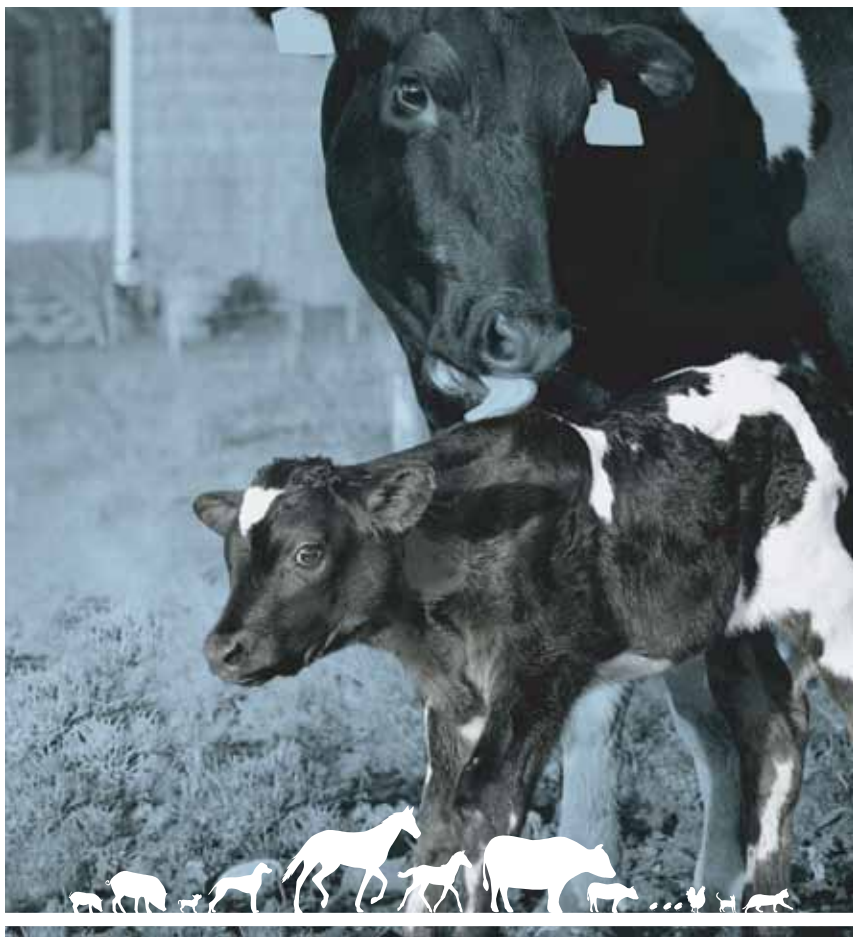




# SALMATE<sup>®</sup> embracing life



A UNIQUE OMEGA-3 FATTY ACID ENCAPSULATED DRY PRODUCT WITH EPA AND DHA



[www.salmate.com](http://www.salmate.com)

## SALMATE® and the Improvement of Reproductive Performance in Dairy Cows

The term "essential fatty acid" refers to a fatty acid that cannot be synthesized in the body but is required for certain essential biological functions. Omega-3 ( $\omega$ -3) (Linolenic) and Omega-6 ( $\omega$ -6) (Linoleic) fatty acids are the most important. Not only is the total amount of these fatty acids in a ration important, but also is the ratio in which they occur.

Too often diets fed to farm animals are deficient in the  $\omega$ -3 fatty acids, especially the long chain fatty acids.



SALMATE® is a natural source of Poly Unsaturated Fatty Acids (PUFA) such as Eicosapentaenoic acid (EPA – C20:5  $\omega$ -3) and Docosahexaenoic acid (DHA – C22:6  $\omega$ -3) from quality fish oil. The fish oil provides an excellent balance of EPA and DHA in proportions that help provide the best physiological and cost effective results.

### The Unique Features of SALMATE®

SALMATE® contains approximately 45% fish oil which, together with natural antioxidants, has been **encapsulated in a starch matrix** to provide the essential fatty acids:

EPA Eicosapentaenoic Acid (C20:5  $\omega$ 3)

DHA Docosahexaenoic Acid (C22:6  $\omega$ 3)

- A concentrated product allowing for a low inclusion rate or dose of administration
- A coating that prevents the oxidation of PUFA, which are very sensitive to oxygen, minerals and moisture
- A product that contains natural antioxidants
- A starch coating that allows for a target release of PUFA in the intestine
- A coating that prevents problems of feed intake often seen with other sources, and prevents handling problems in feed mills and farms (such as odors, liquid products, rancid products and storage)

## The Importance of Fatty Acids

Essential Fatty Acids (EFA) are essential in the production of a group of compounds called eicosanoids. They serve as building blocks for several types of prostaglandins in the body. These prostaglandins ordinarily are involved in tissue remodeling, inflammatory response, muscle contractions, and wound healing. One specific prostaglandin, designated F2, causes regression of the corpus luteum if a cow is not pregnant, allowing her to get ready for her next estrus cycle.

