BrightAnimal: taking a multi-disciplinary approach to practical and acceptable Precision Livestock Farming for SMEs in Europe and world-wide

BrightAnimal is a European Union Framework 7 project looking at the use of identification, sensory and location technologies in the practical and acceptable development of precision livestock farming (PLF).

It is particularly concerned with the social, ethical and environmentally sustainable concerns surrounding PLF, all of which must be addressed to make the increased use of technology acceptable to consumers. With a focus on the needs of small and medium sized enterprises (SMEs) it will make recommendations on how to make PLF technologies and systems a practical proposition for producers.

Delegates from five countries attend BrightAnimal launch
Page 5

E-Traceability in Thailand
Suparek Sooksmarn
Page 6

Food Information and Traceability: What is this whole traceability thing about?
Heiner Lehr
Page 9

Animal welfare: What is it?
Eugen Kokin
Page 11

Meet our global Partners
Page 14

Why a project on Precision Livestock Farming?

Precision livestock farming is seen as a way forward in a world in which there is growing concern about food and its impact on human health, animal welfare and in which food producers are facing reduced profit margins.

The European Union recognised this and initiated the BrightAnimal project to examine the whole topic. As a Co-ordinated Support Action project, BrightAnimal will not initiate new research but will assess and review existing research and make recommendations for the future development of PLF.

With partners and advisors from 13 countries the scope of BrightAnimal is not limited to the EU, reflecting the increasingly global nature of the food supply chain. Partner countries are: China, Malaysia, South Africa, Thailand, Australia, Brazil, UK, Spain, Denmark, Norway, Estonia and the Faroe Islands, while the USA, France and Germany are represented among the project advisors.

So, what is PLF?
Partners in BrightAnimal quickly decided that there was a need for a definition of PLF to act as a framework and focus around which their work would be based. It is:

"Precision livestock farming is defined as covering the life cycle management of animals and exploiting multiple identification and associate sensory and location technologies to optimise feeding and control to achieve objective yield factors, improved animal health and optimised usage of resources with respect to such factors. Traceability and food information management is an integral part of the PLF concept."

And what will BrightAnimal achieve?
BrightAnimal’s prime objective is to contribute economically, socially and environmentally sustainable development by outlining a practical and acceptable methodology for PLF. To help achieve this goal, BrightAnimal has this mission statement:

"To produce a framework for European and non-European small and medium enterprises on effective and acceptable precision livestock farming and to create an International, Interdisciplinary network for further development and dissemination"

The main achievement of BrightAnimal will be the production of a book on PLF in Europe and world-wide with special emphasis on the needs of SMEs. It will describe current and near-future techniques in PLF, taking practicality and acceptability into special account.

The book will also set the scene for future developments and explore the business case for PLF, including cost and benefit analyses for SMEs. The societal, environmental and animal welfare aspects of PLF will also be examined and recommendations made for industry, research institutes and policy-makers.

Equally importantly, BrightAnimal will also produce best PLF practice guides for a series of “problematic” areas such as aquaculture, dairy cattle, pigs and chicken/eggs.

Join the BrightAnimal Forum!!
The BrightAnimal project wants to gain as many views, opinions and experiences of precision livestock farming as possible. Why not join our Forum at www.brightanimal.eu and contribute yours to the global PLF debate.
The series will conclude in Johannesburg on September 8 – 10 when workshops for work package 3 (systems and best practices in PLF) and work package 4 (food information management and advanced traceability) will be major elements of the first e-Africa conference.

In Tartu the BrightAnimal workshops will be held in conjunction with the Biosystems Engineering conference also being hosted by the University (www.bse2010.emu.ee) with delegates welcome to attend sessions at both events and to participate in farm visits on the final day.

The workshops will be chaired by Eugen Kokin, of the Estonian University of Life Sciences and leader of WP1, and Anthony Furness who leads WP2 and is technical director of AIM UK.

Keynote speaker in WP1 workshop will be Prof. John Webster, Emeritus Professor at University of Bristol, UK. Other speakers include Jukka Ahokas and Matti Passtel (University of Helsinki) and Violeta Juskiene (Institute of Animal Science, Lithuania)

The Copenhagen workshops will be led by Thorkild Nielsen of the Technical University of Denmark (WP5) and Olavur Gregersen, managing director of the Bitland, Faroe Islands (WP6). Among the distinguished panel of speakers are expected to be Juma Salim from the University of Ottawa, Canada (profitability of dairy cattle through PLF), Ragnar Joensen of Marinharvest Faroes (implemented PLF systems in aquaculture and documented profit), Daniel Berckman, Leuven University, Belgium (precision livestock farming – push or pull?) and Henk Hogeveen, Wageningen University, Netherlands (a practical perspective on investment in precision technologies)

BrightAnimal’s Johannesburg workshop, “Acceptable and Practical Precision Livestock Farming”, will be an integral part of e-Africa 2010, the 1st International ICST Conference on e-services for Agriculture, Food, Environment and Life Sciences in Africa (www.eafricaconference.org)

Among the speakers will be Prof. Alexander Sideridis, president of the Hellenic Scientific Council for the Information Society (HSCIS), Mncane Mthunzi, chief executive officer of the Consumer Goods Council of South Africa, Alaaf Fahmy, Ettrace director at the Egyptian Traceability Center for Agro-Industrial Exports, Petter Olsen of Nofima Market, Norway (WP3 leader) and Heiner Lehr of FoodReg, Spain (WP4 leader). Full programme details for all workshops will be available at www.brightanimal.eu

If you require any further information about the technical content of the workshops, or would be interested in speaking, please contact the work package leaders direct:
WP1: Eugen.Kokin@emu.ee; WP2: Anthony.furness@btconnect.com; WP3: petter.olsen@nofima.no; WP4: heiner.lehr@foodreg.com; WP5: thom@man.dtu.dk; WP6: og@bitland.fo
To register your interest in attending any of the workshops please email andrewc@aimuk.org

Lack of space hampers farmed salmon survival

Being too crowded in hatcheries can damage the survival chances of young salmon when they are released into the wild, researchers at the University of Gothenburg have found.

Large numbers of young farmed salmon, or smolts, are released into Scandinavian rivers every year but those that are conventionally raised struggle to survive, partly because of a lack of “personal space” in the hatcheries, the research suggests.

It shows that fish raised in less crowded environments make the transition to the wild more successfully.

Sofia Brockmark, researcher at the university’s Department of Zoology, said: “The combination of high density and lots of food affect development. Our experiments show that salmon raised in a more spacious environment, meaning it is more similar to nature, are better at adapting to life in rivers and streams.”

