

FOOD EXPORT ASSOCIATION OF THE MIDWEST USA AND FOOD EXPORT USA – NORTHEAST

U.S. Feedlink

A publication highlighting information about the U.S. animal feed and pet food ingredients and additives industries

Feed Additives Research and Growth Continues

According to market.us, the animal feed additives industry was responsible for \$40.5 billion globally in 2022 and is expected to reach an impressive CAGR of 3.5% from 2023 to 2032.

Feed additives are used in animal nutrition to improve quality of feed, animal health, and animal performance, and are growing in demand due to increased awareness, coupled with recent disease outbreaks. As the market continues to grow, probiotics and amino acids are standouts with faster growth than the overall category.

Studies show probiotics in animal feed provide benefits including improving feed conversion, weight gain, and t-cell function, and reducing pathogen shedding and digestive disorders. Globe Newswire reports probiotics can also have impact on the quality and safety of animal-derived products, such as meat, milk, and eggs. According to Fortune Business Insights, probiotics are expected to grow at a CAGR of 7.3%, substantially higher than feed additive's 3.5%.

The rise of probiotics and knowledge of gut health in overall wellness are now also sparking interest in pre-biotics, or symbiotics. Studies show animals with healthier gut biome get sick less often and reduce disease impact and use of antibiotics.

One company helping to provide these valuable feed additives is Universal Probiotics in Linwood, Kansas. Their unique proprietary probiotic blend for humans and animals recognizes that certain yeasts, molds, and bacteria all play into a gut's biome and their product addresses all three factors for creating a more diverse microbiome.

Probiotics in poultry are developing slower than for other animals and recent challenges with disease have demonstrated the need to find more ways of improving avian health. Universal Probiotics is researching poultry health advancements. "For probiotics or symbiotics to have a lasting and significant impact improving health for humans and animals, there has to be more scientific data reflecting that and it's coming every day," Mark Gehrt of Universal Probiotics said enthusiastically.

Amino acids, building blocks of proteins, are also showing faster-than-average growth, accounting for 22.1% of the global feed additives market in 2022, according to Mordor Intelligence. They're expected to continue an upward trajectory of 5.5% CAGR over the next 10 years. Poultry dominated the amino acid market, accounting for 43.9% of amino acids in animal feed in 2022 driven by the benefits provided, such as improving gut health and muscle and egg development.

Derived from unripe papaya fruit, papain has been used as a natural, non-GMO alternative to animal feeds for decades and is both GRAS and listed as an AFFCO-approved enzyme. Papain can be used to create hydrolyzed proteins for pet food, animal feed, and human food; it can also be added to foods as an active enzyme to support healthy digestion.

"Papain plays a critical role in developing protein sources for food and feed that have not been utilized in the past, like new and innovative plant-based proteins," said Christina Barsa, Director-Strategic Accounts for Enzyme Development Corporation. "Papain, as a multifunctional protease, offers options not available with fermentation enzymes."

We do not expect to see a slowdown in the growth of feed additives in preventing and treating conditions ranging from allergies to deadly diseases, a small investment to make for healthier animals, improved yields, and increased bottom lines.



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featured products



For more information about these or other featured products please email: feedlink@foodexport.org



American Pharmaceutical Innovations Company

Downers Grove, Illinois

AmPharma® manufactures, distributes, and markets the highest quality veterinary products, such as AmPhi-Elec PWR, made of the purest and finest ingredients. AmPhi-Elec PWR is a water-soluble electrolyte concentrate easily administered through poultry drinking water that is useful in relieving stress from heat and transportation, fatigue after vaccinations, and can help fight against immune suppressive diseases, anemia, and other diseases. It is also a good source of minerals that help during peak egg production.



Great Lakes Bio Systems, Inc.

Sturtevant, Wisconsin

Celebrating their 30th year in business, Great Lakes Bio Systems Inc. manufactures natural, eco-friendly products like LAA1000, a cost-effective, highly concentrated, and highly versatile amino acid formula designed as an additive for feed milling, or for the enrichment of standard aquaculture feed. LAA1000 optimizes digestive capability and super-charges the efficient uptake of proteins, lipids, phosphorous, and carbohydrates from the feed to achieve higher growth rates, and increased ability to fend off disease.



