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Dairy Foods Science Notes

Keeping School Milk Tasting Good *Tips on the Proper Storage and Handling of Milk*

1. **Receive milk at 40°F or less.** Milk delivered at the proper temperature will stay fresher longer. Cold temperatures slow or prevent the growth of the harmless bacteria that cause milk spoilage and also reduce the likelihood of other flavor defects. The warmer milk is allowed to get during deliveries and subsequent handling, the longer it takes to cool it back down to proper storage temperatures. When milk is received at your school, ensure that it is immediately placed in cold storage in a clean environment and that is protected from excessive exposure to light that might cause off-flavors.
2. **Store milk between 34°F and 38°F.** Milk stays fresher and tastes best longest, and will often be of good quality beyond the “sell-by date” if maintained at these temperatures. At warmer temperatures, spoilage bacteria are more likely to grow, shortening the practical shelf-life of the product. Keep milk cold at all times; do not display milk unrefrigerated for periods that allow it to warm above the recommended temperatures and always return unused containers of milk promptly to the refrigerator.
3. **Maintain a clean refrigerator or cooler.** Odors from fruits, vegetables, and/or unclean conditions can pass through milk containers and be absorbed into the milk. Citrus fruit stored in close proximity to milk is often to blame when “chemical-like” off-flavors are detected in the milk. Odors from onions and other strong smelling foods, and even the smell of a dirty cooler, can be easily absorbed. Ideally, milk should be stored in a separate, clean refrigerator or cooler. If separate storage is not available, segregate milk from other foods that have strong odors.
4. **Protect milk from light.** Strong sunlight and fluorescent light can cause off-flavors in milk and can also destroy vitamins. Very brief periods in the sun or relatively longer periods in artificial light can result in “plastic-like,” “medicinal” or flavors likened to “burnt hair” or “burnt feathers.” Longer exposures may result in flavors that resemble old cooking oil or “wet cardboard.” Also, riboflavin, vitamin A and other nutrients can be degraded when milk is exposed to light. Light-induced off-flavor development and vitamin loss are more likely to occur when milk is packaged in clear materials such as un-pigmented plastics or glass, although it may possibly occur in paperboard and colored plastics if light exposure is severe. When unloading deliveries minimize the time milk is in direct sunlight and store milk in the cooler and serving areas where light exposure is nominal.
5. **Rotate stocks, use milk promptly.** Milk received first should be used first (“*first-in, first-out*”). Place new supplies at the rear of the refrigerator so that stock can be rotated properly and milk will not be held beyond its sell-by date. While properly held milk should still be acceptable at or beyond its sell-by date, milk does not improve with age and will not be as fresh-tasting. Order and rotate stock so all milk is sold and consumed well before its sell-by date, ideally with several days to spare.
6. **Serve milk at 40°F or colder.** A common complaint of both school children and adults is that warm milk tastes bad. Milk in serving lines should be maintained below 40°F. At room temperature, half-pint cartons of milk can warm 10°F in 20 minutes. Keep milk well refrigerated on the serving lines and always return unused cartons or portions of milk to the storage refrigerator or cooler promptly.

MILK - BUY IT FRESH, KEEP IT COLD AND PROTECT IT FROM LIGHT