

After the success at the last exhibition in 2001 Victam International and Feed Tech have again organised a competition for the best innovation presented at Victam 2004. During the last few months, companies submitted their latest innovation, which can be previewed in this article. An independent jury will judge the entries and select the top three. At Victam the winners will receive an award.

Two main categories can be distinguished: Information Technology and Feed Processing Technology in an almost fifty-fifty distribution. Here are the products/services that are new at Victam:

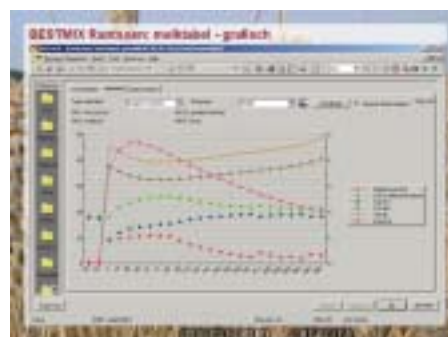
New technologies preview

I N F O R M A T I O N T E C H N O L O G Y

Adifo – Bestmix Ration & Optimisation

Bestmix Ration and Optimisation is a completely new program that uses revolutionary techniques to calculate and optimise dairy rations. Regarding dry matter intake the program is based on the Dutch "Cow model 2002". For the rest of the input the user can decide by himself what standards he would like to use. This approach allows optimising rations while bearing in mind the displacement of raw matter from fodder by raw matter from concentrates or other additional feeds.

By taking the average national herd records as a basis a basic ration can be calculated.



Screenshot of Best Mix Ration program with calculated values for milk production, dry matter intake, fat % and protein %.

This ration is then the starting point for further optimising of every step within the milk table. For every next step within the milk table the herd's needs are re-calculated with the use of new data regarding availability of feeds. Because the nutrient needs are calculated for every step in the milk table the program not only gives the optimum solution, but also the cheapest solution during the whole lactation. When individual cow data are available even an optimisation

per cow can be calculated and also the best possible solution is calculated for cows that are in a negative energy balance. The Bestmix approach is ideal if a farmer not only wants to adjust the feeding of his animals according to energy and protein parameters, but also wants to control the glucogenic, ketogenic and aminogenic energy balance. This way fresh cows perform better and cows at the end of their lactation can be dried of with a better condition score. Regarding nutrition Bestmix Ration approaches reality much better than existing programs:

- Stored nutritional know how is not integrated in the program, which allows users to make use of their own (national or animal related) calculations rules
- Centralised control of data with optimum communication to decentralised versions
- Multi-lingual
- Simple exchange of data with other systems.

Adifo – Tracking & Tracing

Consumers demand healthy and safe products that can be traced to the source. From producers they demand openness, honest information and complete responsibility. In this regard the European Union has created the "General food Law", which bundles current legislation and a few new regulations. This law will come into force on January 1st, 2005 and one of the main



With the tracking and tracing package of Adifo products or raw materials can be traced from purchase to end-user.



elements concerns tracking and tracing. All companies involved in producing and processing food have to be able to track and trace their products one link upstream and downstream in the food chain.

The new Tracking and Tracing database of Adifo can be incorporated into existing systems to solve the problems arising from the new food law. The system integrates office data (purchase and sale) with feed plant data when there is no joined automation system and parts of the mill are separately automated. It can also join feed mill data when there are more mills on different locations with more than one autonomous control system.

The Tracking and Tracing database consists of a centralised list of addresses, products and movements, which are centralised from the various "islands" within the company. The database is automatically uploaded and missing data can be added manually. Input data is automatically listed following company made predefined basic rules. Output data is manually allocated to the incoming materials or automatically following methods of Last in-First out, First in-First out or First expired-First out. Because all data is connected recall lists can be produced instantly and according to GMP+ guidelines.

The software system has a maximum flexibility and can be used independent from the level of existing automation and functions as an add-on, which avoids the purchase of new controlling systems.

ADIFO NV, Industrielaan 11b, 9990 Maldegem, Belgium.

Tel: +32 50 71366 Fax: +32 50 711193

Email: adifo@adifo.be

CAL Software – Agrilog

Agrilog stands for "Agricultural Logistics" and handles the automatic or manual planning and transport needs across the company. The product interfaces to business/financial systems using XML messaging, through a message router and draws off relevant data. Trip planning system Shortrec contains the logic to create an efficient transport planning for the next few days. Delivery instructions are combined into trips based upon locations, distances, driving times and costs. As a result of the algorithm a detailed arrival time calculation is generated for each vehicle. The User Interface of Shortrec allows a dispatcher to view and adapt the generated plan in the schedule, a planning board and a road map. Management information is generated including a range of Key Performance Indicators.

