear).

Previously, with linear programming alternative approaches would have had to be used in an attempt to approximate the actual relationship. For example, using “dummy” ingredients with adjusted nutrient levels to represent the effect of enzyme application on that ingredient at different levels, or using iteration, whereby a solution is obtained, a calculation applied, specification adjusted, followed by re-optimisation.

To show the effect of this technique, an example, which uses a non-linear equation for the calculation of Digestible Energy (DE) in salmon feed is given below. The production for one month of a range of Salmon feeds at a feed mill was optimised using Format’s multi-product optimisation tool. The optimisation was performed using both the traditional and the new methodology –

1. Using Linear Programming (LP), where the DE for each ingredient is calculated and then used as a linear input as for any other nutrient.
2. Using Non-Linear Programming (NLP), where all ingredient analysis and specification constraints are the same, except for the DE target of each diet was incorporated in the optimisation using the correct non-linear equation.

The table (below) highlights the potential effect on purchasing decisions of incorporating the true method of calculating such parameters in the diet. Optimising in the multi-product optimisation tool means that the effect on ingredient volumes are easily seen. Note that, importantly, any constraints on ingredient availability are also considered in the solution. The results above show that the value of Fishmeal A is overstated in linear terms. Once the non-linear calculation is used, the optimisation favours other protein sources over the Fishmeal A usage, which is then partially replaced.

The ability to optimise with non-linear constraints also gives the nutritionist options in specification design. The actual values achieved by current diets can now be calculated and compared with the required specification, and constraints set to this value, or the desired requirement can be maintained and achieved more accurately.

**Mixed Integer Programming**

Formulations produced by linear programming usually require adjustment before they are able to be used by the production plant. Reasons include –

- Ingredient weighing accuracy, including the smallest amount that can be weighed.
- For example, Wheat appears in the solution at a level of 22.365984%. With a weighing accuracy of 20kg in a batch of 2000kg, the inclusion will be rounded to 22.0%.
- Use of ingredients which come in fixed quantities.

For example, certain ingredients are

**Table 1 summarises the results in terms of cost and the usage of 5 significant ingredients in terms of volume**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishmeal A</td>
<td>1063</td>
<td>748</td>
<td>-315</td>
<td>-29.6%</td>
</tr>
<tr>
<td>Fishmeal B</td>
<td>670</td>
<td>674</td>
<td>4</td>
<td>0.6%</td>
</tr>
<tr>
<td>Soya Protein Conc</td>
<td>466</td>
<td>757</td>
<td>291</td>
<td>62.4%</td>
</tr>
<tr>
<td>Wheat</td>
<td>445</td>
<td>445</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Ext. Sunflower</td>
<td>158</td>
<td>274</td>
<td>116</td>
<td>73.4%</td>
</tr>
</tbody>
</table>
The significance of this illustration becomes apparent when applying the technique to a full production period in which all products and their expected production volumes are considered. The potential variation in the actual usage of an ingredient can translate into a significant tonnage. Note also, that, as with the Non-Linear Programming optimisation, in this context overall ingredient availability constraints will be included in the problem, thus giving a true model of the practical situation in the plant.

The effect on resource optimisation

The evaluation of the optimal selection of ingredients and their quantities, and the management of ingredient surplus and scarcity, is a fundamental aspect of the use of optimisation software. An inappropriate selection of ingredients, or an inappropriate distribution of scarce or surplus ingredients will impose extra cost and reduce margins and competitiveness in relation to other providers in the market.

It is imperative that strategic and tactical optimisation models consider the whole manufacturing plant using an algorithm that considers both the production forecast and ingredient availability constraints as inputs. The solution output from such models includes not only the product recipes but, importantly, the predicted usage of ingredients.

We have discussed how LP can permit only an approximation to certain additional parameters such as weighing accuracy and non-linear constraints, whilst the Non-Linear Programming and Mixed Integer Programming innovations are able to solve with these parameters. We have also seen the effect on ingredient usage, even whilst considering ingredient availability constraints.