An additional hypothesis is that hatchery-raised salmon are fed too much and that their diet is too high in fat.
Nearly 50 delegates from five continents ensured BrightAnimal’s successful launch when they attended the project’s kick-off meeting in the UK. Project co-ordinator Ian G. Smith told delegates that over two years BrightAnimal would work towards producing a framework for effective PLF which would be practical and acceptable for small and medium-sized enterprises in Europe and world-wide.

In particular it would focus on the potential for using location and identification technologies such as RFID, barcodes, mobile data capture and natural feature identification to optimise the use of feed and other resources and to improve yield factors, animal health and welfare. Its work, said Ian Smith, would contribute to the economic, socially and environmentally sustainable development of the livestock industry.

Giving the keynote address, Prof. Dr. Daniel Beckmans of Leuven University, Belgium, and a world authority on precision livestock farming, said PLF had huge potential to contribute to modern livestock farming. It would help meet the challenges posed by an expected 40% increase in demand for meat over the next 15 years, the need for higher levels of assurance on food safety and quality and the effects of livestock production on the environment.

He added that the PLF debate had so far failed to take the needs of farmers into account. With lower product prices, higher animal numbers and more welfare and environmental issues to address farmers now had less time to devote to individual animals and audio-visual scoring was no longer practicable. Technology could help but it must be strongly focused on the needs of the primary producer.

Ian Smith added that the conference’s international attendance showed the need for a unified approach to PLF and for a framework that would make it accessible to producers. “BrightAnimal is essentially about developing technology systems and best practice guidelines to make life easier and business more profitable for small producers. That is why at the outset we wanted to have the views, experiences and concerns from as many global markets as possible. Thanks to the enthusiastic participation of delegates the project partners are well placed to determine the priorities and focus of their work.”

However, he warned that the potential of PLF to transform livestock production would only be realised if the systems were made user-friendly and farmers could easily understand the on-going benefits. “There is also the need to communicate with consumers and retailers on the improvements to animal health and welfare that PLF can enable. These enhanced areas will, in turn, lead to higher quality products and better levels of food safety.”

E-TRACEABILITY SYSTEM IN THAILAND
By Suparerk Sooksmarn of Kasetsart University, Bangkok

In Thailand, a food traceability system has been widely used in both government and private sectors. In the government sector, the National Bureau of Agricultural Commodity and Food Standards (ACFS) joined the Department of Fisheries and Department of Livestock and launched “the e-Traceability for Agricultural Commodity and Food” as a pilot project in 2007. Initially, the project chose two potential export products - namely Pacific white shrimp and chicken. The systems were used as role models for expanding e-traceability to other agricultural products.

In the private sector, Betagro Public Company Limited has created e-traceability for tracking the origins of chicken food products and there has been a website for the system since 2002. The company provides what are called “Spy on Me Kioks” at 14 Betagro shops around the country, allowing consumers to trace food products back to their source.

At present, the e-Traceability system for shrimp at the Department of Fisheries comprises the following details:

1. Information such as broodstock collected from domestic or abroad, whether it is from earthen pond or sea, how shrimp larvae reared to the post-larvae (PL) stages as well as the feed used are recorded. Then PL is transferred to farms with a Fry Movement document attached. All information is transferred to the e-traceability system.

2. After receiving PL from the nursery, farmers must record the feed data (company, name, batches) and COC/GAP practice information. After harvesting, the Movement Document will be prepared and sent to the e-traceability system.

3. At the processing plant, data on raw materials (date received, MD), processing (production data, sizes) and the finished products are transferred to domestic or export traders and then sent to the e-traceability system via electronic data interchange (EDI).

4. Data on incoming raw material, quality, and processing are examined and certified by the Department of Fisheries (DOF). Information on the feed to hatcheries and farms movement is recorded and sent to e-traceability system via EDI.

To view speaker presentations from the BrightAnimal launch conference go to www.brightanimal.eu
The Department of Livestock launched the e-Traceability project in the poultry industry in 2008. The framework of e-Traceability System at Department of Livestock covers from Parent Stock Farm to Further Processing Plant.

The Department of Livestock carries out the e-traceability project by developing the database center system to ensure the same standard for livestock product quality. This system links poultry exporter and others in the food chain. Consumers can trace back information to the assembly line. When officers find a residue of chemical or contaminant, they can have the product recalled. The system can identify the origin of chemical residue and contaminant accurately.

The architecture of e-traceability is divided into six parts (with interconnection), namely Parent Stock Farm, Hatchery Farm, Broiler Farm, Slaughter House, and Further Processing Plant. The software requires data from two components:

1. Master data from poultry entrepreneur including Type of Foods, Farm Data and Slaughter House data are transmitted via direct electronic data interchange (EDI).
2. Transaction data from the Department of Livestock’s e-service system, Bureau of Quality Control of Livestock Products, and National Institute of Animal Health.
   - E-Service system from Department of Livestock: consists of Farm Registration, Movement Document, Registration of Slaughter House, Further Processing Plant, which have been issued Health Certificate for export by Department of Livestock.
   - Bureau of Quality Control of Livestock Products: consists of results from Slaughter House, Further Processing Plant and Feed Mill Laboratory.
   - National Institute of Animal Health: consists of laboratory data from inspection before transfer to Broiler Farm.

In the private sector, development of e-Traceability systems is exemplified by Betagro PLC which is an agricultural commodity and food company marketing for both local and export consumers. It is the first time the livestock and food industry in Thailand has used a full version e-Traceability system.

The system was established in 1999. First, it focused on the entire poultry chain, covering Parent Stock Farm, Hatchery, Broiler Farm, Feed Mill, Slaughter House, Further Processing Plant, and Pharmaceutical Plant. The system can trace the origins of foods at every step with accuracy.

Now, Betagro has further improved the e-Traceability system and is the first private company in Thailand to provide a computer system – known as “SPY on Me Kiosks” - to leading department stores for consumers to trace back food before buying.

The e-Traceability system in the food industry could increase competitiveness of companies. By applying modern technology for planning, controlling and future operations, the system provides added value to the product as well as strengthening product quality control from farm-to-factory and export. More importantly, it would cut the trade barrier problem, which in turn, would help Thailand increase foreign currency earnings. Furthermore, the e-Traceability system works as a database for product source of origin and laboratory test results. Authorities can issue hygiene certificates faster so that producers can export goods more efficiently. The e-Traceability system has improved the competitiveness of Thai agricultural products in the world market. The system will maintain Thailand’s export potential by meeting the requirements of these international markets.
Traceability is simple. Traceability is about knowing where a food item is or has been at a particular moment and what has been done to it. So if you are a yoghurt producer this means being able to find out what products have been affected by a particular problem your milk supplier had and being able to pinpoint where these products are now. Traceability really is good record keeping, following the materials through the process and from company to company. Traceability is linking the farm to the fork and the fork to the farm.