Both systems strongly cooperate through a set of interfaces. Agrilog will receive delivery instruction information from a business system including all relevant restrictions. This information is sent to Shortrec in order to create a transport plan fully automatic. SHORT-REC sends back all trips to Agrilog, possibly after some manual changes by dispatchers. Both systems take a large set of restrictions into account (time windows, capacity, cross-contamination, compartment breakdown, vehicle types, service types).

Agrilog also handles raw material movements into a business as finished product orders are entered on the relevant business system and auto faxes and self bills the haulier. The use of Shortrec and Agrilog greatly reduces the necessity for the amount of transport resource at each location within any business as both systems are administered centrally or regionally. The biggest asset of the combination Agrilog-Shortrec is the cost saving potential. The powerful Shortrec algorithm, including the latest technologies, increases the loading degree of vehicles as well as the average number of stops per trip and thus reduces the amount of transport resources needed. From a cross contamination perspective Agrilog and Shortrec eradicate the human element of making mistakes by loading non-compatible products onto a lorry and formalise the cross contamination rules within a business also.

CAL Software, Rivington House, Chorley North Industrial Estate, Drumhead Road, Chorley, Lancashire, PR6 7BX, United Kingdom. Tel: +44 1257 231011 Fax: +44 1257 230927 Email: sales@calsoftware.co.uk



DSL Systems – Hand Held PDA

DSL Systems have developed a method of controlling and monitoring a feed mill whilst walking around the mill and offices. Called the Hand Held, it consists of a standard Pocket PC PDA and having a wireless network capability.

The Hand Held has a number of functions, easily selectable by tapping on a button on the screen.

As a maintenance and commissioning tool, the maintenance engineer can go anywhere in the mill to monitor and operate any plant equipment.

Thus the engineer can stand next to the actual item to be tested and operate it. Without the Hand Held, the maintenance engineer would have to take a radio and also have a second person with a radio in the control room to operate the equipment and to say what is happening. The Hand Held eliminates the need for a second person to help and makes it faster to re-start after a problem. For an operator checking on bin stocks, the Hand Held can be used to show the current stock level in any bin. If the operator is at the top of the bins doing a physical stock check, the Hand Held can be used to correct the level instantly. This



makes any such corrections more accurate as there is no delay whilst other bins are checked and the operator returns to the control room to enter the corrections into the computer. This is important because during this delay material could have been added into or removed from the bin. Should the operator be out of the control room on a breakdown, die change or even having a break, the Hand Held can continually display the status of the plant in tonnes per hour, alarms and the current production schedule.

It is even possible to stand next to a pellet press to monitor and adjust the basic parameters such as temperature, maximum throughput or pellet press current (amps).



The Hand Held uses the standard Wireless Ethernet 802.11b equipment, which is inexpensive and widely available. A typical mill would probably require 3 or 4 wireless

access points (base stations) to enable coverage throughout the mill. Surprisingly, metal floors and large motors have no effect apart from reducing the range. The Hand Held was first installed in 2003 and is available for any of DSL's Windows 2000 or XP based control systems.

DSL Systems Limited, Unit 11 Faraday Building, Nottingham Science and Technology Park, University Boulevard, Nottingham, NG7 2QP England. Tel: +44 115 9221 551 Fax: +44 115 9221 666 Email: Sales@dsl-systems.com

Format International – New Century Formula Audit

Formula Audit offers significant benefits in the efficient auditing of product specifications and the prevention of formulation errors. This new system audits specifications prior to optimisation and audits the resulting formulas before they are transferred to production. Feed producers must take all possible steps to ensure product safety, product relevance and value, and be able to demonstrate that they have done so. Formula Audit provides an automated, disciplined and thorough protocol for meeting these goals.

In the present climate of increasing needs for control, for diligence and with rising legislative pressures, the efficient and accurate control of recipe implementation is vital. Use of this system avoids the consequences of an oversight during the formulation process, which could be enormous in economic, nutritional and marketing terms. These extremely important steps have to date mostly been carried out manually, if at all. The new system compliments existing functionality which checks pre-production recipes using defined tolerances and

thresholds, and by trapping potential problems prior to formulation it completes the circle of control.

