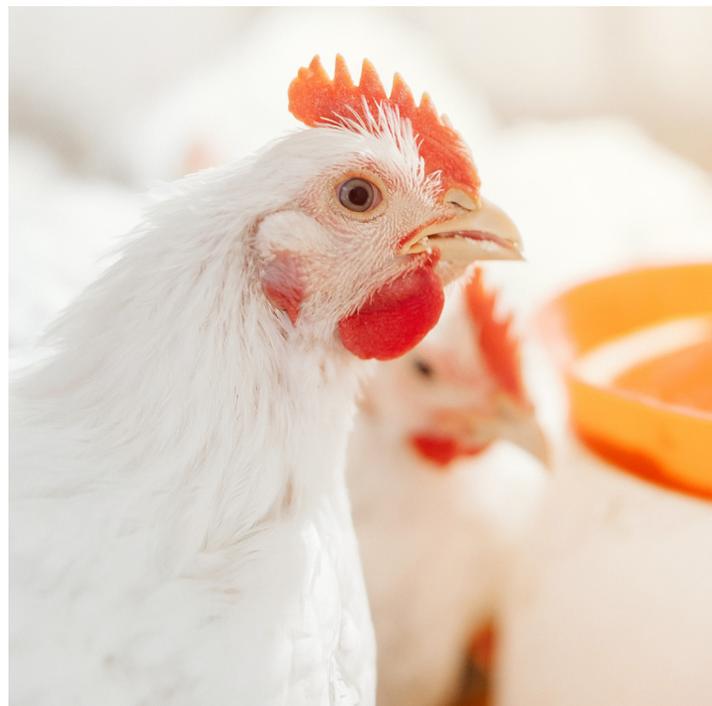
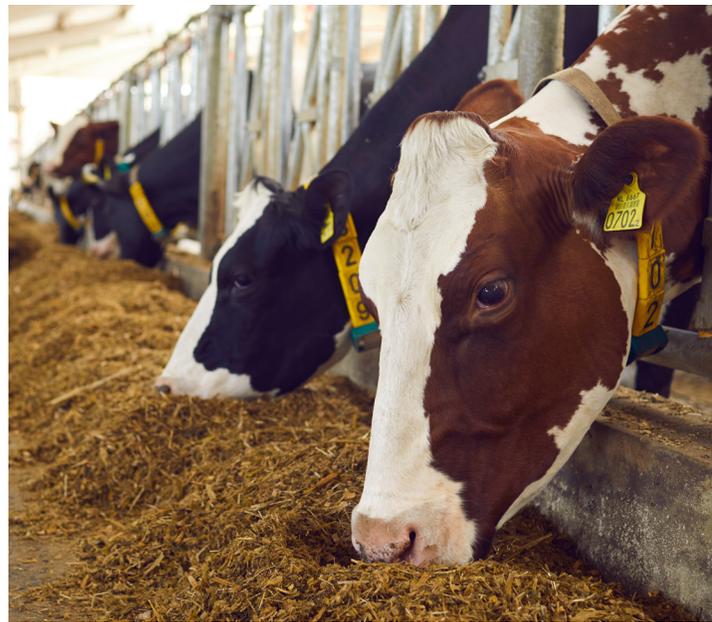




The future of
sustainable
animal nutrition.



Delivering innovative and sustainable nutrition solutions for livestock.

Achieving efficient and sustainable animal nutrition has become a driving force for modern animal nutrition research. With sustainability and efficiency in mind, the most effective nutrition solutions are ones that support animal performance and maintain economic productivity while also preserving the environment and the use of natural resources.

At ADM, we continually strive to help our producers maximize animal performance and lower their environmental impact. Our nutrition solutions assist with production targets, all while reducing the environmental results of production, maintaining efficiency and lowering total cost. And through our agricultural connections, we support sustainable practices that improve the health of animals and our planet; plus, the well-being of people and communities that supply our ingredients.



Our efforts to introduce new feed solutions are based on three sustainability priorities:

- + Maximizing animal durability and feed efficiency by reducing waste and resources used, while also **raising healthy and resilient animals.**
- + Elevating animal performance and welfare while maintaining **producer economic viability and economic stewardship.**
- + **Reducing the environmental impact** of animal production, including greenhouse gas emissions, nitrogen and mineral excretion, water contamination and energy consumption.
- + Making ethical and sustainable use of natural resources through **traceability and responsible sourcing.**

Looking towards animal health and welfare.

A variety of external pressures have elevated the need for more resilient farm animals, including consumer focus on how animals are raised and the environmental impacts of animal production. Recently, we've taken a look at some of the key trends influencing what can be done to improve animal health and well-being. With the support of our Pancosma feed additives, Wisium premixes, and our diverse portfolio of additional nutritional solutions, we can meet the modern challenges of animal nutrition with efficiency and sustainability in mind.

