Emulsifier technology for effective feed production

Extrusion

bredol

Nouryon
Value-added production of extruded feed with Bredol emulsifier

The use of Bredol emulsifier in the extrusion process gives a multitude of benefits

The water is better distributed and absorbed which improves heat transfer and conditioning in the meal. The amount of water needed for the extrusion process can be reduced which means lower drying costs and better finished product quality. The possibility of adding water and oil in emulsion form means improved distribution of both liquids.

An improved plastic effect is achieved which leads to smooth production without variability and better extruder capacity. In many cases it is possible to considerably increase the production speed. Apart from increasing capacity there is added flexibility to produce feed of a desired density. This can influence the floating characteristics of aquaculture feed and permit more consistent package filling in pet foods.

The use of liquid components becomes easier with Bredol emulsifier. Fat and water and other ingredients form a fine mix which will be evenly distributed and absorbed in the meal leading to smoother production. High viscosity products become more manageable. Micro ingredients are better dispersed or dissolved and better utilised. In practice, the addition can be achieved through online mixing or via a tank with homogeniser.

After treatments
Bredol is used in various types of after treatment.

A. Sinkability Certain fish pellets which tend to float even after process adjustments can be coated by oil and Bredol improving the wetting ability and hence the sinkability

B. Pigment solubility The pigment solubility has been increased by help of Bredol

C. Palatability – digest Example of unstable digest which has been stabilised

Examples of liquid concepts

With Bredol

Homogeneous mixture of water and oil

Without Bredol

Lumps in the meal due to uneven distribution of liquids

Effective water and steam distribution giving uniform expansion and good structure

Examples of liquid concepts

To mixerVarious micro ingredients including colour

Oil

Bredol

Water

Animal and fish slurries

Homogenised emulsion

In tank with homogeniser

To mixer or conditioner

Effective water and steam distribution giving uniform expansion and good structure

Typical advantages in production

Improvements experienced using Bredol in Pet and Fish food extrusion trials at institutes and many other commercial sites,

- 10 to 30% output increase
- 8 to 20% extruder power reduction
- 15 to 30% water reduction leading to reduced drying costs
- Increased product quality and better control of density

Results will be dependent on product type, raw materials, and machine configuration.
Contact us directly for detailed product information and sample request at bredol@nouryon.com

We are a global specialty chemicals leader. Markets worldwide rely on our essential chemistry in the manufacture of everyday products such as paper, plastics, building materials, feed, pharmaceuticals and personal care items. Building on our nearly 400-year history, the dedication of our 10,000 employees, and our shared commitment to business growth, strong financial performance, safety, sustainability and innovation, we have established a world-class business and built strong partnerships with our customers.

We operate in over 80 countries around the world and our portfolio of industry-leading brands includes Bredol.

For more information visit bredol.com

Products mentioned are trademarks and registered in many countries.

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The development of emulsifier technology is a continuous process within Nouryon and the company is the owner of patents in many countries. It is the policy of Nouryon to enforce these patent rights and, accordingly, Nouryon is actively monitoring the industry for infringement and is in the front line when it concerns feed and food health & safety as well as environmental care. The quality system is based on HACCP principles and is FAMI-QS certified.