The specification audit identifies variations and errors by comparing a "local" specification with another specification, which is defined as its "audit" spec. The audit spec acts as the Master – the reference or approved specification. Variations or deviations are identified and reported and presented to the controller for action. The software sorts and displays the interactive exceptions report screen and corrections can be made instantly. Formula specifications are also



checked for potentially conflicting constraints or for "associations" in constraints. The purpose of this report is to identify specifications, which contain the particular undesirable associations. For example, a nutrient constraint for "SOYAS" may be in conflict with the ingredient minima or maxima placed on soybean materials; a binder may be offered in error to a formula, which contains medicines; these conflicts are trapped and reported. A special report called the Audit Unit Cost report is available following optimisation, which reports on the unit cost of nutrient and ingredient constraints and highlights those that exceed acceptable thresholds.

Format International Ltd., Format House, Poole Road, Woking, Surrey GU21 6DY, England. Tel: +44 1483 726081 Fax: +44 1483 722827
Email: just_ask@formatinternational.com

INVE Technologies - Hoogveld Nutritional Technologies

Under the brand name Hoogveld Nutritional Technologies Belgium animal nutrition specialist INVE offers a new service that integrates laboratory analysis, NIRS analysis, raw material matrix and Alfablend into one service. With the use of Internet data is exported to the software of the client, who can use it to his liking. This way all expertise has been bundled into an integrated service centre. This is rather unique and a big step forward in feed formulation. Because all information is supplied through the Internet the result is a much faster and better support to clients.

INVE Technologies NV, Hoogveld 93, 9200 Dendermonde, Belgium.

Tel: +32 52 40 95 95 Fax: +32 52 40 95 85

IT plus – Melksaldo.nl

To run a dairy farm as efficiently as possible a lot of information is needed, such as



feed analysis, animal data and milk analysis. The data needs to be actual and quickly accessible for accurate and timely interpretation. Melksaldo.nl is a new information source, which was especially developed for the (Dutch) dairy sector. With the use of Internet in one system farm management for the dairy

farmer is combined with farm comparison and farm monitoring by the feed supplier. I.T. Plus has already experienced the advantages of this information system with similar programs for the poultry and pig industry. Fast and efficient are key words when using Melksaldo.nl. Farmers and feed suppliers have access to the same data in the central system. The feed supplier adds the feed data automatically, which saves a lot of work for the dairy farmer. Animal and milk data can be added through a connection with the dairy plant; the farmer only needs to add his fodder data to the system. He receives back data of his farm/herd performance, which he can analyse with the help of his consultant and adjust to achieve optimum results. This improves the farm's return on investment and also offers better insight into farm performance for the feed supplier, creating a win-win situation. Privacy of supplied data is optimally secured because a farmer can only view his own results, which are compared to standards or average results of other users.

Advantages for the feed supplier:

Direct accessibility through Internet ● Fast and detailed information results in better advice for customer ● Time saving because of input additional data by customer ● Better insight in developments within customer group ● Low investment ● Low operational costs through automatic exchange of data

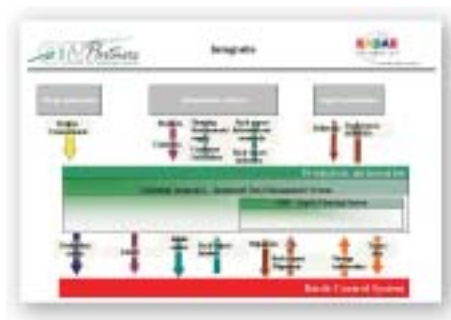
Advantages for the dairy farmer:

Data always and accessible everywhere ● Easily accessible, only a PC with Internet connection needed ● Minimal manual input of data ● Always latest update of program, no difficult software downloads and maintenance ● Optimal privacy protection

I.T. Plus, Pater van den Elsenlaan 4 Veghel, The Netherlands. Tel: +31 413 382337 Fax: +31 413 382583 Email: joost.van.leeuwen@itplus.nl



Radar Automation – Chainfeed Integrator



The Chainfeed Integrator system is a combination of the MES software 'Integra' from Radar Automation and the production scheduling software 'OMP Scheduler' from OM Partners. The system was introduced in 2003 at feed company UFA in Switzerland, while a project implementation is currently ongoing at

ABCTA in the Netherlands.

