

INVEBET

Description

INVEBET is a new, liquid source of natural betaine extracted from sugar beet juice. The final betaine concentrate is separated and purified by column chromatography and twofold filtration. INVEBET is standardized at 35% betaine. When kept between 5 and 35 °C in closed containers or well-covered tanks, INVEBET is very stable, easy to pump and simply to dose. Consequently, the addition of INVEBET to (compound) feed can be done in any stage of the mixing, conditioning and/or pelleting process. Apart from the dosing of betaine as methyl donor, osmoprotectant and stress reliever, the liquid INVEBET functions also as dust binder, pelleting aid and energy source in the feed because it does not contain only 35% betaine but also 25% other organic substances like e.g. sugar, organic acids, amino acids and NSP's. If wanted, Jodobet L30 can be premixed with other liquid components like organic acids, some amino acids and/or molasses. It is also possible to put INVEBET on a dry ingredient carrier to create a dry premixture for your (compound) feed. INVEBET is very useful in all the feed and technical applications of natural betaine.

Betaine, a natural plant extract with exceptional properties:

Betaine is extracted from sugar beet. In the beet cells it functions as an osmoregulator (i.e. regulator of the water pressure). Thanks to betaine the sugar beet is able to store a huge amount of sugar without bursting open immediately and completely. With the help of betaine plants can regulate their osmotic pressure (turgor) more easily during dry periods by preventing water loss through evaporation.

This role of betaine as osmoregulator and osmoprotectant is since long recognized and applied in fish feed. By incorporating betaine e.g. in salmon feed these fish make the passage of sweet to salt water or vice versa more easily with less stress and less appetite depression. A lot of plants, crustaceans and shellfish who have their (original) biotope near the boundary of sweet and salt water contain betaine as a natural weapon against osmotic stress; it is even so that the specific taste of some crustaceans and shellfish (e.g. the taste of crab meat) is to a large extent determined by the presence of betaine and glycine (a natural amino acid directly involved in the metabolism of betaine) in their body.

Betaine in animal feed plays several important functions:

- a) As very efficient replacement of added choline chloride in donating methyl units.
- b) As osmoprotectant in the gut and at cell level to improve the digestion and use of nutrients and to facilitate proper metabolism under all circumstances.
- c) As anti-stress factor or stress reliever: betaine increases the resistance of the gut and the body against harmful effects of dehydration, heat, excess minerals, pathogens and the like.
- d) Betaine protects the liver against fatty liver syndrome and regulates and improves the fat and energy metabolism in the body resulting f.i. in more efficient growth and breast meat with broilers.



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Appearance

Brown liquid with a faint molasses odour

Physical parameters

- | | |
|--------------------------|-----------------|
| • Viscosity (10 – 20 °C) | < 150 mPa.s |
| • Density | 1,13 -1,18 kg/l |
| • pH | 4.5 |

Method of analyse

Brookfield RV, C421

in a 10% solution Chemical composition

Chemical composition

- | | | |
|-----------------|-----|------------------------|
| • Dry matter | 58% | Karl-Fischer |
| • Betain | 35% | HPLC |
| • Crude protein | 30% | N _{kj} x 6,25 |
| • Crude ash | 5% | Incineration at 550°C |
| • Ca | 0 | |
| • Na | 15 | |
| • K | 10 | |
| • Mg | 0 | |
| • P | 0 | |

Energy value

- | | |
|---------------------------|---------------------|
| • <u>ME-Broiler</u> | 1161 Kcal / 4.86 MJ |
| • <u>ME other poultry</u> | 1305 Kcal / 5.47 MJ |

Storage

In a dry and clean place in well closed containers or well covered tanks between 5 and 30°C

Keepability

At least two years from the date of production if kept at above mentioned conditions (tanks should be well ventilated and out of direct sunshine and wind to prevent condensed water on top of the product with microbial spoilage as a possible risk)

Packing

1000 liter PE containers (IBC's)

Legal description

INVEBET is a liquid premixture of natural betaine on fractionated beet molasses as carrier; Betaine is an unlimitedly permitted nutritional additive belonging to category 3.a : "Vitamins, provitamins and chemically well defined substances with similar biological activities".



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Safety description

INVEBET does not contain any harmful or dangerous substance and is not toxic; INVEBET is completely mixable with water and well degradable biologically (for more detailed information a Material Safety Data Sheet is available)