In the context of resource optimisation, using the new techniques has a significant impact on the output of the evaluation exercises, and they offer an important new set of tools for more cost effective decision making.

Summary

Format International has brought innovations in optimisation techniques to allow non-linear constraints and integer constraints such as production parameters to be included in the optimisation. These offer nutritionists and other formulation system users the ability to more accurately formulate those diets which contain non-linear parameters, and in which production parameters such as weighing accuracy must be considered.

The new methods are superior to traditional alternatives since the constraints are achieved as part of the full solution (thus avoiding time-consuming and expensive manual manipulation, post optimisation processing leading to specification deviation and less accurate iterative techniques and linear approximation).

This brings the following benefits –

• A more accurate prediction of formula content, closely reflecting what can be produced in the plant.
• Improved product quality which more accurately meets nutritional requirements.
• An overall ingredient usage which reflects the more accurate model being optimised.
• Visibility of current diet quality and options in specification design.
• More cost effective ways of dealing with certain additional parameters.

Furthermore, these new tools are implemented in the multi-product optimisation module, allowing simultaneous consideration of the availability of ingredients. The implications for resource optimisation are significant. This more accurate method of solving particular constraints does affect the economic value of ingredients relative to others, and consequently the quantities required. This will affect purchasing decisions, product costs, and provides the opportunity for more cost effective production.
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The increased global demand for meat caused by population growth, coupled with feed manufacturers locked between fluctuating raw material costs and relatively stable food prices, have put increasing pressure on feed mills to become more efficient. Additionally, the feed industry continues to experience massive consolidation, and today fewer feed manufacturers are required to produce more tonnage. Meanwhile, requirements to develop and produce higher-performance feed necessary to nourish new breeds or improve the quality of existing breeds has led to increasing demand for better processes, automation and new technology to thoroughly analyze and optimize raw materials. Roughly 70% of the cost of producing meat is the cost of feed, and today’s feed manufacturers are rapidly modernizing to meet the demands of a highly complex and rapidly changing food industry.

Globally, compound feed production has now reached an estimated one billion tons each year, and the industry generates more than $370 billion in annual revenue. At the producer level, this massive market is highly complex and the average consumer could not fathom the rigor that goes into manufacturing specialty feed for varied livestock diets. Compound feeds can contain anywhere from three ingredients up to 30 or more, including additives, and final mixtures must be manufactured precisely.

Portability is becoming more important in an industry where delays across a massive supply chain will cut into razor thin margins. Because profits depend so much on raw material cost and quality, manufacturers are constantly looking for a technology edge.

The wisdom of portability
Using portable instruments to complement those in the lab can provide the critical edge that many manufacturers have been seeking. By eliminating the need to ship samples to centralized labs or test them on in-house bench top NIR systems, handheld analyzers provide fast, actionable results at the point of need.

Portable instruments, such as the Thermo Scientific microPHAZIR AG (pictured), can be used at multiple stages of production, from the acceptance of raw materials to mixing and quality control of finished products. This enables an analytical capability that closely approximates real time without sacrificing any of the detection and quantification precision of bench-top NIR. The microPHAZIR AG is, in fact, a portable NIR analyzer, equipped with out-of-the-box calibrations and ready-to-use libraries prepared for feed and feed ingredient analysis. As a result, users

The role of portable technology in the rapidly changing feed industry

The role of technology
Over the past decade, the feed industry has turned to advanced technology to improve the precision of the mixing process. The use of spectroscopy is well known, and today near-infrared (NIR) instruments are routinely used for the detection and quantification of ingredients across the industry. But as the industry has become more sophisticated, the technology that supports it must too, while still maintaining usability.

As with other industries that rely on laboratory analysis, the feed industry is increasingly looking for ways to blur the lines between the lab and the field.
who do not have a technical background can easily and quickly obtain accurate results with very little training and experience. The library and calibrations allow the instrument to be an out of the box solution that can be customized with personalized applications.