However, sometimes it is not possible to follow through all the steps with all details. Traceability then might be limited to recreating some parts of the history of a food item, such as the origin or a particular production method. That’s extremely important to avoid fraud, for example for regional products, or to assure that a food product has been elaborated according to your religious or social standards.

Traceability is about managing well the food supply chain – for example, in case of incidents –, about providing better information to supply chain partners and to consumers, and about getting into and staying in the market.

Traceability is like accounting, only with food.

The interesting thing about traceability is that it establishes a communication channel along which information can be exchanged. Suddenly, a buyer can take a look into detailed vaccination records of a particular range of animals from thousands of kilometres away; this is not at all trivial right now.

Traceability, or really food information management, also helps in establishing a common terminology or an automated translation between different terms. Just to make sure that you are not given - as the Spanish so aptly put it – cat for hare.

Food information can also be very valuable for efficiency purposes. Much waste and spoilage could be avoided, if the companies had fast access to critical data, such as the best before date or the temperature profile (in case of chilled or frozen foods). Knowing exactly what is in your stock and what you should take out first would be a powerful moneymaker.

Food information management and Precision Livestock Farming

In Precision Livestock Farming (PLF) in particular, food information management and traceability are a representative of the “precision” part in the term.

Traceability in Precision Livestock Farming has three main stakeholders: public administration as safeguards for human safety, private businesses for improvement of their efficiency and consumers requiring information related to an improved food choice.

Modern visions of traceability actually understand it as a natural part of food information management, which aims at capturing, storing, monitoring and providing information about food production.

Within the area of Precision Livestock Farming traceability has three major concerns:

- Identification
- Monitoring the material and the information flow
- Integration with best practice/food safety data

Identification is a long studied, but ever revisited topic in traceability in general, but more specifically in PLF. Experts in traceability agree that the best possible solution is item-based identification; organisations like GS1 support this view.

However, the problems related to item-level identification are manifold, and mostly concerned with the efficiency of data capture. The advent of Radio Frequency Identification (RFID) promises to solve these issues effectively. Although passive RFID tags are mainly used for identification purposes and don’t usually hold additional data themselves, the contactless readability of the identifier in itself enables applications which before were too costly to implement.

Indeed, a number of countries have already adopted RFID for controlling movements of larger animals (mostly bovine and ovine). It is a purpose of BrightAnimal to develop a view on the use of RFID for identification of animals, as well as to review a number of alternatives which are (a) less cost intensive and (b) appropriate for other kinds of animals.

Another important area of traceability in PLF is that of geo-traceability. Linking geographic information to the animals allows completely new insights, which are more than relevant for PLF. The most interesting topic here is probably position control. From such control a number of insights can be drawn, be it on grazing efficiency, early detection of diseases by movement patterns, loss control (especially for wild animals) or even origin and automated movement control. However, the application of geo-traceability to PLF is usually beyond the possibilities of SMEs. The work carried out in this area will evaluate existing and emerging technologies in this area for their immediate and future use on the farm.

Having identified and possibly geo-referenced either individuals or herds of animals, the next technological challenge is the capturing, storage, monitoring and provision of data related to the animals. In the absence of clear legislation or regulation most food business operators have the difficult decision to make on the degree of breadth and depth their traceability system should have. This decision has important impacts e.g. on the data capture requirements and therefore on the time the farmer has to spend each day inputting data. Modern traceability systems recognise this issue and offer advanced tools to speed up the data capture process. Nevertheless, and especially for SMEs, the right balance is the key to success. Available technologies will be compared based on the recommendations of the FoodTrace framework for traceability systems. It will identify the most relevant technologies for food information management especially for SMEs worldwide. Special attention will be paid to data capture technologies which can be used on the farm and which utilise mobile platforms like PDAs and mobile phones.

The use of traceability, however, needs to cross the boundaries of a single farm. Driven by the consumer’s infolust and an increasing concern of the public administration about the safety of their food production world-wide, farmers need to supply more and more data. The most efficient solution for this data provision is the implementation of chain traceability solutions, like the one used in the Malaysia Food Information and Traceability project. Although proprietary solutions exist, it is relatively clear that a standard for data exchange between traceability systems can help to implement global traceability. TraceCore is currently the best candidate for such a standard and it is used in numerous pilot projects by SMEs in Europe and beyond. And these ad-hoc standards will be reviewed BrightAnimal’s Work Package 4.

It is, however, not sufficient to follow the material and information flow in order to ensure human health. Best practise records and food safety records must be as readily available as origin and destination data. Consumers want to be able to drill down into data e.g. on sustainability of the production, on fair trade prices and on certification data. Public health authorities will want to have immediate access to consolidated data in case of a food crisis. In the near future, certification agencies will probably want to partially conduct their inspection on-line. Intelligent strategies for the integration of best practices with traceability are required. But how much can be done by the SME? BrightAnimal will review existing and emerging technologies especially under the focus of their practicability for European and non-European SMEs.


Source: Trendwatching

M:FIT; see www.m-fit.info

Developed mainly by the 6FP TRACE IP as part of the TraceFood Framework, supported by all EU-funded food traceability projects by the 6FP PETER (Promoting European Traceability Excellence & Research) coordination action.
Animal welfare has become an important issue in many countries around the world. As humankind is dominating over the animals, it also has the responsibility for animal welfare. Mahatma Gandhi has stated: “The greatness of a nation and its moral progress can be judged by the way its animals are treated.”

Animal welfare has been defined in various ways. Most definitions state that good welfare occurs when animals are in harmony with their environment (Hughes, 1976). Some definitions emphasize that good welfare occurs when animals are able to cope with their environment (Broom, 1986). However, Duncan and Pethrick (1991) declared. “Welfare is solely dependent on what the animal feels”.

The world’s first animal welfare organization, the Society for the Prevention of Cruelty to Animals, was founded in 1824. In 1967 the UK government set up the Farm Animal Welfare Advisory Committee, which became the Farm Animal Welfare Council in 1979. The committee’s first guidelines recommended that animals require the freedoms to ‘stand up, lie down, turn around, groom themselves and stretch their limbs’. The guidelines have since been elaborated to become known as the Five Freedoms:

1. Freedom from Hunger and Thirst – ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from Discomfort – by providing an appropriate environment including shelter and a comfortable resting area.
3. Freedom from Pain, Injury or Disease – by prevention or rapid diagnosis and treatment.
4. Freedom to Express Normal Behaviour – by providing sufficient space, proper facilities and company of the animal’s own kind.
5. Freedom from Fear and Distress – by ensuring conditions and treatment which avoid mental suffering.

