



FrontLine®

TECHNICAL INFORMATION FOR
TODAY'S FEED PROFESSIONAL

Milk Replacer Shelf Life

How a milk replacer is stored can have an impact on its' shelf life

Milk replacer is a somewhat perishable product. Storage conditions can have considerable impact on a milk replacer's shelf life. Our experience indicates that milk replacers over 6 months from date of production demonstrate some level of deterioration, and are therefore not able to be returned or reworked.

Milk replacer shelf life is adversely affected by exposure to a combination of heat, sunlight, humidity, and time.

Three potential problems can occur as a product reaches the end of its useful shelf life:

- Prolonged exposure to heat and humidity can initiate and accelerate the natural chemical process termed Maillard browning, a chemical reaction between protein and carbohydrates. Over time, the reaction can cause milk replacers to turn tan or eventually light brown due to the chemical browning.
- Over time, varying degrees of lumping are inevitable if milk replacer packages are broken or unsealed and sufficient humidity is in the air.
- Though all milk replacers contain antioxidants to stabilize the fat included in the formula, with exposure to air and heat for a long enough period of time, all fats will begin to oxidize or turn rancid. This is a gradual, natural process.

Under normal warehouse storage conditions, milk replacers up to six months of age should be usable with no adverse health response by the animal fed. It is never advisable to use a product which appears brown in color (with the exception of red blood cell-containing products) or possesses an "off" odor.

Under ideal storage conditions (i.e., air-conditioned store environment or cold warehouse, sealed package, unexposed to light), milk replacers may still be usable beyond 6 months of age, but will require a visual and odor evaluation prior to use.

The bottom line: if it smells and looks good, it probably is. If it smells "off" or looks bad, it probably is.