

„Smoked Meat Has A Whole New Meaning“

Effects of the Ban on Animal Proteins in Feed

In December 2000 meat and bone meal was banned from livestock feed throughout the European Union. This valuable protein is now incinerated as waste. It gives a new and controversial meaning to the term 'smoked meat'.

To make matters worse, taxpayers have to finance this practice because governments are subsidizing incineration that otherwise is unprofitable. The ban paves a dead-end road for nutrients world-

EPEA built a socially, economically and environmentally acceptable model for using protein resources effectively. The solution is to separate pig and poultry production waste outflows then process them separately. Thus, protein can be used in ways that meet health and safety requirements. This also completes the nutrient cycle instead of sending valuable resources up the smokestack.

complete the nutrient cycle.

Main Impacts of the Ban

1. The ban kills nutrient cycles. A vast one-way conveyor belt is now needed to replace incinerated nutrients. This disrupts the international food cycle, costing billions of Euro in unnecessary production and waste management.

2. Some experts propose to replace animal protein with vegetable protein in feed. This makes some sense. However, doing it with conventional agriculture requires expansion of farm acreage in regions such as Latin America, posing a threat to rainforests and bio-diversity.

3. The ban will drive exports of unwanted slaughter by-products to poorer countries. This will severely disrupt developing nation markets and poses a political liability to the rendering industry. There are similar parallels with previous waste trade in toxic chemicals, used clothing and other unmarketable products.

Impacts of the Ban:

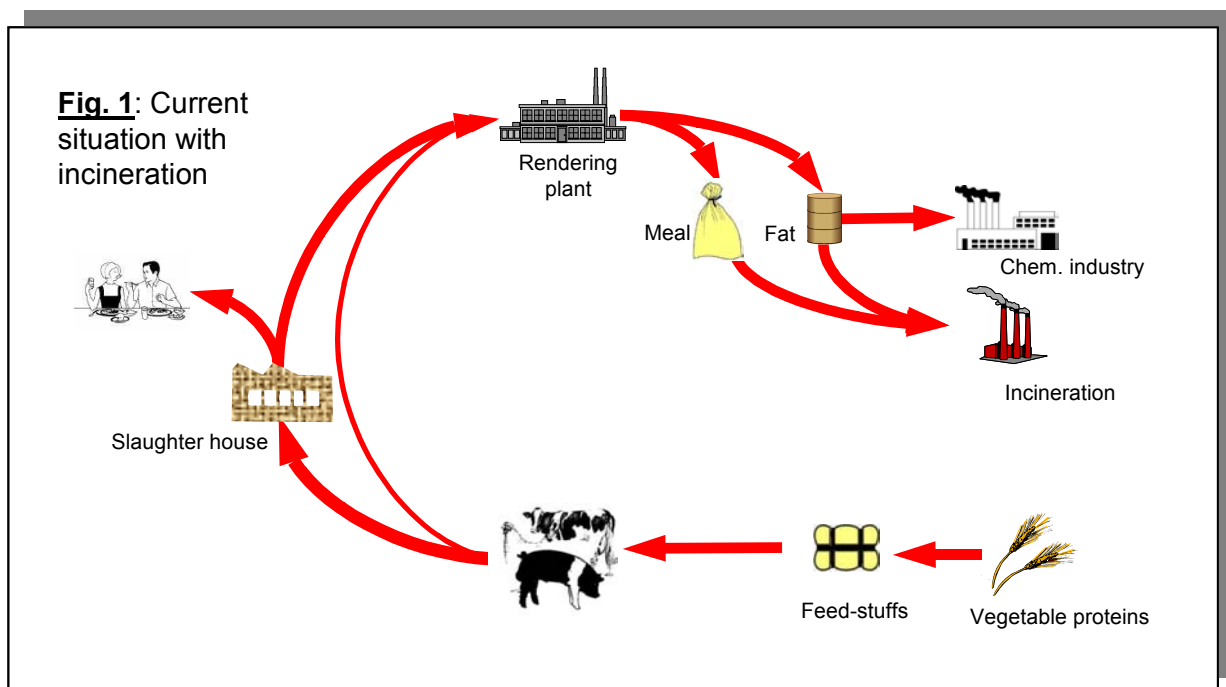
- ⇒ Interrupting Nutrient Cycles
- ⇒ Increased Cultivation Areas in Europe and South America
- ⇒ Market disruptions in developing countries

wide, as depicted in Fig. 1. To find a solution, the scientific consultancy EPEA has evaluated impacts of the ban along with potential substitutes for protein incineration.

