

It's **YOUR** Reputation Stake it on Proven Technology

For more than 50 years, Balchem has pioneered choline product development and encapsulation technologies. ReaShure® *Precision Release Choline* has combined both areas of expertise to become one of the most researched and successful products used on the dairy. Don't risk your reputation on unresearched, unproven products. Go with the recognized leader; recommend only ReaShure.

	ReaShure [®]	Valido™
Number of Peer-Reviewed Studies	31	0
Years of Proven Performance	19 Years	0 Years
Proven to Increase Milk Production*	YES	NO
Proven to Reduce Health Events*	YES	NO
Proven to Impact Reproduction*	YES	NO
Proven Performance in the Cow*	YES	NO
Proven on Dairies Around the World	YES	NO
Made in the USA	YES	NO
Developed by the World Leader in Choline	YES	NO
Backed by the Leader in Encapsulation Technology	YES	NO

^{*}Peer-Reviewed Research Studies Conducted Around the World



ReaShure® Peer-Reviewed Research

Feeding increasing amounts of ruminally protected choline decreased fatty liver in nonlactating, pregnant Holstein cows in negative energy status. JDS 2018, In press

Effects of supplementation with ruminally protected choline on performance of multiparous Holstein cows did not depend upon prepartum caloric intake. JDS 2017, Volume 101, Issue 2, Pages 1088-1110

Choline and methionine differentially alter methyl carbon metabolism in bovine neonatal hepatocytes. 2017. PLoS ONE 12(2): e0171080. doi:10.1371/journal.pone.0171080

Regulation of Nutritional Metabolism in Transition Dairy Cows: Energy Homeostasis and Health in Response to Post-Ruminal Choline and Methionine. 2016. PLoS ONE 11(8): e0160659. doi:10.1371/journal.pone.0160659

Choline absorption and evaluation of bioavailability markers when supplementing choline to lactating dairy cows. JDS 2016, Volume 99, Issue 12, Pages 9732–9744

Better postpartal performance in dairy cows supplemented with rumen-protected methionine compared with choline during the peripartal period. JDS 2016, Volume 99, Issue 11, Pages 8716-8732

Influence of feeding rumen-protected choline to transition dairy cows Part 1: Metabolism and milk yield. Tierärztliche Praxis Großtiere 2014, Issue 1, Pages 11-21

Influence of feeding rumen-protected choline to transition dairy cows. Part 2: Health and reproduction. Tierarztl Prax Ausg G Grosstiere Nutztiere. 2014;42(2):79-87

Choline and choline metabolite patterns and associations in blood and milk during lactation in dairy cows. 2014. PLoS One 9:e103412

Effects of Feeding Rumen-Protected Choline and Vitamin E on Serum Protein Fractions, Total Thiol Molecules and Total Antioxidant Capacity in Early Lactating Dairy Cows. 2014. Global Journal of Animal Scientific Research. 2(4): 337–344

Effect of rumen-protected choline supplementation on liver and adipose gene expression during the transition period in dairy cattle. JDS 2013, Volume 96, Issue 2, Pages 1102–1116

Effects of feeding rumen-protected choline on incidence of diseases and reproduction of dairy cows. The Vet. Journal 2012, Volume 193, Issue 1, Pages 140-145

Effect of Dietary Rumen Protected Methionine and/or Choline Supplementation on Rumen Fermentation Characteristics and Productive Performance of Early Lactating Cows. 2012. Pakistan Journal of Nutrition 11 (3): 221-230

Effect of rumen-protected choline on performance, blood metabolites, and hepatic triacylglycerols of periparturient dairy cattle. JDS 2011, Volume 94, Issue 8, Pages 4016–4027

Effect of dietary rumen-protected choline on milk production of dairy cows: A meta-analysis. JDS 2010, Volume 93, Issue 8, Pages 3746–3754

Supplemental Choline for Prevention and Alleviation of Fatty Liver in Dairy Cattle. 2007. J. Dairy Sci. 90:2413–2418

In situ evaluation of the ruminal stability of different choline products. Allattenyesztes es Takarmanyozas. 2007. 56:589-595

Lipid Metabolite Profiles and Milk Production for Holstein and Jersey Cows Fed Rumen-Protected Choline During the Periparturient Period. J. Dairy Sci. 89:188–200. 2006

Effects of Rumen-Protected Choline and Monensin on Milk Production and Metabolism of Periparturient Dairy Cows. 2006. J. Dairy Sci. 89:4808–4818

Rumen-protected choline for dairy cows: the in situ evaluation of a commercial source and literature evaluation of effects on performance and interactions between methionine and choline metabolism. Anim. Res. 55 2006, 93-104

Liver Metabolism and Production of Cows Fed Increasing Amounts of Rumen-Protected Choline During the Periparturient Period. 2003. J. Dairy Sci. 86:1722-1733

Rumen Undegradable Protein, Rumen-Protected Choline and mRNA Expression for Enzymes in Gluconeogenesis and Ureagenesis in Periparturient Dairy Cows. 2001. J. Dairy Sci. 84:490–497

Impact of Dietary Rumen Undegradable Protein and Rumen-Protected Choline on Intake, Peripartum Liver Triacylglyceride, Plasma Metabolites and Milk Production in Transition Dairy Cows. 2000. JDS 83:2907-2917

ReaShure® Precision Release Choline



Valido™ Peer-Reviewed Research