Keys Manufacturing Company

Paris, Illinois

Pro 88 contributes to smoother transitions in early weaning pigs as they find it highly palatable which increases their feed intake and delivers highly digestible nutrients to them. This low-cost dried cheese product is made of cheese and soybean meal and is considered a high-quality source of protein and fat. Manufactured by Keys Manufacturing Company, family owned and operated for over 30 years, Pro 88 can replace or complement spray dried plasma, fish meal, or fermented soybean meal in diets for early weaning pigs.



Universal Probiotics

Linwood, Kansas

Universal Probiotics products are made from all-natural ingredients and include a unique and proprietary blend of probiotic bacteria, yeasts and molds combined with prebiotics, encouraging the growth of beneficial organisms in the digestive system. Each supplement has specially formulated prebiotics to enhance the beneficial bacteria's capabilities in specific animal species including many common ranch animals and house pets. All ingredients and beneficial bacteria are regarded as GRAS.



Vesta Nutra

Indianapolis, Indiana

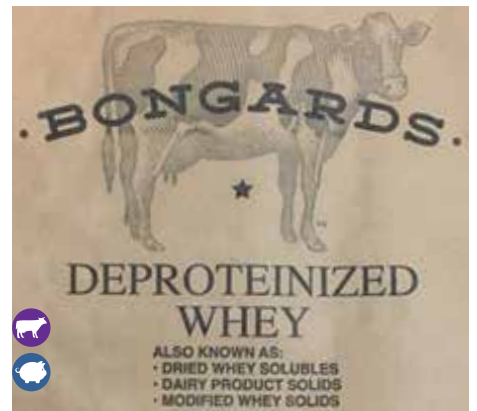
Vesta Nutra's BetaImmuneShield™ delivers the highest concentration with the fewest impurities available of Beta Glucan by using a proprietary manufacturing techniques. A leader in the nutraceuticals industry for over 25 years, their superior-quality raw ingredients are formulated to intensify functions within the immune system, making it more active, alert and effective at fighting off bacteria, viruses, cancers, parasites and fungi. It is also a preferred natural solution for reducing dependency on antibiotics and reducing contaminants on-site.



Enzyme Development Corporation

New York, New York

Enzyme Development Corporation has supplied enzymes to the food industry for over 65 years, serving a variety of industries and applications. Their ENZECO® Purified Papain RS 300 is a purified food grade proteolytic enzyme product, a lower-sulfite alternative to regular papain that is used as a meat and fish tenderizer, in the production of bread flavors, a component of beer chillproofing preparations, and hydrolysis of plant and animal proteins.



Dairy Products Incorporated

Eden Prairie, Minnesota

With over 25 years in the industry, Dairy Products Inc. has a respected history of supplying premium dairy ingredients, specialty services, and peace-of-mind risk management programs through products like whey permeate, or deproteinized whey, a cost-effective replacement for sweet dairy whey in bakery products, dry mixes, and snack foods and is a profitable method to regulate the sodium content.



Improving Farm and Animal Functions with Feed Ingredients

Farms employ different machines and technologies to increase speed, improve efficiency, and improve yields. Tractors, sorters, and smart technology are great examples of some of the tools used on the farm that improve these functions. A simple shift in perspective lands feed ingredients in the same category, both on the farm and within the animals.

DataM Intelligence (DMI) reports the electrolyte market is expanding primarily due to demands for mineral-rich animal feed with Data Intello reporting an expected CAGR of 5.5% by 2030, 2% higher than the feed additive market overall.

changes take place within the chickens causing behavioral changes, a reduction in egg and meat quality, damage to tissues and intestines, and, according to the National Institutes of Health, higher mortality rates.

Because poultry are unable to synthesize adequate vitamins during stressful periods, it is recommended that their feed be supplemented. The use of vitamins and supplements with other nutritional approaches can help combat the effects of these environmental stressors.

Electrolytes play a crucial role in maintaining fluid balance, transmitting nerve impulses,

such as optimizing hydration, supporting muscle function, or addressing specific health conditions.

“Electrolytes will continue playing a crucial role in various fields, including healthcare, sports performance, and sustainable agriculture,” commented Dr. MA MacKar M.D., founder and president of American Pharma. He continued, “New and exciting research is always being conducted. We could see electrolyte-based fertilizers and soil amendments developed to enhance nutrient absorption and plant growth, thereby supporting sustainable and efficient crop production.”