From this preliminary analysis

Fig. 4 shows the descending value of animal proteins for different end-uses. The aim of the EPEA analysis is to use protein at the highest possible level.

This level is achieved for example when proteins are used in feed to



1. Interrupting Nutrient Cycles

The ban generated a knee-jerk solution to resulting waste, leading to millions of tons of rendering plant by-products being incinerated instead of going into feed. To make up the deficit, vegetable protein substitutes e.g. soybeans and rapeseed are being considered. Yet these also take a one-way trip; from animals to renderers then up the smokestack. The ban on animal protein in feed was partly necessitated by uncontrolled mixing of animal species by-products from the rendering process. EPEA sees a possibility to solve this by reorganizing material flows. This could lead to a lifting of the ban for non-hazardous rendering products.

2. Increased Cultivation Areas

Other types of protein must be used to fill the meal gap. Soya and rapeseed have a high protein content. Rapeseed is mostly cultivated in Europe, whereas soybeans are mostly grown in non-European countries. An increase in soybean imports from countries such as Brazil is expected, along with an increase in acreage used for rapeseed in Europe. Using conventional cultivation methods will lead to further destruction of

the Brazilian rainforest due to an increase in land required for soya. These international environmental impacts are dangerously unpredictable and politically volatile.

Figures 2 and 3 show pictures from the Brazilian Cerrado region, where valuable Savannah forests are converted into agricultural areas.

The ban on feeding meat and bone meal ages the Amazon Rainforest by approximately 1 year

If there is an estimated 50% of protein content in animal protein, then in Europe approximately 1.5 tons of animal protein must be replaced by plant protein. The average amount of protein in soy beans is estimated at 43% (yield: 2.1 t/ha) and 34% (yield: 3 t/ha) in rape seeds.

Seventy-percent of the European soy bean meal originates from Brazil, where the total amount of soy bean growing area amounts to about 13 million hectares, which is similar in size to Greece with 131,957 km². With a ban on feeding meat and bone meal in Europe, the soy bean growing areas in Brazil would increase to about 12%. The amount of land necessary is about 15,000 km² (approximately the area of Schleswig-Holstein), which corresponds to 100% of the annual de-

forestation (i.e. 15,000 km²/yr, average of the last 10 years) in the Amazon. This would result in the rainforest aging one year. The soy bean meal import to Europe would increase by about 21%.

With the current situation in Germany, replacing meat and bone meal with soybean meal would result in a 4% increase in the soy bean growing areas in Brazil. With around 5,200 km², it is two times the size of Luxemburg (2,586 km²). The growing area for rape seed in Europe amounts to 3 million hectares and 1.2 million hectares in Germany. As a substitute rape seed would result in an 82% increase in European farmland and a 49% increase in German farmland. This means an enormous increase in the amount of farmland, as well as the use of environmentally polluting agrochemicals..



Fig. 2:
The Savannah forests of the Brazilian Cerrado-Region are a habitat for a wide number of endemic plant and animal species



Fig. 3:
Large areas of the Cerrado are converted into agricultural land for soybean cultivation. The Savannah trees are processed to charcoal.

3. Market disruptions

Based on experience with past bans of other products, it's probable that some banned animal parts will be exported. This can be seen from previous restrictions on hazardous waste and CFC's. Experience also shows that waste exports from rich to poor nations disrupt markets, degrade the quality of life and cause political liabilities for producers. For example chemicals companies suffered degradation of their image when the toxic waste trade was exposed. This contributed to introduction of restrictive legislation against chemical products. Similarly, as awareness of poor nation social issues increases, the meat industry risks being further targeted by consumer activists if by-product exports occur. This happened for example with the footwear industry when poor labor practices led to bad publicity and loss of company share value.

Completion of cycles

Animal protein meal is a valuable product, currently banned for feed products. Yet the value of animal protein in the nutrient cycle is fundamental. The way it's introduced to or removed from that cycle is equally important. Using animal protein as feed completes the biological cycle at the highest level. Incineration, in which the protein structure disappears, is at the lowest level. Fig. 4 shows this.

Animal protein can't be reintegrated under the same conditions as before the ban. Yet a high nutrient recycling value might be achieved by separating material flows. This means dividing feed

The meat industry has a potential liability on its hands if 'poor practices' start to occur as a result of the ban. For example, if a 'waste-trade' in animal byproducts takes hold and then is exposed, the potential for negative consumer reaction is high.

It does not matter if the exports find a legal loophole. What matters is consumer perception that something unacceptable to Europeans is being dumped on poor nations.

