
# Animal Plasma in Milk Replacers

## Non-Medicated Alternatives (Part 2)

Q **What is Animal Plasma?**

A Animal plasma is a concentrated source of protein obtained by removing the red and white blood cells from fresh whole blood. The resulting plasma is then dried (70-78% crude protein).

Q **What is NUTRAPRO™?**

A NUTRAPRO™ is a high-quality protein ingredient derived from animal plasma manufactured by American Protein Corporation (APC). It is a straw-colored, freely flowable powder. High quality proteins are carefully collected, processed and preserved to maintain their biological function.

Q **What does "biological function" mean?**

A Proteins in plasma – when collected and processed properly – may do important things in the intestine of the animal. Proteins (e.g., transferrin, lactoferrin, immunoglobulins and others) have been shown to inhibit bacterial growth, reduce the severity of diarrhea and improve overall animal performance. Peer reviewed research documents these results. NUTRAPRO™ is processed to retain these active proteins.

Q **Can NUTRAPRO™ replace subtherapeutic antibiotics in my calf milk replacer program?**

A Thousands of dairy producers all over the U.S. have removed antibiotics from their feed and replaced them with NUTRAPRO™. There is no loss of performance – and the reduction in use of antibiotics on the farm may reduce the risk of developing antibiotic resistance in animals and man. The Federal Government has initiated a concerted effort to evaluate and potentially reduce the overuse of antibiotics in animal agriculture. NUTRAPRO™ can contribute to this effort.

Q **Is NUTRAPRO™ a good value?**

A NUTRAPRO™ is an excellent value for the price – not only does NUTRAPRO™ provide high quality nutrition, but it also may reduce the need for subtherapeutic use of antibiotics in your milk replacer. **At current whey and WPC prices, a non-medicated milk replacer containing NUTRAPRO™ offers significant savings over an "All-Milk" milk replacer medicated with neomycin & oxytetracycline.**

Q **Has NUTRAPRO™ been scientifically evaluated?**

A Many university and industry studies have been published using animal plasma in calf milk replacer formulations. Plasma (NUTRAPRO™) has been shown to be a safe and effective ingredient in calf milk replacers.

Q **Is NUTRAPRO™ safe?**

A Exhaustive studies have been done to establish the safety of the product. Many steps in the collection and processing of NUTRAPRO™ reduce the risk of contamination. Only healthy animals are used in the collection process and extensive checks and rechecks are done to ensure the quality and safety of our material and processes. In addition, the use of products like NUTRAPRO™ in animal feed has been extensively evaluated and approved by government agencies including USDA and FDA. NUTRAPRO™ is safe.

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Q **What is the difference between NUTRAPRO™ and "other" animal plasma?**

A NUTRAPRO™ is the "best of the best". Plasma (like any product) has different levels of quality. NUTRAPRO™ is selected to meet the very highest criteria of nutritional and microbiological quality. No other plasma product on the market exceeds NUTRAPRO™'s specifications.

Q **Will NUTRAPRO™ change the way my milk replacer looks or mixes?**

A No. The aroma, solubility and shelf-life of your milk replacer will remain the same. The color may change very slightly. It is important to note that milk replacers containing NUTRAPRO™ should be mixed in water that is less than 150℉ (65℃). Higher temperature s may denature proteins and reduce solubility.

Q **Will my calves like it?**

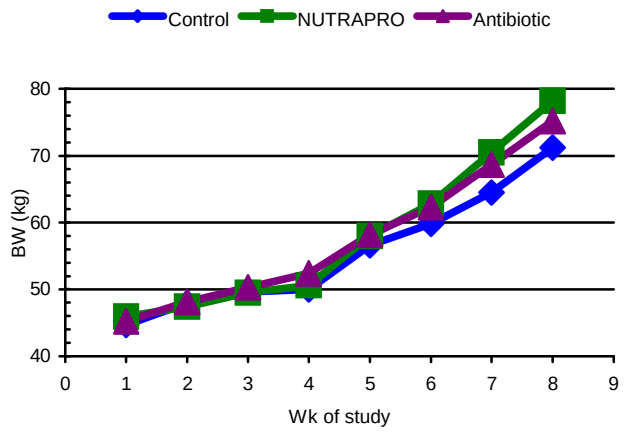
A Calves consume milk replacers containing NUTRAPRO™ the same as other milk replacers. They do not notice any difference.

Q **How do calves perform when fed NUTRAPRO™?**

A Published studies have shown that calves fed NUTRAPRO™ will perform as well as or better than calves fed "all-milk" milk replacers, and better than calves fed alternative ingredients, such as processed soy flour. A reduction in the incidence and severity of scours is also routinely noted

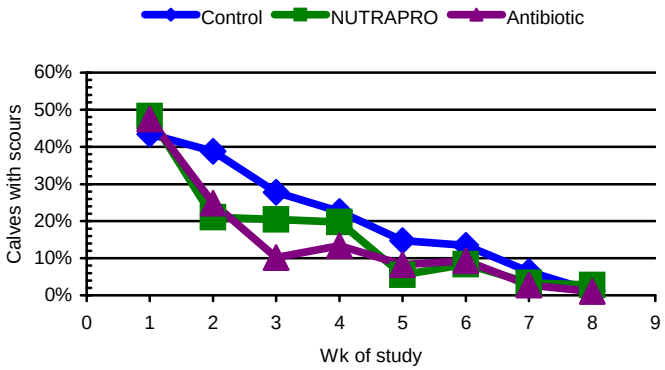
See graphs at right evaluating body weight and scours when calves were fed a non-medicated All-Milk milk replacer, milk replacer containing 200/400 Neomycin/ Oxytetracycline, and milk replacer containing 5% NUTRAPRO™ animal plasma.

**NUTRAPRO™ Increased Calf BW**




Calves were fed All-Milk CMR containing no additives (CONTROL), 200/400 oxy/neo, or 5% NUTRAPRO™. (n = 40/treatment).
APC Unpublished Experiment JDQ9909

**NUTRAPRO™ Decreased Calf Scours**




Calves were fed All-Milk CMR containing no additives (CONTROL), 200/400 oxy/neo, or 5% NUTRAPRO™. (n = 40/treatment).
APC Unpublished Experiment JDQ9909

**Published Scientific Papers Referencing Animal Plasma:**

**Morrill et al.** 1995. Journal of Dairy Science. 78:902-907.
**Quigley et al.** 1996. Journal of Dairy Science. 79:1881-1884.
**Drew,** M.D. 1994. Journal of Animal Science. 72(suppl.):298.
**Nollet et al.** 1998. Journal of Veterinary Medicine. Assoc. 46:185-196.
**Besser et al.** 1988. Journal of Virology. 62:2234-2237.


FOR MORE INFORMATION, CALL OR WRITE MILK PRODUCTS, LLC
P.O. Box 150, Chilton, Wisconsin 53014, (920) 849-2348, Fax (920) 849-9014 www.milkproductsinc.com
 