



bredol®

# Emulsifier technology for effective feed production



Pelleting

**Nouryon**

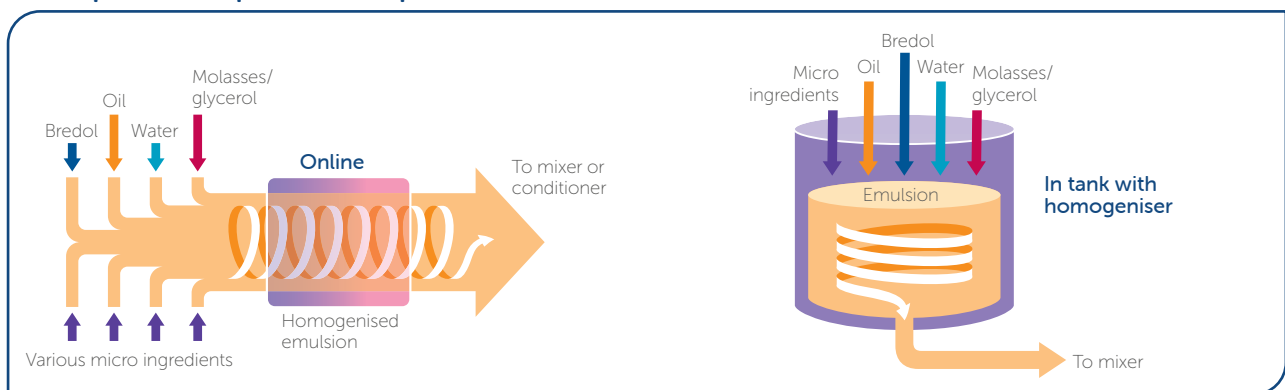
# Cost effective pellet production with Bredol emulsifier

Bredol is the key to succeed in producing a homogeneous mixture of liquid components.

The Bredol concept allows greater flexibility in choice of liquids and dry raw materials without problems in production. It leads to higher throughput with less resistance and energy consumption. Pellets of consistent quality with stable moisture levels are produced. A key to success is the ability to produce a homogeneous mixture of liquid components with the help of Bredol product's powerful emulsifying properties.

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 like molasses or glycerol become more manageable. Micro ingredients become better dispersed or dissolved and better utilised, pigments being one example. In practice, the addition can be achieved through online mixing or via a tank with homogeniser.

## Examples of liquid concepts



### Broiler trial (42 days) with added water

	Control	Bredol 683
Water content in feed after production, %	12.5	13.5
Body weight, g	2321 a	2312 a
Daily feed intake, g	90.8 a	90.5 a
Feed conversion rate (FCR)	1.762 a	1.760 a

p < 0.05 Source: University of Leuven, Belgium, 2004

Feeding and growth parameters were kept in spite of a higher retained moisture with the Bredol group

### Microbiological analysis of the broiler feed after two months storage

	Control	Bredol 683
Water content in feed after production, %	12.5	13.5
Aerobic bact., cfu/g	4700	2000
Moulds, cfu/g	850	<150

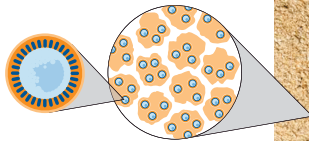
There was no microbiological growth despite higher moisture content in the Bredol group.

## With Bredol

Homogeneous mixture of water and oil



Homogeneous mixture of liquids evenly distributed and absorbed in the meal

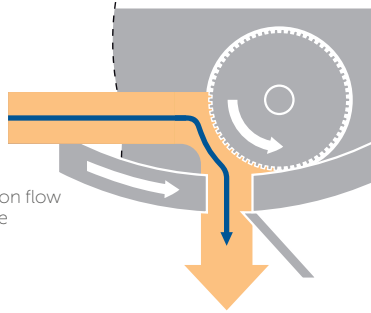


Water in oil emulsion micelle



Fully conditioned meal

Smoother production flow at even temperature



Controlled pellet durability, starch gelatinisation and less fines with even distribution of nutrients



Improved moisture stability thanks to encapsulation



## Without Bredol

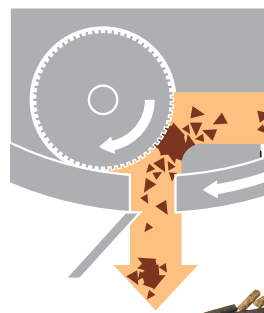
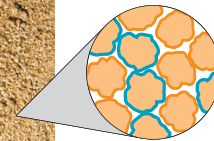
Water and oil separated



Lumps in the meal due to uneven distribution of liquids



Water and oil added separately



Partly conditioned meal

Risk for over heating and blocking



Variations in product form and nutritive value

Surface moisture evaporating during cooling



## Typical advantages in production, trial single pelleting

Test run	Bredol ppm	Added water %	Oil in mix %	Press total Amps	Tonnes per hour	Durability	Meal moisture	Nut moisture
Control	0	1.0	0.5	375	18	96.2	13.5	11.4
Bredol	500	1.0	0.5	355	20	96.5	13.5	12.4

In the Bredol run, less energy was consumed and 11% higher output was achieved. This resulted in grinding process losses being replaced and the required moisture level was met.

Contact us directly for detailed product information and sample request  
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# Nouryon

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