The main objective of the Chainfeed Integrator is to automate production scheduling in such a way that:

- production is in line with logistics planning.
- if, by exception, production can't be brought in line with logistics planning, it is signalled throughout the production chain and customers can be informed.
- optimal planning is achieved taking into account possible contamination problems due to carry-over, loading times, storage capacity (limited number of silos) and limited production capacity.
- bulk production, finishing goods and loading processes are fully linked: orders from the loading dock are optimally combined into orders for pelleting, and from there, orders for dosing are created. This is done, accounting for the possibility of building up (intermediate) stocks if storage capacity and production time are available.

- output is maximised throughout the whole plant.
- part of the planning can be carried out at the last minute and can be adjusted at any moment. The scheduling process combines organised future planning and adequate intervention when production is interfered.
- through online feedback, there is continuous graphical control on the entire production process.

Chainfeed Integrator ensures a better utilisation of production capacity. The first-in first-out principle for traceability corresponds to the number of times a silo is emptied. Before considering extending storage capacity or enlarging production capacity, the system makes use of current capacities, thus ensuring a well-organised silo management. Contamination control is achieved by calculating carry-over risk per contaminant in a batch, leading to better control and flexibility.

Radar Automation, Leernsesteenweg 128 D, 9800 Deinze, Belgium. Tel: +32 9280 8383 Fax: +32-9280 8370 Email: info@radaraut.com OM Partners, Michielssendreef 39-48, 2930 Brasschaat, Belgium. Tel: +32 3650 22 11 Fax: +32-3650 22 90 Email: sales@ompartners.com



Sommen Automatisering – DOSCON Windows

DOSCON Automation software has been extended with more options for tracking and tracing of ingredients and products. T&T is custom made for every application for the price of serial solutions, very easy to use and suited for feed plants up to 150,000 tonnes per year.

The DOSCON software for the feed industry contains:

- Functional graphic display of actual process data
- Extensive and functional article lists with condemnation tolerances, preferred dosing places and family codes
- Recipe control
- Storage control
- Intake and delivery lists
- Batch tracking system
- Recipe control
- Production programming
- Multiple reviews
- Dosing data
 - External communication with modem, PC's en PLC's
- Extensive reviews regarding tracking and tracing
- Contamination reports.

Sommen, Bernardusstraat 4, 5113 TG Ulicoten, The Netherlands. Tel: +31 13 5199213 Fax: +31 13 5199617 Email info@sommen.nl



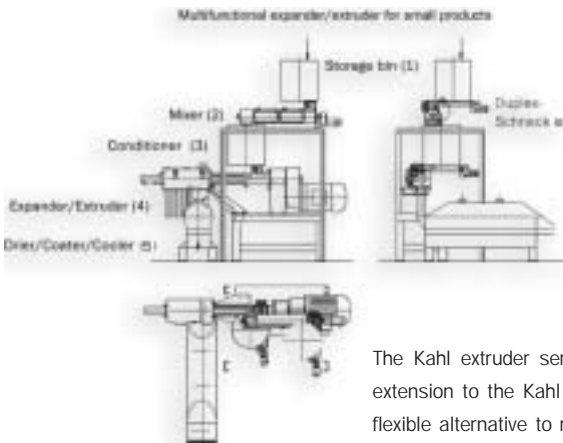
F E E D P R O C E S S I N G T E C H N O L O G Y

Amandus Kahl – Multifunctional Expander/Extruder for Small Products

This expander/extruder is specially designed for production of petfood, compound feed, fish feed, cereals and processing of other anorganic or organic powders or product without any structure that need to be formed. With a capacity of 100 kg/hr the machine is specifically appropriate for small batches, product development, product design and development of marketing strategies for future markets.

The machine offers optimal flexibility in extrusion through the special Kahl hydraulic changeable die and in expanding through the changeable cone and the combination of the different procedures during operation.

The separately grinded products can be dosed from a storage bin (1) with an auger into a horizontal mixer (2) for addition of liquids or steam. For conditioning of the mixture the machine is equipped with a conditioner (3) with a mixing device and a scale.



From here the mixture can be gradually fed to the extruder or expander (4) with an auger. When extrudates are produced the product can be dried, coated or cooled in a special device. For expandat production the machine can be extended with a pellet press for small products, type 14-175.