A recent example highlights the advantages of portable spectroscopy. A U.S. food manufacturer brought the microPHAZIR AG instrument onsite to analyze protein levels during production. Using the instrument, the team sorted raw materials, labelling them as “acceptable,” “higher than acceptable” and “lower than acceptable” based on industry requirements. Once labelled, the batches can be blended into future mixtures to meet a precise specification. This is all done onsite and rapidly, limiting production delays without sacrificing quality.

The applications for portable NIR technology are myriad. In addition to analyzing compound feed, the instrument can be used to ensure the quality of forages. Because forage quality can vary, even within a single field in the same year, manufacturers must analyze raw materials for nutrient value, moisture and energy value. Even minor variations can negatively affect the health of livestock.

Toward better pet food quality
The same portable technology that is now revolutionizing the animal feed industry is equally transformative in the pet food industry. According to the latest statistics from the Pet Food Institute (PFI), food sales for cats and dogs alone reached $19 billion in 2012. And during this time the industry has changed dramatically – today consumers are hyper focused on ingredient quality and mixture. So too are regulators – the pet food industry is highly regulated and subject to strict ingredient and labelling requirements.

From a profitability standpoint, manufacturers must be mindful of nutritional quality in terms of shelf life and other variables. This makes analysis of moisture content, for example, a critical part of processing workflow, and portable instruments can play an important role throughout the pet food supply chain. The ability to test at multiple stages in the supply chain is important for traceability as well as quality. By mandating upstream and downstream testing more broadly, manufacturers can identify where problems exist and mitigate them before they reach store shelves. With increasing scrutiny industry wide, pet food manufacturers must be more vigilant than ever – discovery of an inferior product, by consumer groups or regulators, can be damaging to a brand and seriously affect profitability.

Conclusion
The feed industry is dynamic, from changing dietary requirements and new breeds to consolidation and regulation. Changes such as The Animal Feed Regulatory Program Standards, for example, which are intended to bring uniformity to the industry, may be voluntary, but industry leaders will certainly be expected to comply. All the more reason to accelerate the adoption of new technologies across the supply chain.

For feed manufacturers, the demand for greater efficiency, transparency and performance will only increase. To stay ahead of the competition – and avoid costly quality control issues, the industry will continue to adopt, and technologies such as portable NIR will play an increasingly important role. Moving precision and efficiency from the lab to the wider supply chain is one way that smart feed producers can achieve new levels of growth in a global economy that now, more than ever, won’t tolerate inferior food at any stage in the production lifecycle.

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Showtime
Launch – the new STIF M-JET Hazard Monitor

The STIF Company is pleased to announce the M-JET Hazard Monitor, an all new, state of the art, multi-function device designed for maximum reliability. The M-JET is the first hazard monitor approved for ATEX Zone and Level 2 of the SIL safety standard (EN 61508) and boasts dual-microprocessor design, built-in system diagnostics and built-in sensor diagnostics. The device is designed for use with bucket elevators, belt conveyors, chain conveyors and screw conveyors. The M-JET monitor analyzes data sent by sensors installed on the conveying equipment and provides a safe and controlled shutdown in the event of equipment malfunction or operation beyond user programmed limits.

The M-JET Hazard Monitor monitors conveying equipment for the following hazards:
- Belt under speed
- Bearing temperature
- Belt misalignment
- Choke/level on the conveyor input and output
- Motor speed and temperature

When the M-JET detects a warning or alarm condition it displays an alert on the screen and can turn on warning lights and activate a horn. If the fault condition exceeds the programmed safety threshold, the M-JET de-activates relays to safely shut down the conveyor. A programmable Output Alarm Delay is available to allow the conveyor to empty before shutting down the conveyor. Alerts can be displayed on remote computers and email or SMS messages can be sent.

User friendly
The simple and user friendly display and programming interface is available in French, English, Spanish, German, Italian or Chinese to accommodate worldwide locations. Each device is equipped with a USB port to export or import device configuration settings thereby simplifying the setup process when many elevators are involved. Automatic data logging includes alarm and warning history, configuration modification history and equipment run-time (daily and cumulative). Historical data can be viewed on screen or downloaded via the USB port. Some M-JET models have an Ethernet port for remote monitoring.

