

DSM's position on sustainable animal proteins

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The world's population is expected to reach 9 billion by 2050 and demand for more nutrient-dense, healthy nutrition is increasing across geographies. Animal based proteins, such as milk, meat, fish and eggs, are a part of most people's diets, are highly nutritious and are a key part of balanced, healthy nutrition. Animal proteins are also an integral part of many cultures and play an important role in socio-economics.

The continued demand for animal protein is adding significantly to greenhouse gas (GHG) emissions and putting increasing pressure on natural resources that in some cases have gone beyond accepted planetary boundaries. Animal production plays a significant, if not central role in many of these global challenges. For example, the agricultural sector is a significant driver of climate change and a significant consumer of the world's finite natural resources. It is also contributing to the rise of anti-microbial resistance (AMR) due to the irresponsible use of antibiotics.

However, agriculture and aquaculture are the main sources of animal protein, a critical component of balanced human nutrition. It is generally recognized that animal productivity has to increase to meet the protein demand of a growing and ever more affluent global population. Doing so it must adopt new technologies and practices to address the significant sustainability challenges the industry is facing. Current mainstream animal production is considered by many to be unsustainable and is coming under increasing scrutiny from the value chain, policy makers and associated stakeholders to make substantial improvements.

There is a clear dilemma for agriculture and aquaculture of reducing the footprint of production, while at the same time playing a central role in closing the calorie and protein gap that will arise from a growing population. DSM is playing an active role in meeting this challenge through innovations that increase the efficiency of production, reduce the reliance on finite natural resources and livestock emissions and by promoting more sustainable farm management practices.

What is DSM doing to tackle GHG emissions from livestock farming?

Livestock production contributes directly and indirectly up to 16.5% of global greenhouse gas (GHG) emissions. These emissions are set to rise in line with demand for animal protein, unless concrete actions are taken. The main source of direct emissions is methane emitted by ruminants. DSM has developed a novel feed ingredient that significantly reduces methane emissions from cows by a minimum of 30%. In the meantime, we continue developing other ingredients to help mitigate GHG emissions derived from ammonia production.

How is DSM helping to reduce the pressure on our natural resources from farming?

DSM is addressing the sustainable animal protein challenge by producing ingredients such as feed enzymes that help animals extract more nutritional value from feed. This increases the efficiency with which different forms of biomass, agricultural and food by-products are converted into valuable animal protein and thereby reducing the pressure on agricultural land use.

We are also replacing the use of finite natural marine resources for feed with more sustainable alternatives. Our leading innovations will, for the first time, enable the production of the omega-3 fatty acids EPA and DHA for animal nutrition thereby fundamentally reducing the reliance on wild caught fish as the sole source of these nutritionally important lipids. This will significantly reduce the pressure on overfishing and help ensure these natural resources are managed more sustainably.

What is DSM doing to address the issue of food waste?

No less than a third of all food is lost or wasted. We have created solutions to support our business partners efforts to reduce food loss and waste in food production as well as the transport and consumption phases. For example, this includes producing antioxidants, such as vitamin E, which increases the shelf-life of meat, and feed solutions that strengthen egg shells resulting in a greater proportion of saleable eggs.

How is DSM helping improve the health of farmed animals and address anti-microbial resistance (AMR)?

At DSM, we support the industry's efforts to reduce the use of antibiotics. Over many years, anticipating this societal concern we have developed a broad portfolio of nutritional products that help to reduce the use of antibiotics for growth promotion and unnecessary prophylaxis.

What does DSM do to encourage more sustainable farming practices?

At DSM, we use our knowledge in animal nutrition, food safety and sustainability to support the livestock industry with more sustainable production practices in different regions and farming systems. Not only do we work closely with the larger players in the value chain, we also engage at small farm level. For example, with our DSM 'business-to-farm' project in China, we are supporting small-scale farmers with training and support services to help them increase the safety and quality of the food they produce, while also reducing its environmental impact.