30 years Biochem Zusatzstoffe Handels- und Produktionsges. mbH

Important milestones in the development of Biochem

1986	Formation of a trading and manufacturing company in April 1986 by Eckhard Thölke. At this time, the business unit focused on trading with "traditional" additives (vitamins, trace elements, amino acids and antibiotic growth promoters). Development of innovative product lines with animal-specific flavors and aromas to improve feed intake as well as protected acids to replace antibiotic growth promoters.
1991	Dr. Heiko Greimann, General Manager since 2000, joins Biochem. With the aim of combining efficient animal nutrition with food safety and quality (**Feed Safety for Food Safety®**), the range of products based on food safety, sustainability, animal health and replacement of antibiotics has been developed. Thanks to the approval of the probiotic BioPlus® 2B within the EU and cooperation with Chr. Hansen, Biochem can now offer an alternative to the use of antibiotics in livestock production with BioPlus® 2B.
1992	Biochem starts selling organically bound trace elements in form of proteinates (B.I.O.Key®). Particularly in areas of intensive animal production, these compounds help to reduce heavy metals entering the environment.
1993	The improvement of nutrient digestibility as a further step towards a sustainable livestock production leads to the cooperation of Biochem and Danisco Animal Nutrition (DuPont). Since then, enzyme products to improve fiber degradation are part of the product range. Biochem starts to cooperate with Iran as the first country in the Middle East.
1996	Betaine becomes part of the additive portfolio. Biochem is audited for the first time and is awarded DIN EN 9002/94 for additives and specialty products.
1997	Foundation of a subsidiary in France.
1998	Start of the Janusz Korczak School partnership in Wolgast. Within this partnership Biochem supports the remodeling and redesign of educational and recreational school areas.
2000	Dr. Alexander Grafe, General Manager since 2011, joins Biochem and takes over the product management for B.I.O.Key®.
2000-2008	Foundation of a subsidiaries in Ukraine, Russia, Poland, Serbia, Romania, Egypt and Turkey.
2002	Construction of storage and production facilities in Brägel, north of Lohne

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2003	Development of special feeds ("Dietetic Feed Supplements", short DFS) as a "problem solver" for animal production. Their use via drinking water (or as a paste) allows a fast and easy use when special support is required.
2005	The prebiotic TechnoMos® is launched and complements the product range of probiotics. Biochem introduces its toxinbinder, B.I.O.Tox®.
2007	Biochem introduces Phyzyme® XP as to improve phosphorus digestibility.
2008	In addition to iron, zinc, copper and manganese chelates of amino acids hydrates (B.I.O.Key®) Biochem introduces chelates of glycine hydrates (E.C.O.Trace®).
2010	In Brägel, the manufacturing area for pastes and liquids is expanded and the storage capacity increased with construction of the high-rack warehouse.
2011	Biochem includes a live yeast (MUCL 39885) in its product range for ruminants. Therefore, pre- and probiotic products for all animal species can be offered. Biochem introduces Hepatron into its betaine portfolio. Betain is now offered as liquid, powder, anhydrate, HCL in combination.
2012	Extension of office capacity (I) in Brägel
2013	Biochem opens its Rep. office Indonesia.
2014	Extension of office capacity (II) in Brägel Construction and commissioning of new production tower (3 lines, automatic bagging, smallest quantity packaging) Biochem opens its Rep Office China.
2015	New laboratory facility are constructed and opened. Construction and commissioning of the high-rack warehouse II that also includes specialist liquids storage. Commissioning of a 5000 liter mixer for liquid and paste production). Inauguration of the new Serbian office, warehouse and production facility in Belgrade.
2016	Extension III of office capacity in Brägel .

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Biochem today

Employees in Germany: 139, including 12 trainees.
Biochem employs agronomists, chemists, biologists, food technologists, veterinarians and nutritionists who are responsible for quality assurance, product development, production planning and technical support.

Biochem has offices and subsidiary companies in 12 different countries within and outside Europe (Germany (headquarters), Egypt, China, France, Indonesia, Iran, Poland, Romania, Russia, Serbia, Turkey, Ukraine). The sales area is complemented by a worldwide network of distributors in Europe, Africa and Asia.
Biochem employs 221 people all subsidiaries included.

Biochem's product range can be divided into 3 groups:

- additives
- special feed
- liquid products and pastes/gels

The product portfolio is continually evolving;

- colostrum powder and immunoglobulin-rich products for young animals
- expanding the range for ruminants with live yeast and rumen-protected products
- developments of supplements for horses (EQI® Gastro)

Future goals
Expansion of international markets while strengthening the team. In this regard, more research with aim towards sustainability, resource conservation and economic efficiency.
Further expansion of production / packaging capabilities.

- Further expansion of current international markets
- New market development
- Increase R& D to further enhance the product portfolio
- Extension of production facility and further improvements to Biochem's packaging capacity

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Feed Safety for Food Safety® - What does Biochem stand for?

- **Consumer safety - food safety and quality**
  - The high quality standard of our products is ensured by our quality management system according to the standards of DIN EN ISO 9001:2008, QS and GMP + (HACCP).
  - To reduce the use of antibiotics, feeding concepts have been developed based on the supportive effect of probiotic microorganisms in the intestinal flora. In combination with other substances such as prebiotics or betaine synergies can be used. Fewer antibiotics simultaneously mean a risk reduction for generation of resistances and residues in food.
  - With the new concept of Bimulac®, a combination of specific immunoglobulins and selected microorganisms, the health status and the starting conditions of newborns (piglets, calves, lambs), can be improved and optimized.

- **Feeding concepts for improving sustainability in animal production**
  - The E.C.O.Key® concept (based on organically bound trace elements) enables due to improved trace element availability, a reduction of trace element in supplementation. With need based supply of trace elements, a reduction of heavy metal inputs entering the environment, especially in areas of intensive animal production can be obtained.

- **Feeding concepts for increasing the digestibility**
  - enzymes and enzyme-forming microorganisms help to improve the digestibility of various nutrients, such as of phosphorus and protein. Reduced nutrient levels allow cost reduction, reduce nutrient inputs entering the environment and help, for example, in case of phosphorus, to conserve scarce resources. When using higher phytase, inorganic phosphorus sources can be completely dispensed, without causing performance degradation. During trial phosphorus intake and excretion per pig, could be reduced by 20% and 35% as.

- **Animal Welfare and Health**
  - A high productivity with sows and dairy cows often results in shorter life span of the animals. Fertility, hoof health and overall physical condition suffer from heavy stress.
    Probiotics: The use of enzyme-forming probiotic microorganisms (as BioPlus® YC) improves nutrient availability for sows in lactation. This way weight loss during lactation (and thus the risk of shoulder lesions and secondary deseases) can be effectively reduced.
    Trace elements: The use of organically bound trace elements (on top) supports hoof and udder health. Zinc is used for strengthening and resiliency of the claw horn, while manganese and copper affect bone density and strength of connective tissue and horn.
    Positive effects of organically bound trace elements on udder health (cell number and frequency of mastitis) could be shown in own trials.

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