Five M-JET models
- M-JET 1 for equipment in Non-ATEX Zones or non-Hazardous Location areas.
- M-JET 2 for equipment in ATEX Zones or Hazardous Location areas.
- M-JET NT 1 for equipment in Non-ATEX Zones or non-Hazardous Location areas with Ethernet to remote computer or PLC.
- M-JET NT 2 for equipment in ATEX Zones or Hazardous Location areas with Ethernet to remote computer or PLC.
- M-JET.COM for remote monitoring of M-JET systems via the Cloud and Internet.

M-JET 1and M-JET 2are certified to EN 61326 -1 CEM Electromagnetic compatibility and EN 61010 -1 Electrical equipment safety. M-JET 2is also certified to EN 50495 Safety devices in ATEX Zone and SIL2 -EN 61508 Functional safety.

All M-Jet models include a USB connection to import and export the configuration profile for a quick return to original settings or to copy settings to other systems. Alarm history and configuration modification history can also be exported to Excel for analysis with a guarantee of traceability and allows the STIF technical team to assist with maintenance and diagnostic analysis.

M-JET NT models’ Ethernet port allows connection to a remote computer or PLC for continuous, real time viewing of system data.

The M-JET.com model can connect to the Cloud and Internet and enables remote access from anywhere to view static data of worldwide M-JET systems. The entire network of connected monitoring systems is combined on a single supervisor’s dashboard screen and in just one click displays the status of all sensors installed on the selected elevator. Graphical display of alarm history, daily run time, and temperature data is also available.

Worldwide leader
The STIF Company is a highly respected worldwide leader in the design and production of components for bulk material handling. Founded in 1984 and located in St.-Georges sur Loire, France, STIF has production and sales offices worldwide and exports its products to more than 60 countries. STIF’s innovative products and manufacturing capabilities are the results of its corporate policy of continuous reinvestment in technology and facilities.

Contact our sales team today to see how we can help you!

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Extru-Tech Introduces Advanced Batch Coating Technology

With breakthrough capacities up to 40,000 pounds per hour, depending upon the formula and product, Extru-Tech, Inc. is literally redefining product coating through continuous batch coating technology bringing new levels of coating accuracy, safety and volume to the market.

“When designing the Extru-Tech Batch Coating System, we started with a model that provides the versatility to match the growing range of client needs as well as a layout that meets new food safety regulations,” says Norm Schmitt, corporate sales manager for Extru-Tech. “The sanitary design includes provisions for quick, complete clean-up, which also helps minimize downtime for cleaning.”

According to Schmitt, a multi-functional time/pressure spray design from two separate nozzle banks allows for optimal liquid application uniformity across the entire batch. This also allows liquid application in a wide percentage range ... including up to 12 percent fat. An exclusive fogging application design also permits evenly applied powders.

Whether the coating is applied as a liquid or powder, though, customers can be assured of extremely accurate dosing, 0.25% accuracy, for less waste of expensive coating materials and reduced label claim risks.

“One key to the dosing accuracy is Extru-Tech’s use of Gravimetric control for precise ingredient measurement,” Schmitt adds. “Through the use of our exclusive enclosed batch mixer design where the coatings are applied, our clients are experiencing best in class product coverage and higher throughput all with reduced potential for cross contamination. When combined with the system’s application precision, the system ensures exact measurement of coating materials for reduced cost and accurate product labelling.

“Equally important, our batch coating systems provide optimal integration with the Extru-Tech Vertical Coolers,” Schmitt continues, noting that being integral/stackable with our Vertical Cooler reduces the need for yet another conveyance system, reduces the risk of cross contamination and optimizes time to clean and sanitize when utilizing CIP as both systems can be cleaned simultaneously. Fortunately, Extru-Tech Coating Technology allows petfood manufacturers to keep up with the growing demand for more accurate coating and for best in class sanitation.”