Example: EU beef exports to South Africa

Since 1994 beef exports to South Africa have drastically increased. The beef exports are highly subsidized by the European Union to be able to compete on the global marketplace. Since 1993 South Africa can no longer resist these imports with import duties due to international commitments. Consequently imported beef which in

according to species. It may be practicable through co-operation between slaughtering and rendering firms.

For example:

Hazardous and edible materials arrive separately at the rendering unit. In production of protein meals, materials are processed separately. This is done via close cooperation among neighboring rendering plants should individual firms be unable to operate separate processing lines. Some restructuring of the plant also ensures self-sufficient energy production by using byproducts as fuel.

1996 was one-half the price of South Africa beef will continue capture the South African market. Local farmers find it increasingly difficult to sell their beef and their local market will be destabilized.

The production and consumption of beef is very significant to South Africa, therefore the subsidized imports do not only affect South Africa but also the whole region. The beef trade between these countries has fallen by 1/3 between 1991 and 1996, which can be traced to European imports.

The current idea as a result of the BSE crisis in Germany is to export unmarketable beef to developing countries. The Bishop from Burkina Faso claims: „...this operation increases the hunger problem instead of combating and still worse it destabilizes the poor in their economic and trade policy in the south.

For processing of meal from hazardous parts of animals, EPEA is investigating if production of secondary protein is possible through feeding of maggots, worms etc. This material flow separation makes it possible to produce quality products at every stage of the cycle (see Fig. 5).

Product-transparency is ensured by a complete declaration of contents and verification by independent experts.

Figure 4 shows the levels of use of animal protein.

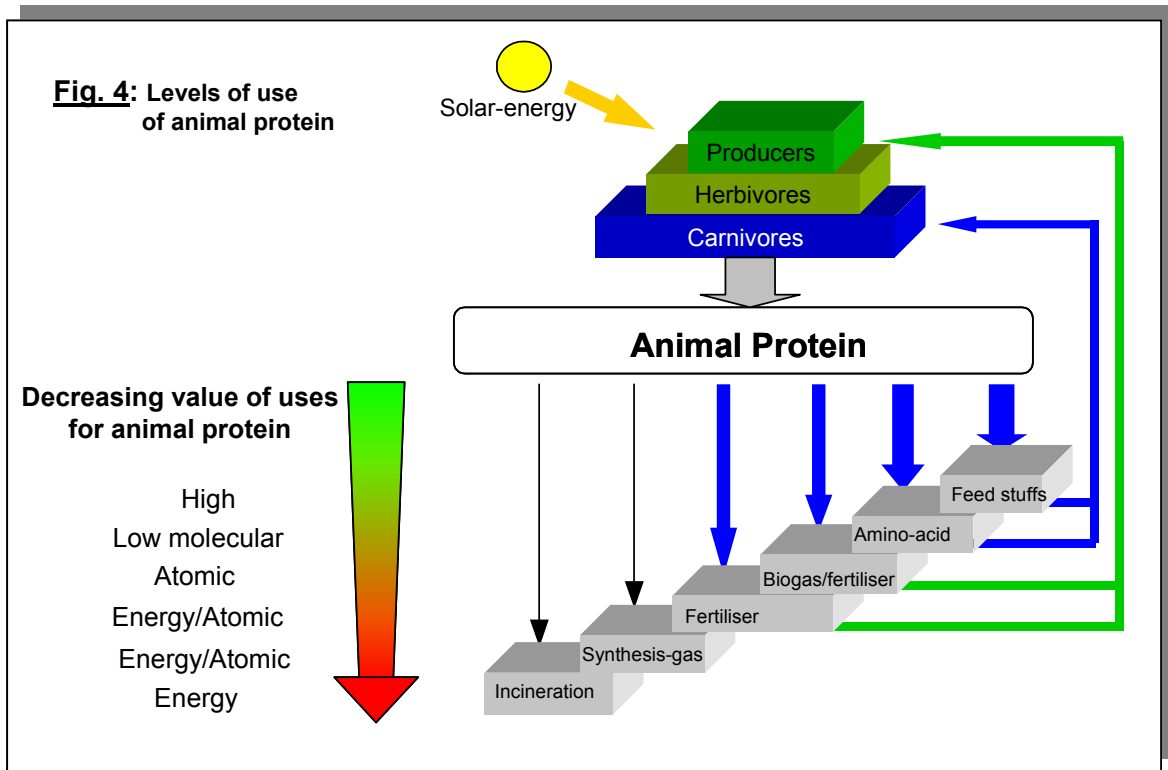


Figure 5 shows a modified animal protein cycle as suggested by EPEA.

