



“A single ingredient
can spoil feed
throughout Europe”

BfR President Professor Dr Dr Andreas Hensel on safe and accessible feed in times of global change.

Mr Hensel, the human population is constantly growing. Are we about to compete with animals for food?

Competition is bound to increase and it will influence agricultural production and animal farming. It is becoming more important to gauge all things edible for humans: what can we still use as food or animal feed?

Are there any products in Germany currently used as animal feed even though humans could eat them?

Yes – barley, for example: not spring barley for brewing beer, but winter barley. We are using almost 100 percent of it as animal feed because nobody likes to eat it. However, barley is an integral part of Polish or Ukrainian cuisine like borscht, for example.

What will animal feed look like in the future?

I am curious to see whether animal feed will continue to be mainly based on corn, grain and soy, or whether we will make better use of agricultural by-products. For example, harvesting and processing crops produces large amounts of biomass, including stems, leaves and husks. Ruminants can efficiently utilise exactly these kinds of substances as feed, but humans cannot. For example, it takes around four kilograms of soybeans to produce one kilogram of tofu. This means that there are three kilograms of “leftovers” that can well be used as feed. These remaining soy parts may originally be indigestible for humans, but if fed to livestock, can help to produce high-quality food such as yoghurt, eggs, and meat.

To a large extent, feed is traded globally. Which challenges does this entail?

We need to know where animal feed comes from and what it contains. This means both undesirable substances like dioxins or fungal toxins (see box) and healthy ingredients, such as vitamins and minerals.

Can compound feed, which often contains ingredients from different countries, pose a problem?

The challenge is that individual components of compound feed can act as a kind of “super-spreader”. Here is an example: a ship packed with soy meal sails from South America to Europe, and on the way, condensation drips from the ceiling of the cargo hold. As the weeks-long journey goes on, pathogenic *salmonellae* multiply unnoticed

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PROFESSOR DR DR ANDREAS HENSEL,
BFR PRESIDENT

in the meal. Through delivery to compound feed plants, which in turn supply numerous livestock farms, a single contaminated ingredient can spoil feed for various animal species throughout Europe.

When feed comes from all corners of the globe, how do you keep track?

Global flows of goods and regional structures must be clear. The BfR conducts research and collects data on production and transport for the transparency of product chains: what cargo passes through a deep-sea port terminal each day? What is the scale of the goods transported? How far does a lorry travel? We are developing detection methods and computer tools to facilitate traceability and to assess the health risk for humans and animals.

What are the BfR’s scientific goals in this context?

The safety of food and feed is fundamental to consumer protection. In the event of contamination, authorities must be able to react quickly. This is why the BfR prepares, tests and assesses analytical procedures on the chemical composition and origin of agricultural produce. For example, we have tested whether corn from Peru can be distinguished from corn from the USA or Ukraine. Within the field of animal-based foods, the BfR carries out special transfer studies and develops prediction models from them. These help to determine which animal-based foods may pose health risks to consumers in the event of contamination. Our research strengthens food and feed safety. —