DMI also reports electrolytes are relevant to the aquaculture industry, where fish and other aquatic organisms are bred for food production. Proper electrolyte balance is critical for fish health, growth, and reproduction. Additives are used in fish feed formulations or in water treatments to support optimal electrolyte levels and overall fish welfare. Similarly, in aquaponics systems, where plants are grown in a symbiotic environment with aquatic organisms, electrolytes can help maintain water quality and promote plant growth.

Farms need the flexibility to be able to transport animals, treat them, and function day-in and day-out without delay and without the worry of losing their livelihood to heat and stress. Every farm wants to avoid downtime or yield loss due to sick or undernourished animals. Electrolytes have been successfully utilized in combating the effects of common stressors of farm life for centuries dating back to ancient Egypt, although our understanding of them and their specific applications has deepened and continues to. Scientific advancements and ongoing research push the category and continue to establish electrolytes as a major player in livestock health, today.

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Farm life can be stressful on animals, even hearty animals such as steer. When dealing with more fragile animals, such as poultry and fish, the effects of those stresses have a substantially larger impact. The most common and concerning environmental stressors farm animals face are temperature extremes, pollutants, restricted feeding, and stocking density.

While these stressors affect all livestock, they can be especially harsh on the avian population that are facing other serious stressors specific to them, such as the avian flu. More recently, much research has been done to identify the effects of environmental stress in broilers and layers.

When subjected to stressors, physiological

supporting muscle function, and regulating various physiological processes such as kidney function. Electrolytes are a mineral and when undermanaged, severe electrolyte imbalance can lead to symptoms like dehydration, muscle cramps, fatigue, and irregular heartbeat, affecting output quality. Chronic imbalance can result in organ failure and eventually death.

Midwest producer American Pharmaceutical Innovations Company (American Pharma) has been providing specialized electrolytes for farm feed for nearly 30 years. Their comprehensive formulas include varying combinations and concentrations of different electrolytes to provide maximum benefits. Their formulas can be tailored to address specific needs,

industry spotlight

Pork Strides Through Challenging Times

The global pork industry continues to grow at a modest 3-4% annually and weather the challenges of inflation, rising input costs, politics, and threat of disease. The pork industry is known for having ups and downs, but it continues to meet challenges with solutions, while consumers find new and delicious ways to enjoy pork products.

Pork consumption is being fueled by a growing market with a notable increase of middle-class consumers that are seeking more protein options. Flavor and culture trends also influence consumption. Due to the rise in popularity of the Korean culture, in part thanks to K-pop music sensations, pork is seeing a resurgence through Korean BBQ menus. Chefs are marketing pork wings made from the more flavorful hindquarter shanks as an alternate to chicken wings, offering barbecued pork meatballs, and are seeing 10% growth in demand for pulled pork on breakfast menus according to Tyson fresh meats team.

The future of demand for the industry is unclear because of fears of a prolonged recession due to inflation and its impact on consumer behavior, however, industry growth and supply outlooks give pork, feed, and additives producers hope. Fundamental to successfully maintaining the pork supply are healthy animals, requiring a

sufficient supply of high-quality, affordable feed and feed additives. In addition to being a global leader in the production of pork feed ingredients and pork meat, the Midwest is also home to a premier feed additive industry and suppliers, providing pork producers with the feed additives and supplements they need every day to promote the health and well-being of their animals.



EVENT HIGHLIGHT: World Dairy Expo

Oct. 1-6, 2023 | Madison, WI | worlddairyexpo.com

The World Dairy Expo is the meeting place for the global dairy industry bringing together the best in dairy innovation and cattle in North America. Join more than 60,000 attendees for the world's largest dairy-focused trade show, education, virtual tours, forage seminars and a world class dairy cattle show.

If you are interested in participating at an in-person feed ingredients event with us in 2023, please contact info@foodexport.org.

“I was pleasantly surprised at the quality of the U.S. suppliers at the meetings at the IPPE Expo in Atlanta. I’m excited about how many opportunities for new products there are for my business.”

Rene Pinochet, Founder | Novapro SPA | Chile



\$7.5 billion

total value of
U.S. exports for the
animal food industry
in 2022.



60%

growth in global demand for food by 2050.



#2

U.S. rank among global producers of animal feed.