The new way to optimize your company

A new service for the feed industry, especially for production managers, quality managers or logistic managers: Tebodin launches the production analysis to help companies optimize their production process. This new service helps to find out where the bottlenecks are within the operation.

This service is meant for companies who wish to optimize their processes by making use of increased efficiency, fewer production problems and increased hygiene which could lead to cost reduction. The analysis will give a good view on the critical points within the plant. Identifying these points will help to eliminate plant blindness, because when you see something every day it becomes normal. The analysis determines whether the production still meets today’s requirements.

The production analysis consists of an evaluation of the current situation and a conversation with the client in order to receive background information. Because of the determination and reporting of the bottlenecks, it is possible to improve capacity, product quality, efficiency, safety, energy consumption, maintenance and ergonomics.

It takes about two to four weeks to finish the report. With these results, it is possible for the client to decide whether they wish to adjust their production plant. With its long time experience in the feed industry, Tebodin can give several alternatives to enhance the bottlenecks.

For more information please contact Mr. Harm Klein at h.klein@tebodin.com, 0031 655103026
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Customized packing solutions by Arodo

Arodo specialises in the design of packing systems for complete packing lines and manufactures dosing, weighing, bagging, palletising and stretchhood systems. Development, design and manufacture of the machines take place at the head-office in Arendonk where 115 people are employed. Arodo has been known for many years for its expertise and experience but most of all because of its innovative designs and structural R & D program. This has resulted in the fact that it has an outstanding global position in packing solutions and has a leading role in technical developments.

Quarter of a century of service
Arodo was founded 25 years ago and has flourished ever since. It has continuously invested in research and broadened its working area in offering customized packing machines. Production from A to Z is done by Arodo itself, from first design on the drawing board to implementing the final installation at the customer’s factory. It even has its own coating factory named Alco, also situated in Arendonk. Next to Belgium it has set up sales offices in the Netherlands, Germany, Denmark, Poland and the UK and has agents in a large number of other countries. In market approach the US and Canada are also very important showing substantial annual growth.

New development
The latest development is a unique 2-step technology for vacuum packing of cement and food products resulting in a significant longer shelf life. The Arodo AROVAC patented vacuum bagging system produces fully de-aerated waterproof packs for solids, using standard tube foil. The capacity can be customized to the customer’s requirements. Great benefit is the possibility of outside storage of cement products since its waterproof. But both for food as cement products it offers advantages regarding less spillage, no smells, lower packing costs, better stackable packs and longer shelf life. Arodo is the only company in the world that is capable of offering this high quality vacuumizing technique. Numerous international producers are happy to work with the Arovac vacuumizing machines from Arodo (f.i. Mapei, Cemex, Diamur, Saint-Gobain Weber, DSM, McCain, Foster Clark, Arlo Food, etc.)

Arodo is always very willing to advise on any particular bag packing issue, feel free to contact the sales department for a personal response.

For further information please contact
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Web: www.arodo.com

Obituary: Piet Schrama

It is with deep regret that we announce the sad death of Piet Schrama, the former President and former General Manager of Victam International. Many within the Dutch and international animal feed industries will have known Piet as for many years he, along with the support and assistance of his wife, Maria, was the driving force of the VICTAM exhibitions and the East West Conferences in Eastern Europe.

Piet became the second General Manager of Victam International in 1986 and during his time as GM the exhibitions continued to expand and prosper. In 1991 Piet launched the first VICTAM show in Asia which has now become the highly successful VICTAM Asia event. It was at the end of 1998 that Piet retired to his home in Leiden. He is succeeded by his wife Maria.
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Built by feed millers for feed millers.

Equipped with the industry’s most efficient drive system, the new Bühler pellet mill Kubex™ T saves up to 30% of energy – while boosting line capacity to up to 80 tons per hour. With the Kubex™ T you save costs, reduce the release of CO2 and make your operation even more productive. Gaining competitive advantages has never been easier. For more information please visit www.buhlergroup.com/kubex-t