



 **ActiBeet®**

YOUR TRUMP CARD IN ANIMAL FEED

AGRANA STARCH



AGRANA

AT A GLANCE

AGRANA is the leading sugar producing company in Central and Southeastern Europe, as well as a specialist for customized starch products and a manufacturer of bioethanol and isoglucose. It is also the global market leader in producing fruit preparations and a leading supplier of fruit juice concentrates to Europe.

AGRANA strives to be an indispensable partner to our customers by providing unsurpassed quality, traceability and product innovation. All of this is supported by the strong supply chain to our global customer base.

AGRANA'S EMPHASIS AS A PARTNER FOR ANIMAL FEED MANUFACTURERS

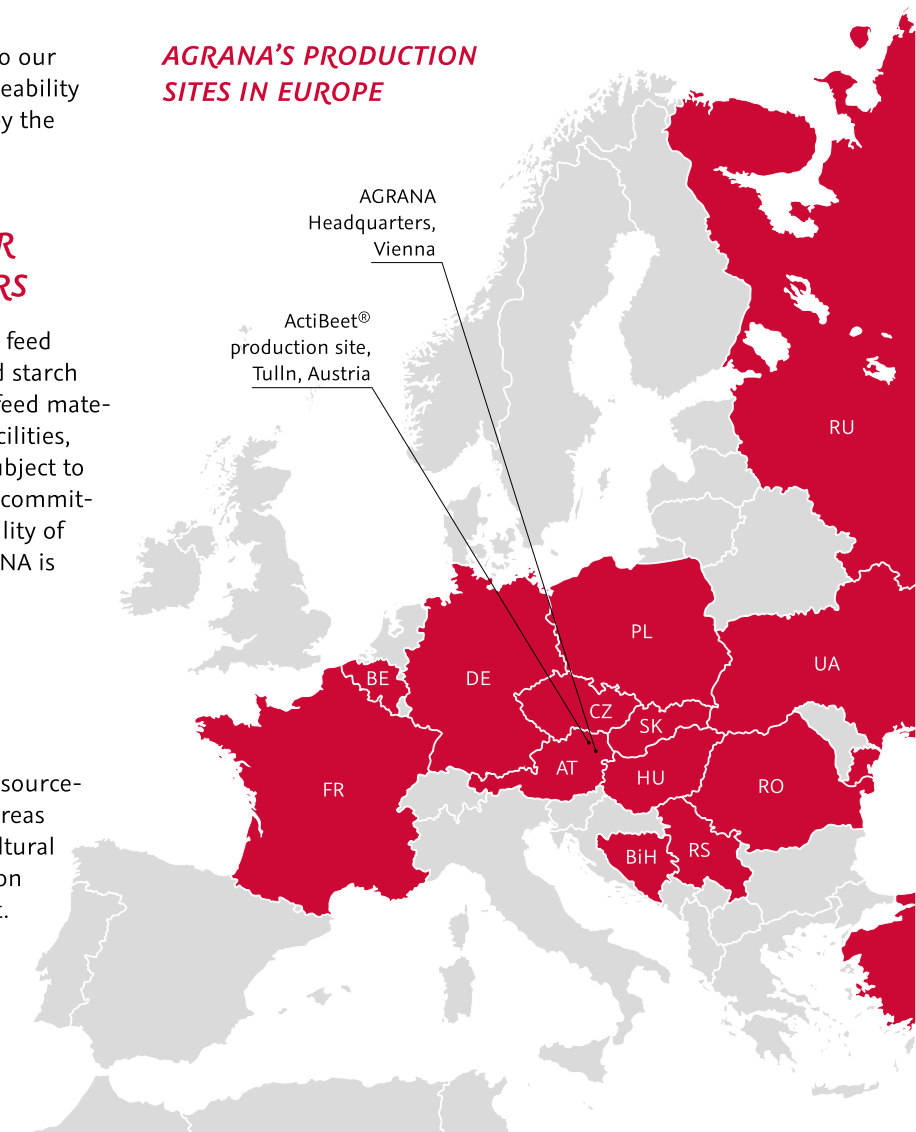
AGRANA sells more than 800,000 tons of animal feed every year based on the co-products of sugar and starch production, therefore making it Austria's largest feed material manufacturer. AGRANA's sugar and starch facilities, as well as the production of bioethanol, are all subject to relevant animal feed hygiene requirements. As a commitment to our customers, we strive for full traceability of our products back to their natural sources. AGRANA is consequently able to ensure animal feed safety.

PROTECTING OUR ENVIRONMENT THROUGH SUSTAINABILITY

For AGRANA, sustainability means acting in a resource-sensitive and socially responsible manner in all areas of business. We utilise close to 100% of the agricultural commodities, we process and rely on low-emission technologies in order to protect the environment.

AGRANA's products are developed and produced on the basis of the latest ecologically sensitive processes, which are characterized by low-emission, efficiency, but also by biodegradability and environmental friendliness.

AGRANA'S PRODUCTION SITES IN EUROPE



WWW.AGRANA.COM



AGRANA

WHAT IS BETAININE?