The Kahl extruder series OEE were developed as an extension to the Kahl Annular Gap Expander and is a flexible alternative to regular extruders. The system of the hydraulic changeable die discharges the machine in

case of overflow and offers a fast die change without the use of any specific tools. At production start the Extruder OEE does not require a specific high liquid addition and can be started with and "open" die. Furthermore the machine is equipped with heating/cooling outer walls and – when required – with pressure gauges and temperature meters.

Amandus Kahl GmbH & Co. KG, Dieselstrasse 5, D-21465 Reinbek, Germany.
Tel: +49 40 727 71-0 Fax: +49 40 727 71-100 Email: info@amandus-kahl-group.de

Bachelor Controls – BCI Autopilot v2.0 Automated Cooking Extrusion Control System

Bachelor Controls, Inc. (BCI) introduces the latest evolution in cooking extrusion automation. BCI Autopilot™ v2.0 offers extrusion operators all the power of the original — tight moisture control, operator consistency, advanced diagnostics, and excellent return on investment (ROI) — plus increased data management performance and operator flexibility with more scalability, new warm start-up and barrel pre-warm modes, and an easier user-interface with an improved look-and-feel. BCI has also reduced the overall cost of expanding BCI Autopilot to handle multiple extrusion lines and auxiliary equipment, such as dryers, coolers, coating, and product transfer equipment.

Utilizing Rockwell Software's RSView Supervisory Edition and Microsoft SQL Server Desktop

Engine (MSDE), Autopilot v2.0 offers the latest in control and database technology. RSView Supervisory Edition offers an integrated, scalable architecture to accommodate the needs of traditional, standalone Human-Machine Interface (HMI) / Programmable Logic Controller (PLC) systems and highly distributed industrial automation systems. BCI programmers leverage MSDE's data engine, built on core SQL Server technology, for improved data management performance and reliability.

One of the most popular improvements is the new overview screen. Designed to serve as the "cockpit," this screen contains information the operator needs to monitor the entire extrusion process. Operators also enjoy more efficiency with fewer screens to navigate and refined graphics that show more detail. The barrel

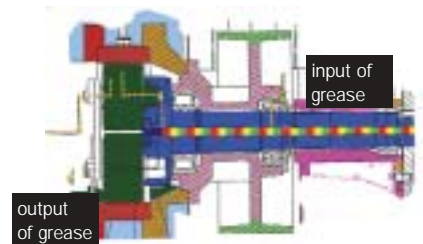


"pre-warm" mode allows the operator to begin warming up the barrel during extruder set-up, and the "warm start-up" mode starts the extruder more quickly when the equipment is warm and ready to go. Some customers using the system have seen more than a 40-percent increase in throughput on average and seen change-over times drop by over 65 percent.

Bachelor Controls, 123 N. Washington, PO Box 186, Sabetha, KS 66534, USA. Tel: +1 785-284-3482 Fax: +1 785-284-3461
Email: info@bachelorcontrols.com

Promill Stolz system prevents pellet contamination

With normal pellet press lubrication systems, grease continuously leaks from the roller onto the product. The Stolz system avoids this pollution, thanks to a special roller design which discharges grease outside the pellet mill, eliminating product contamination. Quantification of actual grease consumption is therefore easier, and in the future the system will allow the recycling of grease, thereby reducing costs.



Promill Stolz SA, R.N 12, 28410 Serville, France.
Tel: +33 2 3738 9193 Fax: +33 2 3743 2184
Email: promill@promill-stolz.fr

Buhler – ECOtwin Extrusion System with SME-Control-Module and Density-Control-Module

The Specific Mechanical Energy-Control-Module and Density-Control-Module that accompanies the ECOtwin extruder of Buhler makes it possible to control independently from each other cooking grade and texture and density

of the product. The process is described in a special article on page 34.

Bühler AG Extrusion Systems, CH-9240 Uzwil, Switzerland. Tel: +41 71 955 13 40

Fax +41 71 955 24 81 Email: markus.meyer@buhlergroup.com



SME Control Module: Schematic of the valve rolls and actuators (extruder barrel not shown); Figure on left: closed position; Figure on right: open position

Cimbria Unigrain - Unitest® Level Measurement Protector Line

Level measurement is important for almost any silo company world wide. Having a reliable level measurement system provides the management and operators with a complete picture of the storage status, (how much is on stock and how much capacity remains). This tool is essential when the management or the operator has to determine/optimize bulk sales or purchase.

