



Lot numbers - what they can tell us

The reason for a lot number

The lot number enables identifying and tracing production records, constituent parts and ingredients involved in the manufacturing of a product. This enables manufacturers to perform quality control checks, calculate expiration dates, and issue corrections or recall information to subsets of their production output. It also gives consumers an identifier that they can use in contacting the manufacturer and researching the production of goods received.

In addition to all of the above, the lot number provides a customer purchasing a can or package of a powdered milk replacer a couple of key dates. The expiration date is usually clearly marked as to 'expires on' or 'best used before'. The manufacture date or 'born-on' date commonly used by food and beverage producers takes more decoding. The manufacturing dates provide key information about the freshness of the product.

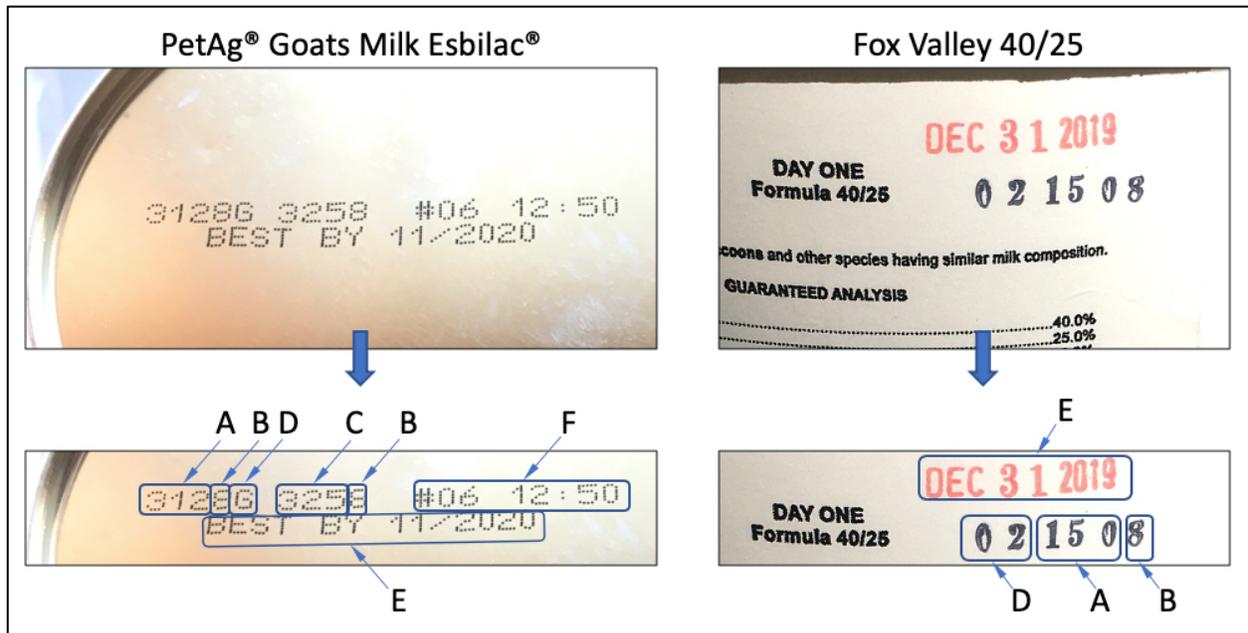
Where to find the lot number

PetAg® products packaged and purchased in a can have the lot number stamped on the bottom. PetAg® products packaged in a bag, and for Fox Valley products (package or tub) generally have the lot number printed on the label (front or back). Sometimes all or part of the lot number may be missing, but those omissions seem to be rare.

Decoding the lot number

The image below shows two products and their respective lot numbers. The GME® lot number is stamped on the bottom of the can while the Fox Valley 40/25 lot number is on the paper label affixed to the plastic tub.

The letters (A - F) refer to the decoding legend discussed below the image.



GME® lot number

This is the display convention used by PetAg® on its products to identify an individual product and lot number:

A.) The '312' refers to the first day of the year this lot of the product was manufactured. In this case, November 8. This is also known as the 'Julian' day of the year.

