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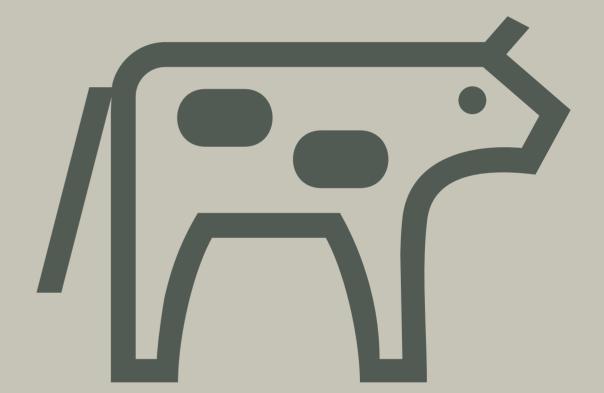
Vetagro Inc.

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RUMINANT









Ruprocol® is a rumen by-pass source of choline for ruminant species.

Plus



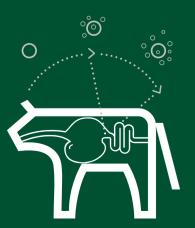
Benefits

- Improved health and performance in transition
- Ideal for improved liver functionality
- Enhanced reproductive performance



Features

- Scientifically proven bioavailability
- Can be used with **Timet**®, as a source of methionine, in fresh cows
- Suitable for on-farm or feedmill application



Microencapsulation technology

- Proven rumen protection
- High intestinal bioavailability
- Stability during pelleting and mechanical stress

As free choline is strongly degraded at ruminal level, **Ruprocol®** choline is microencapsulated in a lipid matrix to be highly available at the intestinal level.











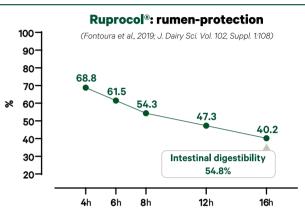
Ruprocol®

Highly bioavailable choline for animal performance.





Protection of choline from rumen degradation with high intestinal bioavailability



Values of **Ruprocol®** rumen-protection using the nylon bag technique and *in vitro* intestinal digestibility at 16 hours

 $\textbf{Ruprocol}^{\text{\tiny{0}}}$ in Holstein dairy cows from 21 days pre- to 35 post partum

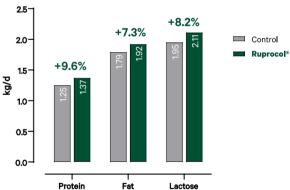
(Sáinz de la Maza-Escolà et al., 2022; J. Dairy Sci. Vol. 105 Suppl. 1:2335)



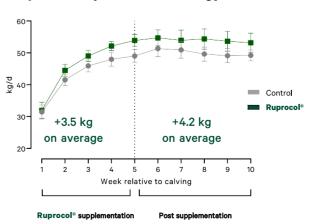
Profitability

Improved energy-corrected milk yield and feed efficiency

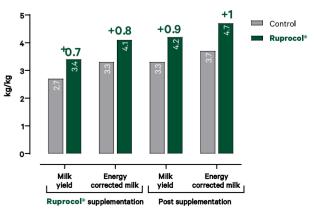
Ruprocol®: improvement on milk quality



Ruprocol®: improvement on energy-corrected milk



Ruprocol®: improvement on efficiency of pre-partum dry matter intake*



*Efficiency of pre-partum DMI relative to MY and ECM during RPC supplementation (week 1 to 5) and post-supplementation (week 5 to 10).

Calculations based on Holdorf et al., 2022.