A focus on precision nutrition.

Precision nutrition is a strategy to formulate animal feed customized to each species' specific nutritional requirements. Improved nutrient absorption means fewer excretions into the environment and a higher feed conversion ratio, providing a more sustainable solution for the environment and a more economical option for the producer. Recent studies show that feed additives such as yeast-based prebiotics, probiotics, phytogenic compounds, organic acids and enzymes, can affect an animal's natural mechanisms to increase performance. For precise nutrition, Pancosma's portfolio of organic trace minerals and empirical enzymes are designed to meet the increasing demands of livestock farming to ensure optimal animal performance.




Pancosma
makes sense



New methods for managing stress.

Stressors common to intensive animal production systems can test an animal's resilience and affect growth targets and milestones. These challenges can be related to the environment, such as higher temperatures during the summer months; transitions at various life stages, such as weaning or grow out; housing conditions; or recovery from vaccinations. We're exploring the physiological and metabolic changes that accompany an animal's exposure to stressors to learn more about the mechanisms the animal uses for necessary functions. This can also help find new ways to support efficiencies by using nutrition to accelerate recovery and minimize the impact of negative stressors on performance.

Wisium, a portfolio of specialized nutrition solutions, has played a key role in helping producers meet the modern animal nutrition challenges through tailored support. Offering solutions such as FreshUp™, a nutritional specialty to help animals manage stress challenges, and P4L, a medication reduction program, Wisium delivers tailor-made solutions to support animal well-being and meet ongoing challenges in livestock production.

Optimizing animal development with early nutrition.

Quality nutrition is the foundation for a strong start in life, optimizing development, strengthening the immune system and maximizing the chance of a healthy lifespan. Providing the right nutrients at the right time is important for all species. Tailored early-stage nutrition strategies can enhance animal production for improved success and profit at each life stage.

wisium

NUTRITION & BEYOND



The power of palatability.

Palatants can improve the taste and aroma of animal feed to make it more appealing to livestock and stimulate feed intake, which can help increase production. Flavors and sweeteners can also be used to increase feed palatability. Smell and taste are especially important to young animals just starting to consume solid feed. Using suitable palatants in a starter feed can help young animals more readily accept solid feed, making a smoother transition from weaning. Additionally, improved feeding behavior at all life stages increases efficiencies for the producer.



The microbiome as the root of resilience.

The gut microbiome is emerging as a central component to overall health and well-being, with the microbiota ensuring nutrient absorption for healthier livestock. Increased exposure to bacteria and viruses can increase the risk of disease and negatively impact an animal's health and growth performance. With the international trend towards demedication and antimicrobial reduction, the animal nutrition industry is putting greater emphasis on the role of the gut microbiota. The link between nutrition, the microbiota and immune system support is being explored across species.



Modern capabilities to tackle modern concerns.

Through the use of a robust nutrition solutions portfolio, ADM and Wisium deliver high-quality feed products, supplements, premixes, custom ingredient blends and specialty feed ingredients to aid in optimizing animal health and meeting nutrition goals. We provide individualized solutions that optimize feed efficiency and maximize animal performance while contributing to a more sustainable approach to livestock farming.

For elevating animal health and welfare, our Pancosma feed additives deliver science-based innovation to help optimize animal performance and minimize environmental impact. Offering a range of gut agility activators, organic acids, palatants, phytogenic bioactives, specialties, trace minerals, yeast, and amino acids, our feed additives are designed to deliver specialized nutrition, boost health and performance, and help improve feed intake.



Additionally, Empirical, our line of enzymes for poultry and swine, unlocks high-fiber ingredients to release nutrients, making more energy available for production purposes. Enzymes can also provide flexibility and cost optimization in nutritional formulations. Sustainability is another benefit of using enzymes with livestock feed. By improving the digestibility and availability of feedstuffs, environmental emissions can be reduced, while performance and profits can be improved.

For minimizing the impacts of animal stress and optimizing development at early stages, our Wisium premix portfolio provides a number of minerals, premix solutions, specialties and service offerings that help deliver the nutrients necessary for optimal animal performance. Formulated in order to specifically answer the animals' nutritional needs, Wisium offers specialized support from start to end to help maximize the potential of animals.



A global leader in animal nutrition.

At ADM, we offer our animal nutrition capabilities and know-how, our worldwide presence and our team of experts that cover a large range of animal species. With this, we provide individualized solutions that optimize feed efficiency and maximize animal performance without sacrificing technical and economic viability. As a global leader in animal nutrition, ADM helps solve animal production challenges with science-based, innovative solutions. Partner with ADM's animal team experts to unlock health-driven solutions for today's animal nutrition challenges.

Let's Collaborate.

animalnutrition@adm.com

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