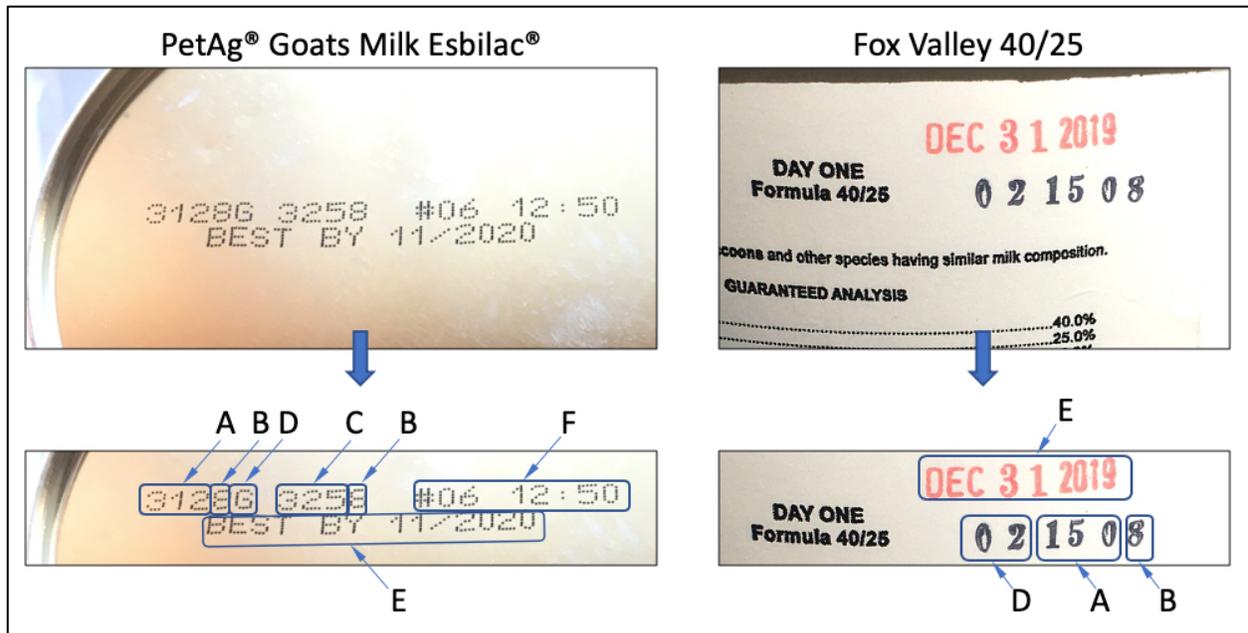
B.) The '8' refers to the last number of the year it was manufactured, or 2018 in this example.

C.) The '325' refers to the last day of the year (Julian day) that this lot of the product was manufactured. In this case, November 21.

D.) The 'G' refers to a product code. In this case, GME®. [Code 'E' is Esbilac®; code 'K' is KMR®; code 'ZE' is Zoologic® 33/40; etc.]

E.) This date is the expiration date recommended by the manufacturer. In this case, November, 2020.

F.) Unknown. The #06 could be a batch number during the 13 days of production. Or it could signify the 6th day of production during the 13-day production run. Again, unclear, but likely meaningful to the manufacturer.



Fox Valley 40/25 lot number

This is the display convention used by Fox Valley Animal Nutrition on its primary products to identify an individual product and lot number:

A.) The '150' refers to the Julian day of the year the product was manufactured. In this case, May 30.

B.) The '8' refers to the last number of the year it was manufactured. In this case, 2018.

D.) The '2' refers to a product code. In this case, Fox Valley 40/25. [Code '01' is 32/40; code '04' is 20/50; code '5' is 25/30; etc.]

E.) This date is the expiration date recommended by the manufacturer. In this case, December 31, 2019.

How knowing all of this is helpful

This lot number identifies a specific production run should you want to contact a retailer or manufacturer about a suspected defective product. For example, a package only half filled. A lot suspected of rancidity. Or a lot that has burnt particles or other unusual or odd-looking particles or substances (e.g. grit).

In this regard, we can tell by the lot number if a can of Esbilac® was manufactured after PetAg® commitment to change the dicalcium phosphate in its product formulation that had been causing digestive issues earlier in 2019. They indicated the new or revised formulation would be available after October 1, 2019. That

would then mean the new product would be identified with lot numbers 2739E (273rd day of 2019) and later.

The lot number provides a direct clue as to the freshness of the lot of the product. For example, the Fox Valley lot described above has an implied shelf life of 19 months (from May 30, 2018 to December 31, 2019). If you purchase the product in June of 2018, the product is virtually new - about as fresh as it gets. If you purchase this lot in June of 2019, it tells you this can, tub or package has been stored somewhere for over a year since the time it was made. That storage could be at the manufacturer, a distribution facility, or on a retailer's shelf. Prolonged storage at room temperature or above, even if unopened, could impact freshness, rancidity, potency of vitamins, and even the reconstitution performance of the proteins in the product.

All of this also holds true for the lot of GME® described above. It shows that this lot was made during November 2018, with an implied shelf life of 24 months - November 2018 through November 2020. With an even longer shelf life (as recommended by the manufacturer), obtaining this specific product sooner rather than later is likely much better and advisable.

While the addition of preservatives used in the formulation of any powdered milk product can help with product stability (shelf life), much of the research literature of powdered milk products suggest a shelf life not to exceed the range of 12-18 months.

References and further reading (not intended as an exhaustive list)

Anema, S.G.; Pinder, D.N.; Hunter, R.J.; and Hemar, Y. Effects of storage temperature on the solubility of milk protein concentrate (MPC85). *Food Hydrocolloids* 20 (2006) 386-393.

Pugilese, Alessandro; Cabassi, Giovanni; Chiavaro, Emma; Paciulli, Maria; Carini, Eleonora; and Mucchetti, Germano. Physical characterization of whole milk and skim milk powders. *J. Food Science Technology*, 2017 Oct. 54(11) (3433-3442).

Sharma, Anup; Jana, Atanu H.; and Chavan, Rupesh Shirkant. Functionality of Milk Powders and Milk-Based Powders for End Use Applications - A Review. *Comprehensive Reviews in Food Science and Food Safety*, Vol. 11, 2012. (518-528).

©2021 WildAgain Wildlife Rehabilitation, Inc.