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DVT study proves feeding trends towards more sustainability

EFFICIENT FEEDING AS THE KEY TO EMISSION REDUCTION IN PIG FATTENING

Current studies show a positive development of nitrogen efficiency and emission reduction in pig fattening. This is reported by the German Animal Nutrition Association (Deutscher Verband Tiernahrung, DVT) in a recent press release. The results of the studies give cause for optimism that the ambitious targets for emission reduction in European animal husbandry can be achieved. An increasingly efficient supply of pigs with the help of modern, highly optimized feed concepts appears to be the key. *Deutsche Tiernahrung Cremer* and nine other compound feed producers provided the data basis for the current analysis

Agriculture in Germany is becoming increasingly sustainable. Conventional animal husbandry must master a difficult balancing act. On the one hand, it has to reduce environmental pollution, and on the other, it has to supply the animals with essential nutrients in line with their needs and in full. At the same time, climate protection targets are ambitious: Germany, for example, plans to reduce ammonia emissions by 29 percent between 2005 and 2030. For this to succeed, all players in animal husbandry must work together. Compound feed producers like *Deutsche Tiernahrung Cremer* make an important contribution as part of the animal food processing chain.

Sustainable feeding trends in pig nutrition.

The results of the study by the German Animal Nutrition Association (Deutscher Verband Tiernahrung, DVT) demonstrate significant progress in feed efficiency and emissions reduction over the past 20 years. The results give cause for optimism that the reduction targets set by the European Union (EU) for pig feed can be achieved.

Results of the DVT study at a glance

Increasing feed efficiency

The study reveals an increase in feed efficiency in pig fattening. According to the study, feed conversion improved by just under 0.21 units during the study period. This corresponds to a reduction

in the amount of feed per kg of gain of just under seven percent.

Crude protein content in fattening feeds decreases

The crude protein content (XP) of the fattening feeds investigated decreased continuously across all feed types during the study period. At the same time, the average XP amount in feeds for the final fattening period, which were already low in crude protein, decreased particularly sharply.

Trend towards multiphase feeding

Multiphase feeding concepts in pig fattening have been on the rise for years. As the DVT study showed, the proportion of universal fattening feeds fell from 24 to three percent during the period of the study. In parallel, the share of three-phase and multiphase fattening increased to 69 percent.

Amount of XP fed decreases

As expected, the total amount of crude protein consumed by pigs in their feed also decreased. This development is a logical consequence of the decreasing crude protein (XP) content of fattening feeds, the trend towards multiphase feeding and better feed conversion. According to the DVT study, the amount of XP fed to produce one kg of live weight decreased by 17 percent between the years 2000 and 2020.

Less and less nitrogen emissions

The reduction in crude protein content in conjunction with the increase in feed efficiency led to a reduction in nitrogen emissions (N emissions). Even using the moderate calculation model of the DVT study, there was a 26 percent reduction in N emissions for the study period.

The results of the DVT study on fattening feed provide a representative overview of nitrogen excretion in German pig farming. The data come from the largest private German compound feed producer, *Deutsche Tiernahrung Cremer*, as well as nine other animal feed producers, which together produce about 45 percent of German pig feed.

Study results reflect development in deuka feed concepts

"The results of the DVT study reflect the optimization of our fattening feed concepts in recent years," explains Christina Jesse, head of the pig division at *Deutsche Tiernahrung Cremer*. "Thus, the observed increase in feed efficiency is on the one hand a sign of increasingly better genetics, but on the other hand also the result of continuous optimization of feed concepts. For example, by taking into account the precaecal digestibility of amino acids and the increased use of free amino acids (e.g. valine), we have managed to significantly improve the protein absorption of our fattening feeds and thus noticeably reduce the crude protein content. Corresponding feed concepts (e.g. Perform) are therefore particularly easy to digest, which significantly reduces the excretion of unnecessary nutrients and emissions from the pigs."

"But the change in the energy rating of our feed concepts - from convertible to net energy - also made an important contribution to more sustainable feeding," says Jesse. "Net energy takes into account all endogenous energy losses that occur during digestion and that the pigs release to their environment in the form of gas, feces and heat. Concepts optimized for net energy (e.g., our DV feeds) are more efficient, contain fewer protein carriers (e.g., soy) and result in an overall reduction in manure."

"If farms eventually switch to multiphase feeding, all the advantages mentioned above can be further enhanced. Unlike feeding with a universal fattening feed, the composition of the individual phase feeds corresponds much more closely to the actual needs of the pigs at the respective stage of life. For this reason, all our fattening feed concepts are available as three- to five-phase feeds, and in some cases even as multiphase feeds," Jesse explains.

Related articles

- **Increasing feed efficiency in fattening - this is what you should pay attention to..** (https://www.deuka.de/en/current/2020-08-19-increasing_feed_efficiency_in_fattening__this_is_what_you_should_look_for/)
- **Optimizing pig feeding through net energy?** (https://www.deuka.de/en/current/2021-06-24-optimierung_der_schweineftterung_durch_nettoenergie_/)
- **Sustainability** (https://www.deuka.de/en/company/sustainability/)

Resource efficiency in compound feed production for more sustainability

"Efficiency is the key to greater sustainability - we are convinced of this at *Deutsche Tiernahrung Cremer*. Only effective use of resources helps to save emissions or avoid them altogether," explains Miguel Diaz Martinez, Managing Director in Purchasing / Supply Chain. "We proceed according to this principle in the design of our production and logistics, as well as in the design of our feed concepts. In this way, we help our partners in

agriculture to achieve the common climate goals. The results of the DVT studies underline the success of these joint efforts."

Further DVT studies confirm results in broiler feeds

A retrospective study published in parallel by the German Animal Nutrition Association (Deutscher Verband Tiernahrung, DVT) on feeding and feed trends in broiler and chicken feeds, respectively, came to comparable results. The study demonstrated a considerable reduction in the average crude protein content in broiler feeds for poultry between the years 2000 and 2020, again indicating the achievability of the targeted climate protection goals in terms of an ammonia reduction of 29 percent by 2030.

Further links

- Press release of the German Pet Food Association (Deutscher Verband Tiernahrung, DVT) on the publication of both studies.
- Results of the retrospective study on ammonia reduction in pig fattening.
- Results of the retrospective study on ammonia reduction in broiler/chicken fattening.

Contact person

Tobias Bischoff

Head of Marketing+Communications

E-Mail: tobias.bischoff@deutsche-tiernahrung.de