~18%

of global demand for compound feed is met by U.S. production.

Illinois

STATE FEATURE

\$1.5B

Feeds and Other Grains exported in 2021

~44%

of grain produced in Illinois is sold for export

2nd

among U.S. states in export of Feeds and Other Grains

TOP 5 FEED INGREDIENTS



Corn



Soybean Meal



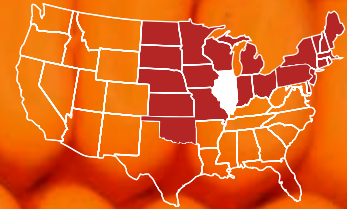
DDGs



Wheat Products



Corn Gluten Feed/Meal



■ Food Export States
■ Illinois

Kansas

STATE FEATURE

\$734M

Feeds and Other Grains exported in 2021

~50%

of wheat produced in Kansas is sold for export

5th

among U.S. states in export of Feeds and Other Grains

TOP 5 FEED INGREDIENTS



Corn



Wheat



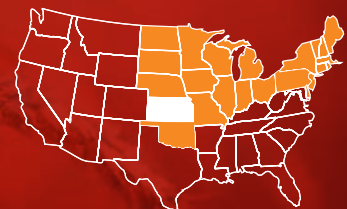
Soybeans



Sorghum



Hay



■ Food Export States
■ Kansas

Formaldehyde Shows Potential for Effective Feed Manufacturing Equipment Decontamination

New studies suggest formaldehyde is a potential way to decontaminate feed manufacturing equipment in the event of an African Swine Flu outbreak. Chad Paulk, Ph.D., associate professor at Kansas State University, said that the study showed using formaldehyde when flushing equipment demonstrated reduced detectable viral RNA of the ASF virus on feed equipment.



Flavor Impacts Metabolism in Pet Food

Research indicates that as pets age, their metabolism is impacted by flavor perception. As flavor sensitivity decreases there is less sensory input to nerve cells, which in turn influences taste systems, leading to obesity or diabetes in cats and dogs.

Mycotoxin Control Continues to Be a Priority

Mycotoxins have long been a concern in animal feeds and much emphasis is placed on control and testing to provide high quality feed. With the increase in meat consumption, growth of aquaculture and the increase of bentonite as an animal feed ingredient, mycotoxins continue to be a research priority. Feed mycotoxin binders are growing in importance and are expected to be valued at more than \$294 million by 2028. These binders help minimize the spread of animal-borne disease and improve overall livestock performance.

Expect to See More Derived Nutrients for Feed Formulation

Expect feed formulations to change in the coming years, moving away from gross nutrient values to more derived versions like total dietary fiber vs. crude fiber and digestible amino acids. R&D is moving the needle on new feed formulations using alternative ingredients. New science is teaching us more about rapid, slow and resistant fiber and proteins that can optimize nutritional plans for poultry and pork production with precision formulations.

news & trends

USDA/APHIS Protects Feed Exports

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) recently announced an updated Veterinary Services form that would allow continued export of animal-based feed products amid a foreign animal disease outbreak in the U.S. The updated form moves the disease statement, "This is to certify that rinderpest, foot-and-mouth disease, classical swine fever, swine vesicular disease, African swine fever, and contagious bovine pleuropneumonia do not exist in the United States of America," from the letterhead to the additional declarations section, allowing APHIS to strike the specific disease from the form in real time.

Global Probiotics Market for Animal Feed Shows Big Growth

A recent report highlights that the market for probiotics for animal feed is expected to grow from \$5.1 billion in 2022 to \$10.7 billion in the next 10 years – a CAGR of 7.6%.

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If you are a buyer or a seller and interested in participating in any of our in-person events and learning more, please contact feedlink@foodexport.org

events

• Value-Added Feed Ingredients Buyers Mission at the World Dairy Expo
Madison, Wisconsin, October 2023 and 2024

• Value-Added Feed Ingredients Buyers Mission at IPPE
Atlanta, Georgia, January 2024

• Pet Food Ingredients Buyers Mission
Kansas City, Missouri, Spring 2024

• Value-Added Feed Ingredients Buyers Mission at the World Pork Expo
Des Moines, Iowa, June 2024

• Feed Show Plus!
FIGAP, Guadalajara, Mexico, Fall 2024