Increasingly, productive animal welfare is becoming an integral part of food quality. Monitoring of welfare can provide a guarantee to consumers that the products they buy are from healthy animals that were kept in ways that are in accordance with good farming practice. The first Welfare Quality® assessment system for animal welfare in Europe was established in 2009. The main criteria by which to assess cattle, pigs and poultry welfare are based upon the four “Principles of animal welfare”: “good feeding”, “good housing”, “good health” and “appropriate behaviour”. The developed protocols can be used not only to assess the animals’ welfare but also to provide feedback and support to producers, thereby helping them to benefit from entry to some higher value markets.

Productive animals’ environment and management requirements depend on species (cattle, pigs, poultry, fish etc.) and state of development (rearing, production, transport and slaughter – end of life). The push for efficient production, although arguably promoting animal welfare at some levels, is widely perceived as creating certain animal welfare problems (Scott et al, 2001). However, as automation lessens contacts between human and animal to minimum, possibilities to discover individual animal’s welfare and health problems in proper time decreases. At the same time, precision livestock farming permits automated monitoring of different welfare indicators. The developed technologies applied in precision farming include several sensors and methods based on automatic animal identification systems for measuring temperature, weight, udder condition, oestrus, respiration etc. (Beckmanns, 2004). Although biological processes involving living organisms have always been considered as too complex to be monitored and controlled in an automatic way, today new emerging technologies offer possibilities to develop full automatic on-line monitoring and control of many of these processes (Beckmann, 2004).

Automatic recording of dynamics in body weight and body condition scoring is based on the image processing technique (Leroy et al, 2005), monitoring systems of cattle health are based on GSM body temperature and other sensors (Wang et al., 2006). Behaviour monitoring systems enable us to record cows’ movements (Scheibe et al., 2003), nutrition and rumination (Kononoff, et al., 2002; Ungr and Rutter, 2006) etc. For automated detection of leg diseases and lameness in cattle on large loose housing farms automatic scales are used (Rajkondawar et al., 2001) or gait analysis is applied (Flower et al., 2006). Respiratory infections in pigs are monitored by characterisation of cough sounds (Ferrari et al, 2007) and localisation of sick pig cough sounds (Exadaktylos et al, 2007) etc. For references see page 13.

World Food, Production Efficiency and the role of Object-connected ICT

By Anthony Furness. Technical Director, AIM UK, BrightAnimal Work Package 2 Leader

The world population is increasing rapidly. It is estimated that by 2050 the population will have increased by 35% to a staggering 9.1 billion, compared with 6.7 billion in 2008. The demands for food and feed, including food products in the form of meat, will rise accordingly. This too will impact upon food production techniques and the intensiveness of animal production. Coupled to this is the need to ensure appropriate animal welfare, in line with, for example, the UK Farm Animal Welfare Council “five freedoms” guidelines as presented in Eugen Kokin’s article in this issue.

To accommodate this challenge requires increasing attention to sustainable precision livestock farming (PLF).

PLF has been defined as “the management of livestock farming using the principles and technology of process engineering, whereby PLF treats livestock production as a set of interlinked processes, which act together in a complex network”. While such a definition provides a framework the challenge requires further development of the PLF foundations, in terms of principles and technologies, and in ways that can effectively address the future needs for welfare and efficient production. These principles may be seen to extend from those of total quality, in the generic sense attributed to Deming, and profound understanding of processes and systems, accommodate developments in automation and control and more effective use of identification, data capture, information processing and systems modelling. Seeing it in the wider context of precision agriculture also adds further dimension and capability to animal production systems (APS) development and allows more effective attention to environmental issues, such as sustainability, waste management and carbon-footprint. So too, developments in automation and innovation, with recursive control and reflexive interactive design (RfD) examples of such developments specific to PLF.

A very important foundational component that links to, and effectively extends, these foundations in a way that adds to the capability of radical process and systems development and innovation is object-connected ICT. This is viewed as a collective term for the extending range of automatic identification and data capture technologies (AIDC) and associated principles and application methodology.

With this extending technology base, AIDC may be positioned and viewed within mainstream ICT as object-connected (also known as item-attendant) ICT, where any technology attached to, embedded within or accompanying objects of any kind can be considered object-connected, and where identification and information are used in a connected ICT. This is a platform that has significant impact in other industrial, commercial and service sectors and can be seen as a particularly important enabling platform for PLF development and a design foundation for applications and services. The extended technology platform includes a rapidly expanding sensor networks based on radio-frequency identification (RFID) and other radio-based technologies, local communication and location technologies. The extended technology base and principles being identified for object-connected ICT also provides a platform for combining or integrating technologies.

BrightAnimal, through its work package 2, Identification, Sensory Data Capture and Integration, and links with other work packages, develops a foundational platform for PLF that will assist in meeting the challenges surrounding future world food production with appropriate attention to welfare and environment.

Food and Agriculture Organisation of the United Nations – FAOSTAT – FAO Statistical Database

ter Beck, V (2009) Optimising production efficiency is the key, Pig Progress vol 25, 9, -6


Deming, W E (1986) Out of the Crisis, Massachusetts Institute of Technology Center for Advanced Engineering Study


A typical farm in Estonia...
was established to offer impartial advice and easy access to the technologies that have more than 35 years experience in journalism, public relations and marketing.


US store to stop selling farmed salmon

Leading US discount store Target Corp. has announced it will stop selling farmed salmon and instead offer only wild-caught Alaskan salmon.

Target says it wants to ensure that its salmon is “sourced in a sustainable way that helps to preserve abundance, species health and doesn’t harm local habitats,” according to the LA Times.

The Minneapolis based company, which has 1,744 stores in 49 states, says salmon farms could harm the environment through pollution, chemicals and parasites. Stocking seafood from “ocean-friendly sources” would help improve fishing and fish-farming practices around the world.
FoodReg Technology is a leading provider of total traceability for food and agriculture-based industries – assisting businesses and authorities in the implementation and verification of best practice compliance. Its goal is to increase the profitability of supporting all stakeholders world-wide who wish to improve food safety, enhance sustainable production and provide consumers with more choice. FoodReg develops and deploys information technology solutions and services which provide automated controls, record-keeping and traceability and offers professional expertise in best practice implementation. It has headquarters in Barcelona and operational units in Europe and Asia.