EFAs also are important in producing progesterone. The role of progesterone is to support a pregnancy if one occurs until the placenta can sustain the pregnancy later in gestation. When progesterone levels drop, muscle contractions increase, and components of the immune system infiltrate the reproductive tract and serve to destroy any harmful agents (pathogens) that may be present. This mechanism depends upon the correct combination of EFAs to function effectively.

## What You Feed and When Produces the Greatest Results

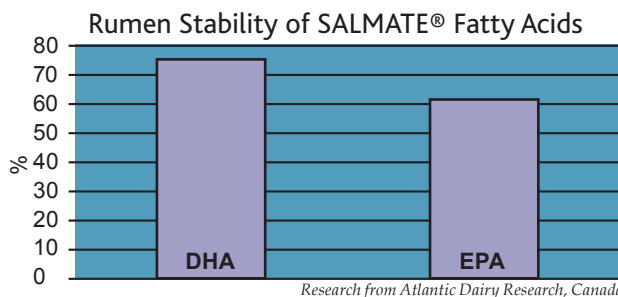


Dairy producers are recognizing that group feeding and developing a strategy that delivers specific fatty acids when cows need them most, are providing their herds with the nutrition needed to achieve their genetic potential for milk production and reproductive performance.

## More Energy When Your Cows Need It

SALMATE® delivers a high percentage of essential fatty acids (EPA and DHA) to the small intestines of cows where they can be used for the functions as outlined previously.

It was determined that SALMATE® partially protected DHA and EPA from rumen saturation. Of the original EPA placed in the flask, 61.1% remained intact and 75.3% of the DHA survived the 24 hour incubation.

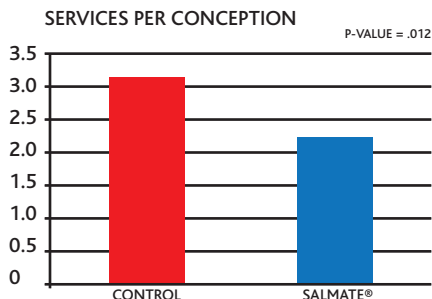
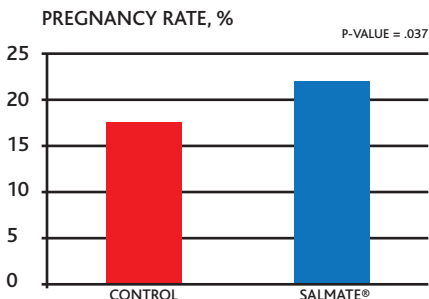


## UP TO 40% OF LIVE EMBRYOS ARE LOST WITHIN 50 DAYS OF CONCEPTION

EPA and DHA help preserve embryos by enhancing progesterone needed for embryo growth, while inhibiting a prostaglandin that threatens embryo survival. Too much prostaglandin after fertilization can cause early embryonic death (EED). SALMATE® contains EPA and DHA to bypass rumen.

### The Impact of SALMATE® on Reproductive Performance in Dairy Cows

A recent study in the Midwestern United States was conducted on a dairy farm with approximately 700 dairy cows. The producer fed SALMATE® to his herd at a rate of 30g/head/day for at least 90 days postpartum during the trial period. During the control period a year earlier, he did not feed the cows any SALMATE®. The results were very positive with pregnancy rate increasing from 17.75% to 22% in the SALMATE® group, an increase of 4.25 percentage points. Services per conception decreased from 3.16 in the control group to 2.24 in the SALMATE® group. This can be interpreted as a decrease in average days open by 19.32 days per cow in the SALMATE® group.



It is estimated that the average day open costs anywhere from \$3.20 to \$4.75 per cow per day open.<sup>1, 2</sup>

SALMATE® can provide a cost effective strategy to optimize the dairy producer's financial returns.

<sup>1</sup> Smith, Gilson, Ely and Graves, *Dairy Reproduction Benchmarks* (UGA Cooperative Extension Bulletin 1210); May 2012, pg. 5

<sup>2</sup> PD+ Section 1, *Focusing on fertility* (DairyCo Resources Library); November 28, 2012, pg. 1:3  
<http://www.dairyco.org.uk/resources-library/technical-information/fertility/pdplus-section-1-focusing-on-fertility/>

### Recommended Feed Levels for SALMATE®

#### DAIRY COWS

##### MIX INTO FEEDS FOR LACTATING COWS:

- 30g/head/day from postpartum to 110 days postpartum, or until bred.
- 40g from day 30 to day 90 postpartum.
- 50g/head/day from day 50 to day 90 postpartum.

#### BULLS

80g per day in feed, or as a top dressing when bulls are active.