Within the last 20 months, Cimbria has developed and tested a new software system for the Cimbria Temperature Monitoring System. One of the new features within the new software is level measurement based on fluctuations in temperature values. Conventional level

measurement systems are in principal not something new, but the Cimbria level measurement system is unique because it is based on temperature values obtained from temperature sensors placed within the storage facility and

not generated from a separate conventional level measurement system with capacitive sensors or transducers.

The Grain Storage Control system is of the type Unitest®Protector provided with temperature monitoring facilities. All equipment is of heavy-duty type for installation in silos and flat stores where severe load and environmental conditions are present. Thermostats are placed in hanging cables with PVC outer sleeve and reinforced steel wire. Electronic address cards for sensor inputs from 1-8 sensor cables are installed in a distribution on top of the building. All address cards are interconnected with 4-wire bus cables for power supply and communication to the interface rack of the central monitoring unit.

The central monitoring unit is a standard personal computer with colour monitor, keyboard, mouse and printer. All temperatures are recorded in a graphical program under MS Windows, which makes calculation and analysing facilities possible for each temperature sensor or sensor temperature, delta temperature, alarm set points for actual temperature

and delta temperature, trends for temperature development for the past 24 hours, 1, 2 or 4 weeks are standard. All alarm temperatures can be set individually or in groups. All records are automatically saved on the hard disk and can be printed at any moment. Maximum protection of all electronics is provided in the address card circuits and in the interface rack between the personal computer and the address cards. The price for conventional level measurement systems ranges normally from US\$ 1,600 to \$2,500 per silo bin. The Cimbria system ranges from \$200 to \$300 per bin depending on the number of bins in the installation. In order to install and operate the Cimbria level measurement system, it is a must that a Cimbria Temperature Monitoring System is already installed. Installation costs are very small, as only the software program has to be installed. Instead of maintaining two systems (conventional level measurement system and conventional TMS) the client is offered a two in one solution for "almost" the same price as one.

Cimbria Unigrain A/S. Præstejorden 6. 7700 Thisted. Denmark.

Tel: +45 9617 9000 Fax: +45 9617 9299

Email: unigrain@cimbria.com

Conforma Clad – Tungsten Carbide Wear Protection

Conforma Clad has developed a new proprietary process to apply their tungsten carbide coating to the complicated configurations of screws used in single screw extrusion. This is the first wear product available on this tough application in the world today.

The infiltration brazing process forms a metallurgical bond between the original substrate and the tungsten carbide cladding, eliminating cladding separation or "collapse" of sleeves. This process allows Conforma to match the exceptional wear characteristics of their coating on both screws and barrels.

With the carbide wear protection vital components, like barrels and screws,

extruders operate four to seven times longer between maintenance cycles. Because of the drastically slower, more even wear, the quality of the products will be more consistent.

Conforma Clad Inc., 501 Park East Boulevard, New Albany, IN 47150, USA. Tel: +1 812 948 2118 Fax: +1 812 944 3254

Email: ceversmann@conformaclad.com



Dinnissen – Vacuum Core Coating for Pelleted Feed

Fats and oils become more and more important ingredients in animal diets. Type of animal and market conditions determine how much of these liquids are used. Available methods and equipment are usually not appropriate to handle current requirements and conditions. Conventional equipment experiences problems in dealing with high fat or oil contents in



feed, which leads to weak pellets, storage problems, fouling of silos and vehicles and poor flowing properties. Dinnissen solves these problems with their Vacuum Core Coating (VCC) technology.

Research has shown that there still are various alternatives to use, especially in turkey and broiler feed. Apart from solving the problems as mentioned above the system also allows a homogenous mixing of vitamins and additives. VCC is based on the fact that the cavities inside a pellet are filled with material by using vacuum technology.

The liquids are transported to the core of the pellets in a vacuum (negative pressure), which avoids fouling of the outer surface of the pellet. The batch system guarantees maximum accuracy and homogeneity for addition of fats and oils to the basic feed pellet.

The VCC systems consists of a pellet weighing and dosing system, a special mixer (type Pegasus, designed for vacuum operation with an external heater), a liquid weighing and dosing system, vacuum pump, filter, meters, fittings and valves. The automatic system can be build into existing pelleting lines.