Heiner Lehr is technical director of FoodReg, the international technical supervisor for the Malaysian Food Information and Traceability System and the leader of Enterprise Applications in the EU project TRACE (IP).

www.foodreg.com

Chinese Academy of Agricultural Sciences (CAAS) is the Institute of Quality Standards and Testing Technology for Agricultural Products (IQSTAP) at CAAS and was established in 2003. It is the only specialist institute in China with standards and testing technologies with the quality and safety of agri-products as its target research fields. Its main research activities cover food safety, risk analysis, test techniques and standards for agricultural products. Relevant research projects include:

- EU integrated project: TRACE (tracing food commodities in Europe)
- USDA project: the Role of Third Party Certification for Food Safety in China
- EU-China small project foundation: feed industry regulations and feed quality control techniques in Europe and their function as a model for the feed industry in China
- EU-Asia invest project: the marketing of feed and animal products based on EU legislation and standards.

Zhuhua Ye is the DG of IQSTAP and vice president of the board of directors of the China Society of Plant Protection and the Entomology Society of China.

www.caas.net

Bitland Enterprise (BIT). The mission of the Faroe Islands-based Bitland Enterprise is to stimulate and facilitate innovation and internationalisation. Its core skills are based on solid experience – especially within strategic planning, innovation processes, business transformation and project management. BIT also incorporates office facilitation and an incubation centre and enables direct investment into technology projects via seed capital or other investment facilities. BIT has developed an innovation process management system which reduces the time spent from invention to the exploitation of new ideas and at the same time enhances the quality of the process. In 2004 BIT initiated a feasibility study and worked on a nationwide plan to enable the digital transfer of all traceability data in the Faroese fishing industry between various links in the value chain. BIT has been involved in several EU projects both as co-ordinator and work package leader.

Olevar Gregersen, General manager of Bitland Enterprise. www.thebitland.com

Nofima Market (Nofima). Nofima is a new fusion of all Norwegian food research institutes and covers all food sectors and links in the value chain. Nofima Market carries out research and development work related to economics, marketing, logistics, rationalisation and traceability of food products. The research group involved in BrightAnimal has extensive international experience gained from food sector projects. These include Tracefish, in which standards for traceability in the seafood sector were developed, and Seafood Plus in which consumer perceptions, quality, traceability and information logistics in the seafood industry were examined. Nofima Market also led the traceability group in the TRACE project and has a central role in various international standardisation activities related to traceability.

Petter Olsen is a senior researcher at Nofima Market. www.nofima.no

Technical University of Denmark (DTU), The DTU’s Department of Management Engineering carries out research at international level and work within its “Innovation and Sustainability” section is characterised by industry-oriented technical and socio-technical approaches to innovation and sustainability. The vision of the section is to contribute to a more sustainable development of society by: creating and promoting an understanding of how products and production processes, materials and socio-technical systems are developed to cause least harm to the environment, and by developing strategies and methods for the integration of practical, knowledge-based industrial, environmental, working environmental, economic and social aspects of technological innovation.

Thorkild Nielsen is a senior researcher at the Department of Management Engineering at the DTU. www.dtu.dk

Estonian University of Life Sciences (EMU). In addition to academic activities EMU is a centre for research and development in agriculture, forestry, animal science, veterinary science, rural life and economy, food science, biodiversity, nature protection, renewable natural resources and environmentally friendly technologies. It conducts research in many areas relating to animal husbandry and veterinary care. The university participates in numerous international research projects and the BrightAnimal research group brings experience from relevant animal welfare projects, notably from the Nordic countries. Some of the most recent projects have been concerned with the automatic registration of environmental factors, automatic monitoring of cattle health and promoting quality assurance in animal welfare.

Eugen Kokin holds a Dsc (Eng) from the Estonian Agricultural University and is the author of many papers on technological and engineering processes in agriculture. www.emu.ee

Consumer Goods Council of South Africa (CGCSA). The CGCSA represents more than 10,000 companies in South Africa and was formed in 2001 by the merger of GS1 South Africa, the Grocery Manufacturers’ Association and ECR South Africa. Since 2006 it has also included the Food Safety Initiative. The CGCSA aims to give on behalf of its members a single voice to government and other key bodies on all relevant industry, non-competitive, legal and regulatory affairs. Through GS1 it is part of an organisation dedicated to the design and implementation of global standards to improve efficiency in global supply chains. The CGCSA is generally mandated to deal with best practices, standards, food safety, crime prevention and legal and regulatory issues in the FMCG industry. Its key objective is to assist and facilitate the enhancement of supply chain efficiencies in South Africa’s FMCG industry.

Gwynne Foster has wide experience in traceability and supply chain information systems. She has facilitated the SA Fresh Produce Traceability Project since its inception in 2000, the coverage of which ranges from aquaculture to the meat industry. She is also a member of the Department of Agriculture Food Safety Forum and provides a traceability consultancy to Tanzania mainly focused on SMEs. www.cgcsa.co.za

Kasetsart University (KU). Kasetsart University is a public university in Thailand established in 1945. Although established as an agricultural university, it has expanded to cover a wide range of disciplines, though agriculture remains one of its strongest areas. KU now has 457 curriculums and more than 30,000 students.

Bordin Rassameeboon is an assistant professor in the university’s Operations Management Department, Faculty of Business Administration. www.ku.ac.th
Brazilian Corporation of Agricultural Research – Beef Cattle (EMBRAPA). The EMBRAPA mission is to provide feasible solutions for the sustainable development of Brazilian agribusiness through knowledge and technology generation and transfer. Since 1973 it has introduced around 9,000 technologies to the agriculture sector and helped reduce production costs while increasing the food offer. At the same time it has contributed to the conservation of natural resources and the environment and reduced Brazil’s dependence on external technologies, basic products and genetic materials. Through 37 research centres, three service centres and 11 central divisions EMBRAPA has a presence in almost every Brazilian state. It has 8,619 employees of which 2,221 are researchers – 45% of which hold masters degrees and 53% doctoral degrees. Fifty researchers work in the organisation’s beef cattle research unit with the priority of increasing production and efficiency and meeting consumer demands for higher quality levels.

Pedro Paulo Pires, a doctor of veterinary science, is EMBRAPA representative in the BrightAnimal project. www.embrapa.br

SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE (SARDI). SARDI is a world-class research and development institute delivering innovation to enhance the food, fibre and biosecurity industries and living environmental systems in southern Australia. As the SA Government’s principal research and development capability, science programmes embrace industry and community needs aligned to South Australia’s strategic plan and ten year vision for science, technology and innovation. SARDI has 16 advanced research facilities across the state with research platforms aimed at growing economic prosperity; sustaining natural resources; improving wellbeing; fostering creativity.

Thomas Banhazi is a senior research assistant at SARDI. www.sardi.sa.gov.au

The following individuals and institutions have also agreed to act as EU/international advisors on the project:

Frank Oudshoorn, Aarhus University, Faculty of Agricultural Sciences, Research Centre Bygholm, Institute of Agricultural Engineering, Denmark.

