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Rye-rich feed mixes can reduce CO_2 emissions in pork production by more than 20%

Among other provisions, the German government's climate protection plan stipulates reducing annual CO_2 emissions in agriculture by 13 million tonnes by 2030. In implementing this, animal feed could play an important role. Just by using regional, rye-rich feed containing some amount of rapeseed, annual CO_2 emissions in pork production can be lowered by more than 20%. These are the results of the "6-R-Konzept"[1] ("6-R Concept"), a project KWS is heavily involved in as an industry partner.

Hybrid rye can reduce CO_2 emissions up to 80 kilograms per tonne of yield in comparison with wheat: That has been established by earlier studies that offer these explanations: Rye needs significantly less fertilizer than wheat, demands substantially less water and generally enjoys very good plant health. Now the "6-R-Konzept" has provided scientific evidence that rye-rich feed mixes can decrease CO_2 emissions in pork production by more than 20%. "If all pig farming operations in Germany — and that's more than 18,000 farms with more than 17 million pigs — switched to a new feed concept, the agricultural industry would produce about 6.5 million tonnes less of CO_2 each year," says Dr. Andreas von Felde, who heads global product management for animal feed at KWS. The savings on CO_2 emissions through new feed concepts, along with the advantages from hybrid rye described above, also arise from the ability to produce animal feed locally, thereby eliminating long transport distances. Imported wheat is now often added to feed, just like imported soy products for supplying protein. That, of course, negatively impacts the carbon footprint. In contrast, hybrid rye can be grown regionally in sufficient quantities, and the domestic protein plant rapeseed can replace soy. "The old type of cereal rye, which is indigenous to our latitudes, had in the past been increasingly displaced by wheat," von Felde says. "But little by little the enormous potential hybrid rye offers in many different areas is being recognized again — and we're happy about that."

Background of "6-R-Konzept"

The "6-R-Konzept" was the only project focusing on pig feed to be selected for KlimAgrar last year, a project evolving out of an innovation program of the German Ministry of Food and Agriculture (BMEL). The project presents observations on research for climate-responsible behavior in the agricultural industry and links a total of 33 projects from the areas of soil, crop production and livestock production.

The "6-R-Konzept" had already received previous funding from the BMEL. The goal is to investigate the specific substances in rye and rapeseed and to take advantage of possible positive effects from greater amounts of rye in feed mixes for pigs. As part of the KlimAgrar research project, now the intention is to verify how climate-responsible behavior can be supported through the efficiency of rye cultivation and its particular effect in feed on the welfare of animals. "The enormous potential savings on CO_2 through modified feed concepts show just how great the potential of hybrid rye itself is — both in terms of animal nutrition and crop management and in light of cultivating this type of cereal in a resource-efficient manner," von Felde says. "For this reason, we're very pleased to be a part of KlimAgrar with the '6-R-Konzept' and have the opportunity to make a significant contribution to climate protection." The scientifically derived data is currently being verified in operations through feeding trials involving more than 20,000 animals. The results from these trials are expected in June 2020.

[1] The abbreviation 6R derives from the project title “Regionale Renaissance von Roggen und Raps zur Reduktion von Problemen in Pflanzenbau und Tierproduktion durch Re-Evaluation der Inhaltsstoffe und deren gezielte Nutzung zur Förderung des Umwelt-, Tier- und Verbrauchers” (“Regional renaissance of rye and rapeseed to reduce problems in crop and livestock production through the reevaluation of substances and their systematic use to support environmental, animal and consumer”). The “6-R-Konzept” is under the direction of Prof. J. Kamphues from the University of Veterinary Medicine, Hannover. Two other institutes of animal nutrition (Free University of Berlin, Institute of Animal Nutrition, represented by Prof. Jürgen Zentek; University of Bonn, Institute of Animal Sciences, represented by Prof. Karl-Heinz Südekum) are also involved. KWS is an industry partner; the Deutsche Raiffeisenverband (DRV), with its many member farming operations, is involved in the research association.

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About KWS*

KWS is one of the world’s leading plant breeding companies. In the fiscal year 2018/19, more than 5,500 employees in 70 countries generated net sales of EUR 1.1 billion and earnings before interest and taxes (EBIT) of EUR 150 million. A company with a tradition of family ownership, KWS has operated independently for more than 160 years. It focuses on plant breeding and the production and sale of seed for corn, sugarbeet, cereals, rapeseed, sunflowers and vegetables. KWS uses leading-edge plant breeding methods to increase farmers’ yields and to improve resistance to diseases, pests and abiotic stress. To that end, the company invested approximately EUR 200 million last fiscal year in research and development.

*All indications excluding the results from the companies accounted for using the equity method AGRELIANT GENETICS LLC, AGRELIANT GENETICS INC. and KENFENG – KWS SEEDS CO., LTD.

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