



PROMUTASE™ 200



*Raw material
for animal feed*

● A source of vegetable SOD

● A double protection of PROMUTASE™ 200

● Bioavailability of PROMUTASE™ 200

● Examples of use in animal feed

● Trial on dairy cows : milk quality

● Trial on shrimps : analysis of mortality after transport

A vegetable source of SOD

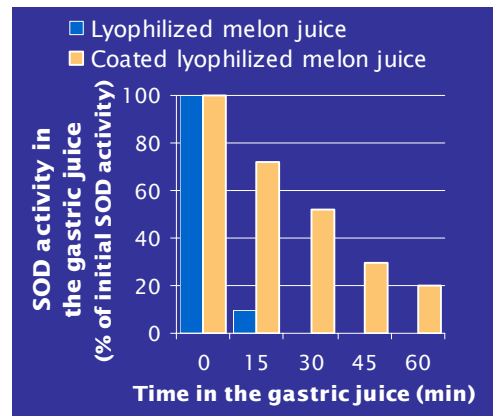
PROMUTASE™ 200 is a concentrate of lyophilized Cantaloupe melon juice naturally rich in antioxidant active ingredients, in particular superoxide dismutase (**SOD**).

The raw material, obtained from melon pulp, is an hygroscopic lyophilized powder produced by the company BIONOV, France.

For an optimal use of **SOD** in animal feed, active materials are protected against destructive effects of the digestion and high temperatures.

Description
Appearance : powder
Colour : pale yellow
SOD content :
2 600 000 UI/kg
Nutritional analysis :
• Proteins : 9,5 %
• Lipids : 16,6 %
• Raw cellulose : 4,1 %
Presentation :
• 1 kg plastic bottles
• 20 kg drums

A double protection of PROMUTASE™ 200



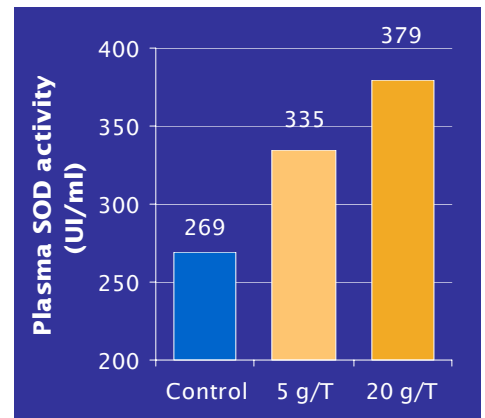
The lyophilized melon juice is coated by a vegetable fat matter and adsorbed on a mineral and vegetable carrier. This double protection prevents the destruction by the digestive tract acidity of anti-oxidant enzymes and particularly of SOD and ensures its thermo-resistance. Its presentation on a food support makes easier the

incorporation of **PROMUTASE™ 200** into animal feed.

Bioavailability of PROMUTASE™ 200

Bioavailability of **PROMUTASE™ 200**'s antioxidant enzymes, and particularly of **SOD** has been evaluated by its incorporation in pig feed at two different levels : 5 g/T and 20 g/T. In this study, **PROMUTASE™ 200** permitted an increase of the plasma **SOD** activity by 25 to 40%.

Jean-Paul LALLES and Jean Claude DAVID - INRA UMRVP - Domaine de la prise, 35590 SAINT-GILLES, France. Dominique LACAN - BIONOV - 84000 AVIGNON, France.



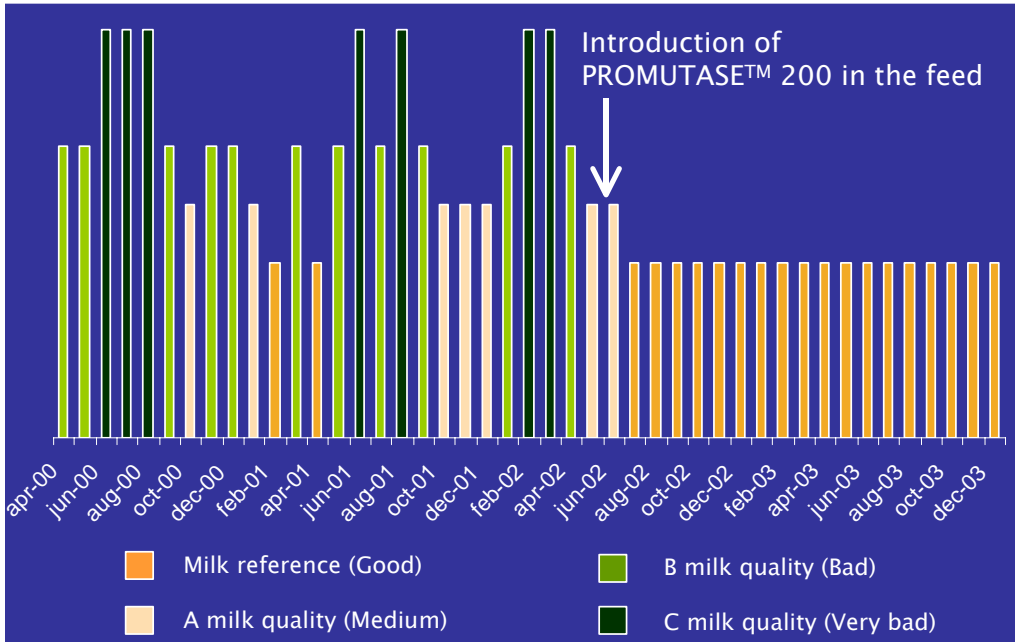
Examples of use in animal feed

Incorporation of **PROMUTASE™ 200** in animal feed ensures animals an intake of non-GMO **SOD** from vegetable origin, in a defined quantity. Its industrial production replies to important requirements by the animal feed industry, whatever the animal species.

Level of incorporation

• 20 to 200 g/T of feed

Trial on dairy cows : milk quality



A 35-Holstein dairy cow herd received 250 g of mineral feedstuff per day and per cow in which **PROMUTASE™ 200** was incorporated at 200 g per tonne during 18 months. In this herd, for more than two years, the mixed-milk quality of milk tank was carried out every month by URCILL, the official French control organism. The quality was often bad or very bad. As soon as the second control made by URCILL following the distribution of the

mineral feed containing **PROMUTASE™ 200** the milk quality increased and stayed at the reference quality level during all the period of distribution of this mineral feed. François DESBORDES Veterinary Doctor, France.

Trial on shrimps : analysis of mortality after transport

In March 2006, in an Equatorial company, a batch of 1600 reproducer shrimp, coming from a growing farm and being transported in a tank under pure oxygen during a 12-hour journey, arrived in a very bad state. Previous transportation of this nature regularly resulted 40 to 50% mortality. A feedstuff containing **PROMUTASE™ 200** at a level of 200 mg/kg was immediately distributed after their arrival. The population was quietly acclimatised in the basins and were distributed in a regular way without any nervous signs. The level of mortality in this batch was under 8% and shrimps recovered their initial aspect at the third day. The distribution of this feedstuff is now given systematically by this company for all batches. Jean François LE BITOUX Veterinary Doctor, France.



Nota

The analytical specifications warranted are only those mentioned on the certificate of analysis supplied with each delivery of the product.

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* SEPPIC being: **SEPPIC S.A.** Tel. : +33 (0)1 55 91 57 00 Fax : +33 (0)155 91 50 50 and, depending on the country :

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