Esmaeil Nadimi, Institute of Chemical Engineering, Biotechnology and Environmental Technology, Denmark.

Eric Dufour, Department of Food Quality and Economics, ENITA, Clermont-Ferrand, France.

Sandra Rose, Leibniz-Institute for Agricultural Engineering, Potsdam, Germany.

Dan Mullen, President AIM, Warrendale, Pennsylvania, USA

HOW THE DIFFERENT ASPECTS OF BrightAnimal WILL BE TACKLED

The work of BrightAnimal is divided between eight Work Packages (WPs) with each one responsible for a different area of investigation. Project partners participate in the WPs which reflect their main areas of interest and expertise. Each WP will contribute to the project’s framework document.

WP1: monitoring animal health, environment, behaviour and welfare
WP2: identification, sensory data collection and integrated systems development for PLF
WP3: systems and best practices in PLF
WP4: food information management and advanced traceability
WP5: sustainability, ethics and societal impacts of PLF
WP6: economical aspects of PLF
WP7: conferences and dissemination
WP8: project management

WP3 will produce the best practice guides for PLF while WP4 will produce showcase traceability systems to be used within them.

Dissemination is a vital part of the project and BrightAnimal will organise a series of international conferences and workshops to encourage the PLF debate (see separate article). The materials mentioned above will in themselves play a key educational role in explaining the techniques and technologies involved in implementing PLF and also the potential of PLF to radically improve the industry.
WORK PACKAGE LEADERS DELIVER THEIR FIRST REPORTS

BrightAnimal’s work package leaders have delivered their interim reports which summarise work to date and their work plans for the remaining 18 months of the project. The work packages are:

WP1: Monitoring animal health, environment, behaviour and welfare
- Eugen Kokin, Estonian University of Life Sciences

WP2: Identification, sensory data collection and integrated systems development for PLF
- Anthony Furness, AIM UK

WP3: Systems and best practices in PLF
- Petter Olsen, NOFIMA Market, Norway

WP4: Food information management and advanced traceability
- Heiner Lehr, FoodReg, Spain

WP5: Sustainability, ethics and societal impacts of PLF
- Thorkild Nielsen, Technical University of Denmark

WP6: Economical aspects of PLF
- Olavur Gregersen, The Bitland, Faroe Islands

To read the FULL reports please go to www.brightanimal.eu

Alleged increase in pig cruelty

Increased economic pressure on Danish farmers is being blamed for an apparent growth in pig welfare abuse, reports the pigsite.com. It quotes IceNews as saying that an increasing number of pigs are arriving at slaughterhouses with visible injuries caused by being beaten with planks and chains.

A Copenhagen Post report claimed that the growing rate of abuse might be due to a new transport system which rewards the fast loading of animals onto lorries. Pig abuse cases in Denmark had increased five-fold in the past two years, it added.

Professor Henrik Ekang Jensen of the University of Copenhagen said studies indicated that most injuries had occurred while the animals were still on farms. Pipes, chains and other blunt instruments were the likely cause.

Professor Elvang called into question the transport systems, introduced in 2006, which rewards farmers for the fast transportation of animals. “When a system is like that it can provoke a violent reaction if the farmer suddenly sees 30 pigs running in the wrong direction.”

Erik Bredholdt of Danish Crown’s pork production committee said that beating animals was entirely unacceptable.

UP AND COMING EVENTS

February 23 – 24
National Farmers Union (NFU) Conference, Birmingham, UK
www.nfuconference.com

February 26 – 28
International Conference on Agriculture & Animal Science, Singapore
www.icasit.org

March 2 – 5
First North American Conference on Precision Dairy Management, Toronto, Canada
www.precisiondairy2010.com

March 6 – 10
4th Food, Agriculture and Livestock Asian International Conference & Exhibition, Karachi, Pakistan
www.agroasia.net

May 12 – 14
BrightAnimal Project workshop, University of Life Sciences, Tartu, Estonia
www.brightanimal.eu

May 19 – 21
IST-Africa 2010 Conference & Exhibition, Durban, South Africa
www.ist-africa.net

May 27 – 28
BrightAnimal Project workshop, Copenhagen, Denmark
www.brightanimal.eu

June 9 – 12
Global Conference on Aquaculture 2010, Bangkok, Thailand
www.aqua-conference2010.org

July 12 – 15
28th Conference of the Australian Society of Animal Production, University of New England, NSW, Australia
www.asap.asn.au

August 17 - 22
Sustainable Food Chain World Summit, Budapest, Hungary
www.foodsustainable.com

September 8 – 10
www.eafricaconference.org www.brightanimal.eu

CAST paper warns of “perfect storm” for global food and agriculture

A new paper from the USA’s Council for Agricultural Science and Technology (CAST) says that many factors are converging to create the “perfect storm” for global food and agriculture. “Agricultural Productivity Strategies for the Future: Addressing US and Global Challenges,” examines what is required to establish and sustain the health and abundance of world agriculture. It can be downloaded, free of charge, at www.thepoultrysite.com

Investigating hatchery practice – monitoring the hatchery window

The importance of monitoring the hatch window and how to do so is addressed in one of a series articles by Dr. Steve Tullett, a consultant specialising in incubation and fertility and forming the Ross Tech publication “Investigating Hatchery Practice.” Visit www.thepoultrysite.com/articles to read more.
AWARD-WINNING TECHNOLOGY MAKES FEEDING OF PIGS MORE PRECISE

accurate early warning system for pig health problems”

Award-winning technology developed by BrightAnimal project partner Thomas Banhazi has turned feeding time for pigs into a precise affair. Feeding pigs has often been a hit-and-miss affair but the new system provides exact measurement and control of dry feed delivery into individual pig feeders and enables the calculation of pig feed conversion efficiency to a level of accuracy not available with current methods.

Dr. Banhazi, senior research scientist at the South Australian Research and Development Institute (SARDI), developed the new system with support from Pork CRC. It would, he said, fit into existing feed supply systems with minimal modification and would enhance profitability through the precise information it provided to piggy managers.

“Pork producers would be provided with an accurate early warning system for pig health problems by alerting them when feed isn’t being converted to appropriate expected weight gain.”

Field trials in Australia will be complete soon and a robust commercial design would follow, added Dr. Banhazi. An international patent application had been filed.

The value of this innovative technology was recognised by the CIGR Society for Engineering in Agriculture Conference in Brisbane where it won the Best Agricultural Engineering Innovation Award for 2009.