Process flow. The VCC process starts with filling of the mixer tank with an exact weight of pellets after which a vacuum is build up. The exact volume of liquid is sprayed on the surface of the pellets and then the vacuum is released. Air flowing back into the cavities takes the fat or oil to the core of the pellets whereby the pellet surface stays clean. The fat fortifies pellet quality and abrasiveness. Additives also remain inside the pellets and are better protected against oxidation and abrasion.

Advantages:

- Less contamination in silos and transport equipment
- Less dust (and thus a higher feed efficiency)
- By adding liquids and dry enzymes or other micro components tailor made feeds can be achieved in one system and
- Better bonding force after VCC saves energy in grinding and pelleting.

Dinnissen BV, Horsterweg 66, NL-5975 NB Sevenum, The Netherlands.

Tel: +31 77 4673555 Fax: +31 77 4673785 Email: powtech@dinnissen.nl



Fischbein – Bag Sealer SVW

Fischbein has broadened their bagging technology to vacuum closing of large bags. The new SVW is able to seal almost all thermo-sealable materials, from manual to automatic operations and with or without neutral gas re-injection. The system is fully made of stainless steel and can be integrated in automatic lines. It is PLC controlled and probe holders



stretch the bag to avoid plies. Two or three probe holders are installed depending on air volume and vacuum. For manual operations the SVW is equipped with a special safety device.

Fischbein Co., Paepsem Business Park, Boulevard Paepsem 18b, 1070 Brussels, Belgium. Tel: +32 11 32 2 555 11 70 Fax: +32 11 32 2 521 27 68

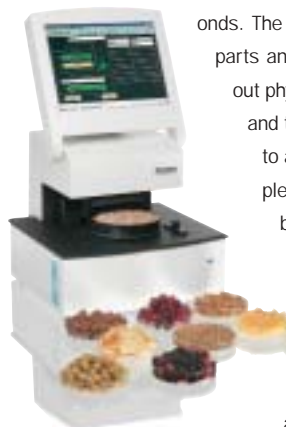
Email: fischbein.sales@hebel.net

Perten Instruments – Diode Array 7200

Perten Instruments has developed the first dedicated complete NIR lab-system with incorporated diode array technology, which

enables to measure time within milliseconds.

The system has no moving optical parts and samples are measured without physical contact of the equipment and the sample. The system is able to analyse intact and ground samples, such as whole grain, soybeans, pellets and comes pre-calibrated for raw-materials and mixed feed.



The advantage of the incorporated diode array technology is the ability to analyse intact and ground sam-

ples within one system. It is compact and robust for at-line use and comes with a complete on-board PC data system.

Perten Instruments, PO Box 5101, SE-141 05 Huddinge, Sweden. Tel: +46 8 880 990 Fax: +46 8 881 210

Email info@perten.com



Skov – ATEX Approved Level Switch

The capacitive proximity sensors in the DOL 40R series from Skov A/S are now available with ATEX approval. The sensors are certified for zone 20 – areas with constant danger of dust explosion. On the 1st of July 2003 the European ATEX directive came into force. It includes all mechanic and electric equipment, which is used in potential explosive areas. Here static electricity can trigger off explosion fires. But the new ATEX approved 40R series increases the safety. The series has been tested and approved by independent laboratories and is designed for usage inside containers – e.g. with grain, feed and granulated material – where there is risk of dust explosion. The sensors in the DOL 40R series even have their own amplifier and changeover relay, so no additional ATEX approved equipment is required. The models in the DOL 40R series are already CE and C-UL approved. All the sensors are delivered in a Ø30 mm cover, which is dust- and waterproof. The sensor is easily mounted in an ATEX gland, which creates electric connection to the mounting surface via conductive packing. From here it is easy to earth the installation.

SKOV A/S, Hedelund 4, Glyngøre, 7870

Roslev, Denmark. Tel: +45 72 17 55

55 Fax: +45 72 17 59 59

Email: skov@skov.dk





Van Aarsen – Long Term Conditioner LTC1000

Bio-security needs to be considered and is a point of attention, especially when conditioning the feed. A longer conditioning time with the right temperature and moisture results in a better hygiene status and

therefore increases feed safety. On its self this is not a new issue, however, the surplus execution of this machine with its features is completely new in the market.

