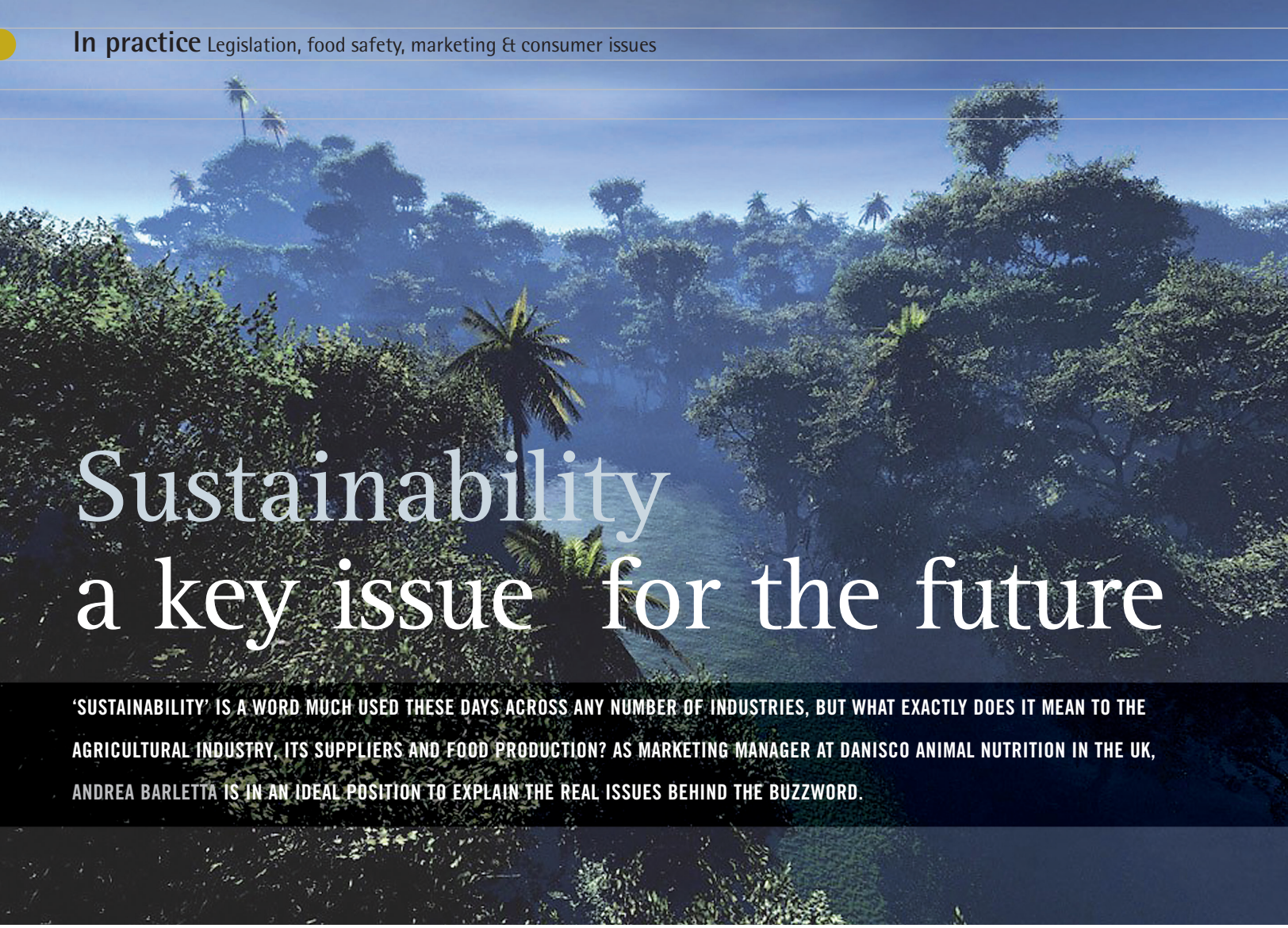

Sustainability a key issue for the future

'SUSTAINABILITY' IS A WORD MUCH USED THESE DAYS ACROSS ANY NUMBER OF INDUSTRIES, BUT WHAT EXACTLY DOES IT MEAN TO THE AGRICULTURAL INDUSTRY, ITS SUPPLIERS AND FOOD PRODUCTION? AS MARKETING MANAGER AT DANISCO ANIMAL NUTRITION IN THE UK, ANDREA BARLETTA IS IN AN IDEAL POSITION TO EXPLAIN THE REAL ISSUES BEHIND THE BUZZWORD.