FOODLAWMENT – EUROPEAN FOOD CHAIN PARLIAMENT ESTABLISHED IN HUNGARY

A new organisation “dedicated to improving food chain safety in the Euro-Atlantic region” has been established in Hungary. Foodlawment, based in Budapest, is a non-profit organisation which will operate what it calls the European Food Chain Parliament.

Foodlawment aims to enhance food chain safety and the protection of human, animal and plant health and the environment through involvement of all those with an interest in the food supply chain and through the dissemination of accurate and factual information. Encouraging responsible behaviour by the industry and entrepreneurs and pro-active thinking by policy makers are high on the Foodlawment agenda.

Foodlawment’s first major event will be the Sustainable Food Chain World Summit in Budapest from August 17-22, 2010.

For more information see: www.foodlawment.com

CHINESE PIGS GET THEIR CHIPS!

Pigs in south west China now have two identity chips attached to their hind legs to tell where they were butchered, examined and sold, reports China Daily.

Forty five markets in Chengdu, capital of Sichuan province, now sell pork with ID chips, according to the city’s food and drug administration. Two plastic rings containing the chips with information on where the pig was bred are fixed to the animal before it goes to slaughter. Additional information is added to the chips as the pig is slaughtered, inspected and sold to the end market.

The chip is scanned when each piece of pork is sold so that the customer can have a receipt with a code that links to an entry that records the slaughter, inspection and sale of the pork in a database. Every seller is required to scan the chip for each piece of meat they buy so that the system logs how much pork they have in stock. Meanwhile, their electronic scales are linked to the market system to keep track of how much pork they sell.

The 2009 CIGR International Symposium of the Australian Society for Engineering in Agriculture

The 2009 CIGR International Symposium of the Australian Society for Engineering in Agriculture (SEAg) was held between the 13th and 16th of September 2009 in Brisbane, Australia. This biennial event provides a unique forum for local and international delegates to share ideas and discuss diverse topics related to agricultural engineering. This year the main focus was on ‘climate change’ in its broader sense incorporating not just climatic changes, but changes associated with economical, social and environmental conditions.

Ninety four delegates included engineers, academics, students, scientists, researchers and industry representatives. More than half were from overseas, representing approximately 20 different countries and all five continents.

Almost half the papers related to “information engineering”, incorporating topics such as sensor development, data mining, signal processing and modelling studies. The remainder reported on diverse topics related to all aspects of agricultural engineering. In total the Symposium featured 80 oral presentations and 29 poster presentations. High profile keynote speakers from Europe and Africa (Prof. Daniel Berckmans from the Catholic University of Leuven, Belgium; Prof Joerg Hartner from the Institute for Animal Hygiene, Animal Welfare and Farm Animal Behaviour, Germany and Prof. Jeff Smithers of the University Kwazulu-Natal, South Africa) initiated the Symposium with thought provoking presentations.

During the Symposium, Dr Thomas Banhazi of South Australian Research and Development Institute received the SEAg Engineering Innovation award, while Ross Macmillan, University of Melbourne agricultural engineer received his SEAg Life membership award.

A two-day post-Symposium tour gave delegates an overview of local agricultural industries including the Queensland Primary Industries and Fisheries research station in Gatton and a number of farms around Brisbane. The 2009 Symposium was supported by CIGR and sponsored financially by the University of Southern Queensland, Grain Research and Development Corporation and Engineering Australia.

More information: Dr Thomas Banhazi, 2009 SEAg Co-convenor (Chair of Scientific Committee) e-mail: thomas.banhazi@sa.gov.au

Mr. Erik Schmidt, 2009 SEAg Co-convenor (Chair of Organising Committee) Director of National Centre for Engineering in Agriculture, University of Southern Queensland (USQ) email: Erik.Schmidt@usq.edu.au
Concerns on Food Information Management

BrightAnimal Technical Co-ordinator Heiner Lehr reports on views and opinions expressed at the BrightAnimal kick-off meeting. BrightAnimal held its initial conference from May 25th-May 27th, 2009, in Halifax (UK). An essential part of the conference was to gather all stakeholders into one space and discuss the areas of concern. Food information and traceability played an important role during the discussions and the presented papers.

Within the area of Precision Livestock Farming, traceability has three major concerns:
- Identification
- Monitoring the material and the information flow
- Integration with best practise food safety data

A number of key issues were identified during the conference. The first was that the role and the benefits of traceability have not been understood by all stakeholders. The general concern that more paperwork would not lead to better food was voiced very clearly. BrightAnimal will need to address these concerns and find clear motivators for why food information management is of interest to farmers.

The right answer will of course to contain an indication of the amount of data that the farmers will need to record, especially if they are small farmers. “Farmers don’t like paperwork and accountants don’t like manure” was the apt summary of one participant.

After the “why” and the “how much” have been addressed, the “how” will also need some attention, especially in challenging conditions. Farm locations such as barns are not generally very compatible with paper and pen.

To adapt the popular phrase, “no farm is an island”. However, the exchange of data is still at a very rudimentary stage. To adapt the popular phrase, “no farm is an island”. However, the exchange of data is still at a very rudimentary stage. To adapt the popular phrase, “no farm is an island”. However, the exchange of data is still at a very rudimentary stage. To adapt the popular phrase, “no farm is an island”. However, the exchange of data is still at a very rudimentary stage.

In 2009, BrightAnimal partner and technical co-ordinator FoodReg was asked to develop appropriate traceability models for tra catfish in the An Giang Province and shrimp in the Ben Tre province in Vietnam. The company conducted 17 site visits in 10 days in these two provinces and held numerous consultations and meetings. The results were presented in a National Evaluation Workshop in Hanoi in August 2009.

In general it was found that the larger FBOs already operate a traceability system which is usually well-designed and more or less efficient. Tracing forward and backward was generally possible. However, traceability was strictly limited to the main ingredient (i.e. fish or shrimp) and not extended to other inputs or outputs. Feed distributors for example did clearly not see any need to participate in a traceability system. Companies have invented their own systems, which usually rely on significant codes (i.e. traceability codes with encoded information, such as the grow-out farm and the pond). There is no generally accepted standard and farmers/traders have to adopt the system of the processor. We believe that there is a clear need to harmonise the traceability efforts, especially if there is a wish to establish an electronic traceability monitoring system.

FoodReg made a suggestion for a traceability system for fish and other products that would allow establishing the product flow with extremely little effort. It would enable an efficient recall and would support being monitored electronically. In addition to this simplified procedure, business should keep more data internally. It was elaborated what data should be kept at which stage.

