

Results of research trials conducted at the Nurture Research Center were used to develop industry leading technologies. These additives technologies are included in milk replacer, starter, and grower formulas to promote rumen development, calf growth and health and sustain growth of young animals through improving metabolism, digestion and absorption.

## NeoTec4® and NeoTec5g®

Provides a specific blend of essential fatty acids to support the immune system and promote optimal body weight gain, structural growth and feed efficiency.

- Addresses the fatty acid deficiencies in the typical U.S. calf's diet (butyric acid, medium chain fatty acids, and linolenic acid).
- Helps calves metabolically utilize nutrients that contribute to bone growth and muscle mass.
- Aids accelerated development in gut health and helps calves to become ruminants faster, creating a swifter on-ramp to starter feeds and additional performance gains.

Backed by more published research than any other calf product on the market, NeoTec4's efficiency is proven in the "real-world" and provides consistent results.

NeoTec5g combines the research proven fatty acid technology of NeoTec4 with three additional nutrients (called G Factors) to help improve the digestion, absorption, and metabolism of nutrients by the calf.

## Growth Benefits of NeoTec5

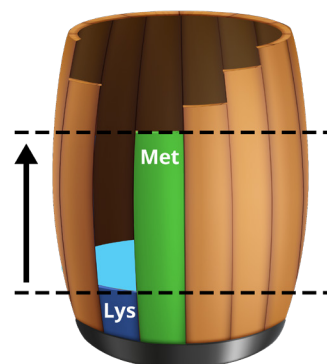
	Control	NeoTec	Effect
ADG, lb/d	1.25	1.46	↑ 17%
Gain to feed, lb/lb	0.469	0.508	↑ 8%
Hip width change, cm	3.9	4.5	↑ 14%

Prof. Anim. Sci. 23:135 (2007) | Prof. Anim. Sci. 23:401 (2007) | J. Dairy Sci. 92:670 (2009)  
J. Dairy Sci. 96:5826 (2013) | Anim. Feed Sci. Tech. 153:228 (2009)  
Prof. Anim. Sci. 27:167 (2011) | J. Dairy Sci. 94:3936 (2011)

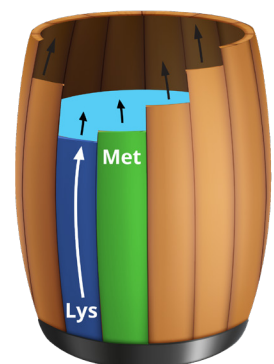
## AmNeo®

Supplies the right sequence of essential amino acids, because providing only crude protein to calves is just not enough.

- Offers the optimum amino acid-to-energy ratio.
- Supplements specific amino acids in a calf's diet, reducing the need to increase crude protein, while maximizing overall efficiency, average daily gain, and cost effectiveness.



**Figure 1a.**  
The Liebig barrel analogy illustrates limiting essential amino acids result in "gaps" in the diet that limit growth.

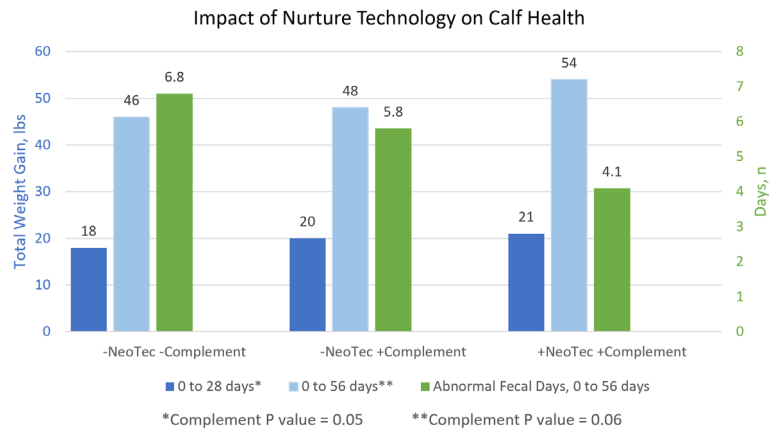


**Figure 1b.**  
Black arrows indicate other amino acids can be supplied in small amounts to further increase performance without additional crude protein.

## Complement®

A concentrated milk protein containing many of the components of colostrum.

- Functions independently of NeoTec fatty acids, complementing their benefits.
- Consumption of colostrum extended beyond initial, normal consumption at birth has been shown to improve health and average daily gain.
- For use in milk replacers.



## Industry Leading Calf Research



**NURTURE  
RESEARCH  
CENTER®**

The Nurture Research Center is a state-of-the-art calf research facility dedicated to furthering our understanding of calf management and nutrition.

Built in 1999, work done at the Nurture Research Center facility has contributed to over ninety peer-reviewed calf publications, more than any other commercial, university or government facility.

## FACILITY OVERVIEW

Research is focused on two stages of development: Pre-weaning and post-weaned calves.

### NURSERY UNIT (0-8 WEEKS)

- 2 rooms, 50 pens in each
- Natural ventilation with curtain sides
- Clear polycarbonate roof and retractable shade cloth
- 4' x 8' pens with deep straw bedding
- Calves are fed and weighed individually

### GROWER UNIT (8-16 WEEKS)

- 24 pens
- Groups of 4-5 calves
- Housed in a super hutch
- Fed and weighed as a group

## CALF RESEARCH FINDINGS

Work done at the Nurture Research Center has contributed significantly to the scientific community and our understanding of calf nutrition and management. Below is a list of some of the many discoveries made at the facility:

- Amino acid requirements of neonatal calf
- Fatty acid requirements calves < 5 months old
- Feeding rates of milk replacer and feeding programs
- Digestive and immune system maturation
- Feeding and management for heat and cold stress