

Challenges for global feed and food supply



The 350 delegates who attended the second Global Feed and Food Congress organised by Brazil's National Union of Animal Feed Industries, SINDIRAÇÕES in Sao Paulo, received positive and negative news.

By Patrick Knight

The good news, according to most speakers, is that there are opportunities that come with the increase in world population, coupled with the rising standards of living. It is also expected that a portion, if not the total number of those living in poverty, will decline.

Increased incomes mean more demand for all types of food, primarily meat and the feed needed to produce it, especially in Asian and African countries.

This good news, however, is set against the continual tightening of regulations, notably the increase in constraints caused by the growing concern for the environment, as well as animal welfare. In addition, almost all the land suitable for growing food in the world is already being cultivated or used as pasture land. Only by raising yields will more food be available, was the message in Brazil.

Feed the extra billions

On the other hand, the future of the feed industry will be primarily marked by challenges and difficulties instead of opportunities. Many of the basic problems confronting the feed industry were outlined by Bill Doyle, chief executive of the Potash Corporation of Canada, who considers global hunger the biggest challenge currently facing mankind.

He noted that 700 million of the six billion people globally are living under the poverty line. To feed them and the extra 2.6 billion, who will increase the population by 2050, means that we need twice as much food as we have at the moment.

Doyle said that 50 years ago half a hectare of productive land was available for each person alive at that time. Only half that amount is presently available per person.

To feed the extra mouths, crop yields will have to increase. At the same time, the higher cost of oil is pushing up production costs. In addition, India and China will need an extra 30 million tonnes of fertiliser each year to keep pace with a rate of demand, while an extra 10 million tonnes will be needed each year in Brazil, notably to allow the extra sugar cane needed to make ethanol.

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Review



Bill Doyle, chief executive of the Potash Corporation of Canada:

“We need to harvest more animal protein from the oceans, one of the few places with the potential to produce much more.”

places with the potential to produce much more. Doyle said that because much of the wild fish stock is already over-fished, the only alternative will be a vast increase in commercial fish farming. However, Doyle's concern this year is that stocks of the most important grains will fall for the seventh time in eight years, recording the lowest levels on record thus far. This leaves only a 2-month supply of grains.

Fishmeal alternatives

Dr Albert Tacon of Aquatic Farms of Hawaii, editor of International Aquafeed magazine, and who previously worked with the Food and Agricultural Organisation (FAO), is mainly concerned about how to feed the three billion people who earn less than \$4 per day. Many of these people have health problems caused by malnutrition, as well as other issues, such as obesity.

Tacon pointed out that for the past 30 years, aquaculture has been the fastest escalating food sector, growing around 9% each year. A total of 63 million tonnes of farmed fish is now produced, while 95 million tonnes of wild fish is caught each year. Some 230 species of fish and plants are now farmed, he said.

Despite the fast growth, which he expects to continue in the future, Tacon added that fish, considered to be healthy food, is still responsible for less than 1% of the average intake of calories. This is particularly relevant at a time when obesity has become a global concern.

He also pointed out that as stocks of wild fish fall and the costs of extracting them increases, the

cost of fuel rises and the proportion of farmed fish, now 40% of all fish caught, will grow. Until now, fish farming has been mainly an Asian phenomenon, and 92% of what is produced comes from that region.

However, only about 4% of the 635 million tonnes of feed given to all animals each year are fed to fish, said Tacon. A huge problem is that the supply of fish meal, the main source of feed until now, is limited to about six million tonnes. China currently uses about a third of this. A concern is that low-cost “trash fish”, such as anchovies and sardines from which fishmeal is made, are often the leading source of protein for those whose incomes are low. As the price of these fish rises, the poor can no longer afford them; a matter of serious ethical concern.

While the demand for farmed fish, a relatively cheap source of protein, is increasing, the price of such fish is plummeting, says Tacon. To keep costs down, fish have to be farmed in a more intensive manner. This pushes up the cost of energy, while more feed is required, and therefore the big challenge is to find suitable alternative sources of food for making fish meal.

As the population increases, so does the competition for all types of animal feed due to the demand of various meats. This, in turn, sees the rise of feed prices. However, the situation is now more complicated because large quantities of



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feedstuff, notably corn and soy, are being used to make energy, further pushing up prices and putting such commodities out of range for the underprivileged.

The big challenge, according to Tacon, is to find or develop non-grade food materials that can be fed to fish. A great deal of research is being carried out concerning this.

The sea can be used as a main source for new feeds, although, taking too much krill from the ocean poses a big risk; extracting these crustaceans could mean disrupting the food chain, and the same goes for sea vegetables, including some types of seaweed, which have a high protein content.

FEFAC opinion

Martin Tielen, former president of the Federation of European Feed Manufacturers (Fefac), outlined some of the huge changes that the feed industry has experienced in recent years. He pointed out that the industry has grown only a little as the amount of both beef and pork produced within the EU itself has stabilised. The production of poultry meat has dropped, largely because imports, least from Brazil, have increased. However, this picture is disguised by the fact that more countries now belong to the EU. Tielen said that a third

of what is consumed by animals is now compound feed, made in approximately 4,000 plants in Europe.

Forage crops, as well as what farmers grow themselves, continue to be very important. Tielen said that average conversion rates from feed to meat have halved in the past 50 years or so, falling from three to one, and from 1.7 to one last year.

In the effort to reduce costs, as well as to ensure that products do not go to waste, many more by-products from the food industry are being used. About 60 million tonnes of such products were used by the feed industry last year, while a further 20 million tonnes of such materials went directly to farmers.

According to Tielen, the industry is very aware of the increased concern about the impact that raising animals has on the environment. According to some analysts, animals contribute more to global warming than passenger vehicles do. As a result, the industry has begun paying much more attention to the sustainability of feed production. Organic farming could be an option, but the fact that 85% more land is needed to produce the same amount of organic as ordinary food, while 25% more energy may be needed as well, makes it an unrealistic option.

Deforestation

Tielen said that the feed industry is well aware of claims that soy can damage the environment and lead to de-forestation, and the consequences this creates for the Amazon rainforest.

Because of this, Fefac has joined the Round Table for Responsible Soya Production, which is examining social and environmental issues, as well as their economic feasibility. Tielen said now that the feeding of animal-based proteins to other animals has been severely restricted in Europe, there is really no alternative for soy there. He mentioned that Fefac is aware that much of the soy produced in Latin America is GMO soy, but Fefac does not see how GMOs can be reconciled with sustainability. There seems to be something of a contradiction there. Tielen believes that many consumers in the EU seem to be increasingly prepared to buy products containing GMO ingredients, largely because they cost less than those that do not. In the end, he said, consumers will have to decide how far they are prepared to go regarding the matter of GMOs. ●