Features: ● A guaranteed "first in - first out" of the product ● 4 minutes retention time, with a capacity of 35 m³/h (17,5 t/h at 500 kg/m³) ● Individually driven, frequency controlled, integrated, pelletmill feeding device ● Integrated conditioner and automatic steam quantity control

● **Some advantages of the LTC1000 are:**

- Accompanying automation to reach the requested retention time (up to 4 minutes), independent from the load of the machine
- Also to be used for heat treatment of mash
- Very low energy consumption (3 kW main screw / 4 kW extraction disc)
- Steam or electrical heated

Van Aarsen International, Heelderweg 11, 6097 EW Panheel, The Netherlands.
Tel: +31 475 579444 Fax: +31 475 579223 Email: info@aaarsen.com

Wenger - Back Pressure Valve

Final product characteristics can be controlled by extruder die restriction. Wenger has developed the revolutionary Back Pressure Valve (BPV) to adjust die restriction while the extrusion system is in operation. The variable-opening BPV is mounted on the end of the extruder prior to the final die.

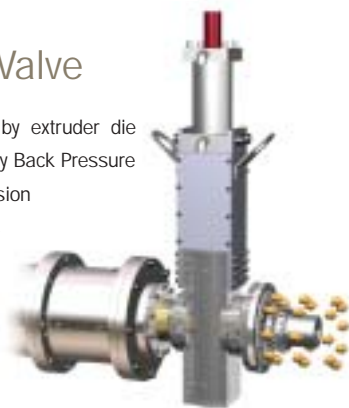
Specific Mechanical Energy (SME) and extrusion pressure are process parameters controlled by valve positioning. The BPV provides internal control of shear stress and **SME for regulation of important product properties:**

- Bulk density
- Size and uniformity of cell structure
- Starch gelatinisation
- Shape definition
- Palatability
- Water and fat absorption

The extrusion process for pet food and aquatic feeds is more stable with a BPV and pre-conditioner/extruder temperature requirements are lower. The BPV also eliminates the need for altering the extruder configurations between different product families. An integral part of the BPV is a by-pass feature to divert product from the die/knife assembly for service and start-up/shutdown procedures, which also improves sanitation in this area.

Advantages of this product:

- No need for extruder barrel configuration change to obtain wide range of products and densities.



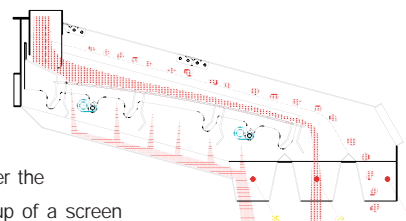
Operation mode: The variable opening BPV is mounted on the end of the extruder prior to the final die.

- Bypass function allows for cleaner start-up, as product will be diverted to the die only when it has reached the correct moisture.
- Bypass function will prevent plugging of small die openings upon start-up.
- Bypass opening provides safer die removal as it relieves pressure at the die upon shutdown.

Wenger, Suite 510 Northpointe Circle I, 7505 N.W. Tiffany Springs Parkway, Kansas City, MO 64153, USA. Tel: +1 816 891-9272 Fax: +1 816 891-8969

Wijnveen – Vibrating pellet screen with adjustable fraction separation

A new patent pending development is presented by Wijnveen International consisting of a vibrating pellet



screen that is installed after the cooler. The sieve is build up of a screen with fixed bars and an underlying screen with adjustable bars. Adjustable means that the distance between the bars can be changed without changing the screen. Bar distance is flexible between 1 and 12 mm. The main advantage of the system is that the screen does not have to be changed anymore after pellet size changes. This type of screen also does not clog and thus is 'self cleaning'. The culvert between the bars is accurately controlled by means of a computer and the screen is even able to sieve half pellets.

Wijnveen International BV, PO Box 38, 6666 ZG Heteren, The Netherlands. Tel: +31 26 4790699. Fax: +31 26 4790698 Email: sales@wijnveen.nl

Neuero Industrietechnik – Flexiport

Flexiport, first seen at the Essent power plant in Gertruidenberg, the Netherlands in November 2003, is the first continuous



ship unloader for biomass. The system was designed to unload ships and barges in a continuous and enclosed form; this is, according to environmental guidelines, essential in high-dust areas and in areas containing hazardous materials. Neuero Industrietechnik für Förderanlagen GmbH, Neuerostr. 1, 49324 Melle, Germany, Tel: +49 5422 95 03 0 Fax: +49 5422 95 03 50 Email: neuero@neuero.de