

Fermentation Rate

The fermentation rate (or the drop in pH) and final pH depends on:

- Meat type and condition – pork, beef, poultry, temperature, % fat/moisture, meat age, dominant microflora, initial pH
- Salt level – more than 3.0% in the formulation slows down the growth of the culture
- “Sugar” types and levels – dextrose is universally the most fermented carbohydrate, followed by corn syrup, sucrose, lactose, maltodextrins, starches and other more complicated carbohydrates; sugar levels up to 1% achieve the best results
- Spice types – black and white pepper increase fermentation rate while the antimicrobial properties of mustard and garlic inhibit fermentation
- Starter culture type, activity, handling, and age
- Fermentation process parameters – the higher the process temperature (in the culture’s optimum temperature range) and humidity the faster the fermentation rate
- Product diameter – large diameter products ferment slower due to slower heat penetration