Andrea Barletta **is marketing manager for Danisco Animal Nutrition in Marlborough, UK.**

In 1987, the United Nations' Brundtland Report defined sustainability as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'. In essence, sustainability is all about achieving a balance between the ability of the natural world to provide what we need now with what we might need in the future, while allowing commerce to develop and generate the profit essential for reinvestment. But what elements does sustainability encompass and why is it important for the animal industry and its customers?

GLOBALISATION PRESSURES

In recent times, globalisation has opened up markets to increasing competition from producers in countries with much lower costs of production, such as Thailand and Brazil, driving down prices and placing producers in many traditional areas under severe economic pressure. Corresponding declines in farm incomes within some of these countries have led to sharp reductions in farm numbers, particularly amongst smaller enterprises; and brought about a need for those who do remain to improve their efficiency and economic competitiveness.

Set against this backdrop of increasing global competition and the need for economic sustainability, are growing demands from consumers for affordable, safe, healthy food, together with pressures from other sectors of the food supply chain, for example processors, retailers and caterers.

More recently, there has been a far greater focus on environmental sustainability- increasing the need for good environmental management to maximise the quality of the world in which we live. Concurrent with the requirement to reduce water pollutants such as nitrates and phosphates from sources like fertilisers, pesticides, and manures, is the need to improve the economic and technical efficiency of animal production by reducing costs and minimising waste. We must also consider demands for higher standards of animal welfare, both in terms of production systems and in the area of product testing.

Sustainability involves the need to comply with increasing food and feed standards, with heightened

consumer concerns with respect to food safety, focusing attention on the importance of traceability, product recall and crisis management. The growing volume of legislation prohibiting the use of antibiotic growth promoters in animal feed, for example, also increases the economic pressure on producers to reduce production costs without compromising animal health and welfare.

THE WHITE PAPER AND BEYOND

Sustainability was at the heart of the European Commission's White Paper on Food Safety, announced in Brussels in January 2000, its central goal being to achieve the highest possible standards of health protection for the consumers of Europe's food.
The White Paper set out a major programme of legislative reform to complete the EU's 'farm to table' approach as well as establishing a new European food authority, the European Food Standards Agency. The guiding principle behind the programme is that food safety policy be based on a comprehensive, integrated approach with greater transparency at all levels. The most radical and far-reaching policy ever presented in the area of food safety, it was designed to fundamentally address consumers' legitimate concerns by restoring and maintaining confidence in food safety.

TRACEABILITY AND RISK

The White Paper set out over 80 separate actions covering animal feed, health and welfare, hygiene, contaminants and residues, novel food, additives, flavourings, packaging and irradiation. It also included a proposal on general food law embodying the principles of food safety. Amongst these were the responsibilities of feed manufacturers, farmers and food operators, traceability of feed, food and its ingredients, risk analysis through proper assessment procedures (scientific advice and information analysis), risk management (regulation and control), risk communication and the application of the precautionary principle where appropriate.
The White Paper highlighted that the safety of food from animal origin begins with safe animal feed and recognised that although legislation cannot prevent all incidents affecting the feed and food chain it can set up appropriate requirements and controls to allow early detection of problems and speedy corrective action.