Betaine is a multifunctional nutrient that exerts a number of important physiological functions at the gastrointestinal and metabolic level. It is the trimethyl derivative of the amino acid glycine, a metabolite of plant and animal tissues, that was first discovered in the juice of sugar beets (*Beta vulgaris*).

In osmoregulation, Betaine acts as a non-ionic osmoprotector, which sustains the mineral and water balance. Furthermore, it helps to maintain cell volume, protecting them in critical situations (i.e. osmotic stress – high salinity, temperature stress – heat stress, as well as coccidial challenge or digestive disorders), without disrupting normal functions. Courtesy of its formula, $(\text{CH}_3)_3\text{N} + \text{CH}_2\text{COO}^-$ – with three methyl groups, Betaine is regarded as the most efficient methyl group donor for the transmethylation processes.

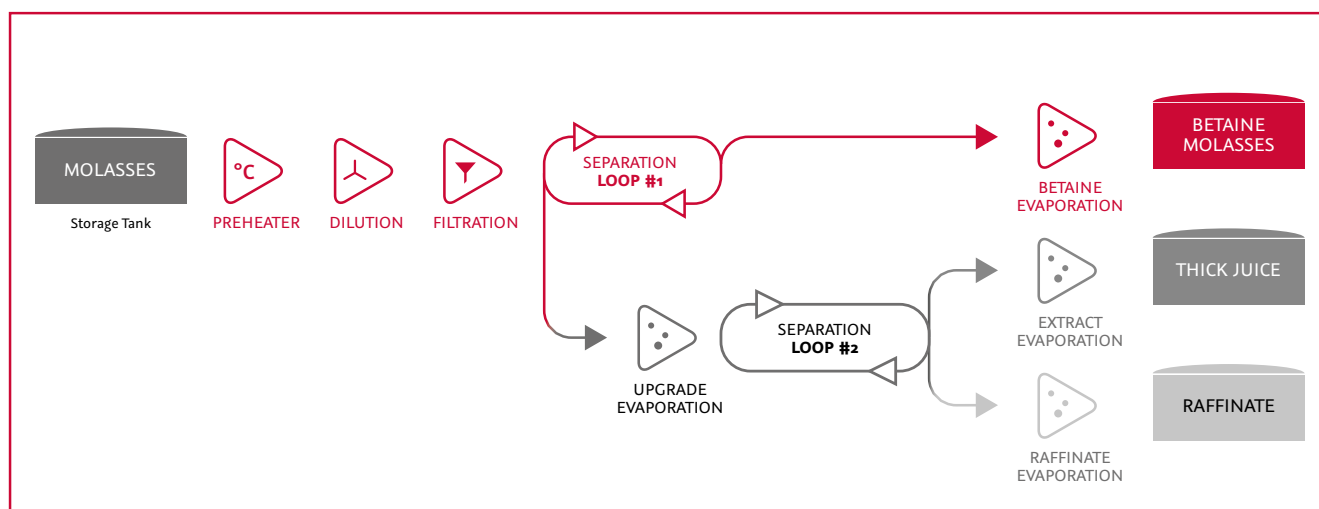
ActiBeet® is a distinct feed ingredient that combines non-toxic, stable and GMO-free features to create a high quality product.

A NATURAL SOURCE OF BETAININE

ActiBeet® is a natural source of Betaine, obtained from the partially desugared (Sugar) beet molasses, via ion exclusion – a chromatographic separation process of the Austrian sugar beet molasses production from Tulln (Lower Austria). The process enables separation of the molasses into three different fractions, one of which is a natural, betaine rich, desugared fraction.

AGRANA – QUALITY ASSURED!

Strict quality and safety measures are followed at all stages of the production process, not only at our sugar factory in Tulln, but at all other AGRANA factories as well. These processes range from delivery of the raw material through to the packaging and loading of the final product. AGRANA is both ISO 9001 and GMP+ certified. Furthermore, **ActiBeet®** is in accordance with the Codex Alimentarius Austriacus Guideline concerning the definition of non-GMO production.





AGRANA **ActiBeet®**



Starting Product:
GMO-free Austrian sugar beet

Multifunctional nutrient
with essential physiological
functions

Non-ionic
Osmoregulator

- Cell protection
- Maintenance of mineral
and water balance
- Supports animals in
stressful environments
- Positive effect on
nutrient digestion

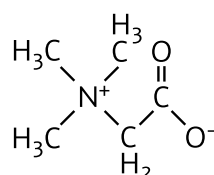
Methyl donor

Supports energy, protein
and fat metabolism

Source of natural Betaine

Scientifically proven

AGRANA's trial at Schothorst
Feed Research Center
*"The effect of betaine in broiler
chickens fed diets deficient
in methionine and choline"*



Betaine

ActiBeet®

Value increase
in the production

- Methionine saving
- Choline saving
- Improved performance
- Promotion of health
- Economic efficiency

Broad application

- Monogastric
- Aquaculture
- Ruminant

Natural, stable and widely applicable

agroVet
Certification





AGRANA

MANUFACTURER

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AGRANA

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