The proposed traceability system consists of the following elements:
- A globally unique traceability code (T-code)
- A pre-printed traceability label which is distributed to all FBOs, initially free of charge, at least for smaller enterprises
- A traceability (paper) form which relates inputs to outputs and which travels with the goods

Generally, traceability will be a matter of pasting self-adhesive labels (with a unique traceability code) on the traceability form. This simple act will facilitate establishing the product flow along the full supply chain. No reading or writing skills are required.

In order to implement the electronic monitoring system it was argued that processors/exporters should be made caretakers of the data and should enter it on behalf of their supply chain. Since the traceability labels come with barcodes, the resulting extra load is reduced. (In a second step, processors might want to pay a premium for those products for which they don’t have to enter the data themselves. This new service, payable to the other members in the supply chain, would help the proliferation of electronic traceability.) It is believed that this system is the simplest possible traceability and is totally compatible with the reality of shrimp and tra farming in Vietnam. A follow-on project attempting its implementation is in preparation for 2010.

Heiner Lehr, FoodReg, Technical Director, BrightAnimal

CASE STUDY:
Traceability & Smallholder Aquaculture in Vietnam

In 2009, BrightAnimal partner and technical co-ordinator FoodReg was asked to develop appropriate traceability models for tra catfish in the An Giang Province and shrimp in the Ben Tre province in Vietnam. The company conducted 17 site visits in 10 days in these two provinces and held numerous consultations and meetings. The results were presented in a National Evaluation Workshop in Hanoi in August 2009.

In general it was found that the larger FBOs already operate a traceability system which is usually well-designed and more or less efficient. Tracing forward and backward was generally possible. However, traceability was strictly limited to the main ingredient (i.e. fish or shrimp) and not extended to other inputs or outputs. Feed distributors for example did clearly not see any need to participate in a traceability system. Companies have invented their own systems, which usually rely on significant codes (i.e. traceability codes with encoded information, such as the grow-out farm and the pond). There is no generally accepted standard and farmers/traders have to adopt the system of the processor. We believe that there is a clear need to harmonise the traceability efforts, especially if there is a wish to establish an electronic traceability monitoring system.

FoodReg made a suggestion for a traceability system for fish and other products that would allow establishing the product flow with extremely little effort. It would enable an efficient recall and would support being monitored electronically. In addition to this simplified procedure, business should keep more data internally. It was elaborated what data should be kept at which stage.

The proposed traceability system consists of the following elements:
- A globally unique traceability code (T-code)
- A pre-printed traceability label which is distributed to all FBOs, initially free of charge, at least for smaller enterprises
- A traceability (paper) form which relates inputs to outputs and which travels with the goods

Generally, traceability will be a matter of pasting self-adhesive labels (with a unique traceability code) on the traceability form. This simple act will facilitate establishing the product flow along the full supply chain. No reading or writing skills are required.

In order to implement the electronic monitoring system it was argued that processors/exporters should be made caretakers of the data and should enter it on behalf of their supply chain. Since the traceability labels come with barcodes, the resulting extra load is reduced. (In a second step, processors might want to pay a premium for those products for which they don’t have to enter the data themselves. This new service, payable to the other members in the supply chain, would help the proliferation of electronic traceability.) It is believed that this system is the simplest possible traceability and is totally compatible with the reality of shrimp and tra farming in Vietnam. A follow-on project attempting its implementation is in preparation for 2010.

Heiner Lehr, FoodReg, Technical Director, BrightAnimal

Within the area of Precision Livestock Farming, traceability has three major concerns:
- Identification
- Monitoring the material and the information flow
- Integration with best practise food safety data

A number of key issues were identified during the conference. The first was that the role and the benefits of traceability have not been understood by all stakeholders. The general concern that more paperwork would not lead to better food was voiced very clearly. BrightAnimal will need to address these concerns and find clear motivators for why food information management is of interest to farmers.

The right answer will of course to contain an indication of the amount of data that the farmers will need to record, especially if they are small farmers. “Farmers don’t like paperwork and accountants don’t like manure” was the apt summary of one participant.

After the “why” and the “how much” have been addressed, the “how” will also need some attention, especially in challenging conditions. Farm locations such as barns are not generally very compatible with paper and pen.

To adapt the popular phrase, “no farm is an island”. However, the exchange of data is still at a very rudimentary stage. Most of the data is actually lost when crossing the line of ownership. This is a pity insofar as many of the advantages of traceability actually stem from passing information down the line. The big question marks are: how should data be exchanged and does it have to be electronic?

The last block of concern relates to the use of the captured data. Who should operate and therefore have access to data that intimately defines a business? Several models have been discussed and are being implemented – which is the right one? Should we follow Norway in its industry-led, voluntary approach, Malaysia and Vietnam in their state-controlled, mandatory approach or the US in a mixed approach?

Closely related to this question is: how much information do consumers need or want? Consumer studies in traceability are highly divergent and lead to no positive conclusion. However, consumers do assume that their food is safe and that claims are true. They rely on others to check the veracity of the claims, such as retailers or the public authority. Are these perhaps the only users of a traceability system?

BrightAnimal will try to address all these questions in a balanced manner. That is the main reason why as the leader of workpackage 4, “Food information management and traceability”, I shall be investigating the above questions in all partner countries, with visits to Malaysia, Australia, Estonia, Norway, Denmark, Germany and South Africa. We shall also receive input from the US, Thailand, Brazil and China for the four animals under consideration.

The results of this extensive study will be presented during the 1st International ICST Conference on e-services for Agriculture, Food, Environment and Life Sciences in Africa. BrightAnimal has been invited to host a pre-conference workshop on September 8th, 2010, called “Acceptable and Practical Precision Livestock Farming”. We hope to discuss there all results from workpackage 4 on food information management and traceability and from workpackage 3 on systems and best practises in Precision Livestock Farming.

You will find more information on the conference website www.eafricaconference.org.
In addition, we want to hear from as many people as possible who have an interest in the development and implementation of Precision Livestock Farming systems. You can enter the debate by logging on to our Forum at

If you have a more specific enquiry about any aspect of the project’s work please contact the Work Package leader whose area is most relevant to your interests:

- **WP1** Monitoring animal health, environment, behaviour and welfare
  - Eugen Kokin: eugen.kokin@emu.ee

- **WP2** Identification, sensory data collection and integrated systems development for PLF
  - Anthony Furness: anthony.furness@bitconnect.com

- **WP3** Systems and best practice in PLF
  - Petter Olsen: petter.olsen@nofima.no

- **WP4** Food information management and advanced traceability
  - Heiner Lehr: heiner.lehr@foodreg.com

- **WP5** Sustainability, ethics and societal impacts of PLF
  - Thorkild Nielsen: thon@man.dtu.dk

- **WP6** Economical aspects of PLF
  - Olavur Gregersen: og@bitland.no

**www.brightanimal.eu**