EFSA- THE FOOD CHAIN POLICE

Following the series of food scares which undermined consumer confidence in the safety of the food chain during the 1990s, the European Union concluded that it needed to establish a new scientific body charged with providing independent and objective advice on food safety issues associated with the food chain. The result was the European Food Safety Authority (EFSA). Established in 2002 and funded from the Community budget, it operates independently of Community Institutions with a remit that includes the provision of independent scientific advice on all matters linked to food and feed safety.
Within the EFSA, a separate panel deals with the safety implications of additives, products or substances used in animal feed, not only for the animals themselves, but also manufacturers' operatives and end users. It also covers consumers of products of animal origin, the environment, the efficacy of biological additives and oversees chemical products/substances intended for deliberate addition/use in animal feed.
In addition to the work of the European Food Standards Agency, many individual countries have their own agendas, with implications for the sustainability of the agricultural industry. For example, in the UK the Food Standards Agency (FSA) works with the food and feed industry with the objective of reducing food-borne illness by 20% over a five-year period ending in 2006. Given that animal feed has been implicated in a range of food scares, the FSA has increased funding to enforce animal feed law, whilst

While consumers express concern about food safety, the rest of the food chain has to provide this without jeopardising future supply.

Sustainable products

Danisco Animal Nutrition's current product portfolio includes the feed enzymes Avizyme®, Porzyme® and Grindazym™, which improve the digestibility of pig and poultry feed, thereby reducing feed costs and reducing manure and nitrogen output. Phyzyme® phytase releases phosphorus from feed ingredients, reducing the need for inorganic phosphorus sources and reducing phosphorus excretion into the environment by over 30%. Betafin®, a highly purified form of betaine is used as a methyl group donor and as an osmolyte in pigs and poultry. The Flavodan™ range of feed flavours helps optimise feed intake for efficient animal production.

also working to minimise residues of pesticides, veterinary medicinal products and feed additives in food and promoting effective labelling to enable consumers to make informed choices.
All of the above factors will play an increasing role in the future of the agricultural industry and food production, so it is worth looking at what constitutes sustainability.

WHY IS SUSTAINABILITY IMPORTANT?

In 1994, chairman of the Assured Chicken Production scheme in the UK, Professor Sir Colin Spedding, outlined six essential attributes for future, sustainable, agricultural systems; namely that they should:

-> Be highly productive of safe, high quality products within identified constraints;
-> Be physically sustainable, using physical resources at rates or in ways that allow adequate long-term development;
-> Be biologically sustainable in the long term, namely that the biological organisms and processes on which they depend are sustainable, which could encompass avoidance of internal pollution such as the build-up of heavy metals;
-> Satisfy agreed standards for human and animal welfare;
-> Avoid unacceptable pollution;
-> Be profitable.

In many animal production systems, feed is the biggest single cost and profitability can depend on the relative cost and nutritive value of the feed ingredients available. Maintaining the correct balance between sustainable nutrition whilst embracing the latest developments in feed technology, for example credible alternatives to antibiotic growth promoters, is paramount.

SHIFTING CONCERNS

Within the EU agricultural sector, the production of animal feed is one of the most important sectors of activity, annual production within the EU being at approximately 120 million tonnes. But these days it is not just the demands of producers that the animal feed industry has to satisfy.
In Europe, during the 1970s, the rules on animal feed put the emphasis on furthering the productivity of livestock farming, facilitating the free circulation of feed ingredients in the internal market and providing information on feed ingredients' characteristics.
Today, the emphasis has shifted towards the protection of human well-being, animal health and the environment. The European Parliament is taking a growing interest in the animal feed industry after experience showed that in order to be serious about food safety it is necessary to address the whole 'food chain'. EU laws now cover not only how farmers produce food, including what they feed their animals, but how food is processed, how it is sold, how it is labelled and what can be imported into the EU.
In addition to 250 officials in Brussels who keep the EU's laws on food safety up to date, another 100 based in Ireland verify that EU countries and those which export food to the EU observe the rules. Other Brussels-based officials liaise with international organisations and EU trading partners on food and farming issues, while also overseeing the EU's 'rapid alert' system on food safety issues.

Minimising waste plays an important role in attaining environmental and economic goals.

SUSTAINABLE DEVELOPMENT IN BUSINESS

Integrating sustainability into every element of business practice is vital to any global producer of feed and/or food and basically means balancing the requirements of nature with those of employees and the public, whilst creating profit for the benefit of shareholders and the wider society.

FOUR PILLARS

Danisco's approach is based on building this commitment around "four pillars" of sustainability:
1. Safety, Health, Environment and Quality Management (SHEQ), together with Continuous Improvement, is a vital part of day-to-day operations, ensuring that the staff work under safe conditions, that the products are safe and all the important aspects impacting on product quality are controlled, as well as the external environment. For example, reducing energy and water consumption

Identify the key needs

Development is driven by what customers have identified as their key needs, particularly focusing on five areas:
Food Safety. Consumer and regulatory demands for improved food safety are satisfied by a process of risk reduction, by reducing the producers' need to use antibiotic growth promoters and minimising the levels of food-poisoning bacteria in the animal's gut, thereby helping to ensure that cleaner birds reach the slaughterhouse.
Environment. Reducing P and N pollution minimises the negative environmental impact of animal production.
Cost Reduction. Providing producers with specific recommendations on how to maximise the benefits of products, such as enzymes and betaine, enables the production of food with low price targets by improving the efficiency of animal production.
Differentiation. Enabling production of premium products that satisfy local and regional demands helps them remain competitive in the global market.
Consistency. Improving the uniformity of pig and poultry production satisfies the demand for consistent meat products.

International recognition

Danisco's sustainability record was highlighted recently with a second place in the 2004 Dow Jones Sustainability Indices for the Food Industry. This was the third consecutive year that the company has been included. The systems aim to protect not only Danisco's own reputation and brands, but also those of their customers.

involves using energy produced during wastewater treatment and at other major sites; generating or buying heat, steam and electricity from combined co-generation power plants.
Clean technologies such as wind power and increasing recycling of materials are also important improvements. Constant improvement requires a commitment to implementing documented management systems based on ISO9001 (quality), ISO 14001 (environment) and OHSAS 18001 (health and safety) before the end of 2005; and utilises a global Environment, Health & Safety database to promote sharing information and best practices.
2. Product Safety (Food Safety Assessments, HACCP, traceability and value chain management) is a key area. Implementing Hazard Analysis Critical Control Points (HACCP) and Good Manufacturing Practice (GMP) are crucial steps towards ensuring and maintaining product safety. Thus, elements such as traceability, product recalls and crisis management are regarded as vital elements in product and food safety. Successful product safety programs also require suppliers to handle product safety at high, well-documented levels and have all the necessary procedures in place.
3. Environmental Ethics (the use of modern biotechnology, including alternative experimental models). Whilst complying with current legislation governing product research, alternative *in vitro* research techniques into such as the use of intestinal simulation systems and models prove valuable tools for product screening and application development to replace testing in animals.
4. Social Issues & Business Integrity (Employee Rights, International Society, Security, Compliance and Business Partners). License to operate sites around the world depends on maintaining the respect and trust of local stakeholders. Support and compliance with internationally acknowledged human rights and labour standards is one step on the road to recognition as a company of high ethical standing. Great efforts must be made on a local basis to develop mutual interest amongst neighbours, authorities and employees. The ICC Environmental Charter and the UN Global Compact operate at the corporate level, but a number of networks and organisations, including the Sustainable Agriculture Initiative (SAI Platform) and the UN Global Compact Nordic Network also prove valuable in achieving such recognition.

SUSTAINABILITY IN ANIMAL NUTRITION

In the context of the agricultural industry, sustainability is about the development and production of food with regard to the environmental impact, the production methods used and social responsibility.
To provide sustainable animal nutrition solutions to meet consumer demand for safe, high quality food at affordable prices, with care and attention to the environment, products that are researched and developed at universities and research institutes throughout the world, are then thoroughly tested and validated under commercial conditions, to ensure that customers receive consistent and reliable product performance. Technical specialists can offer country specific support based on their extensive experience of animal nutrition and the feed industry. <-

Keywords: Sustainability