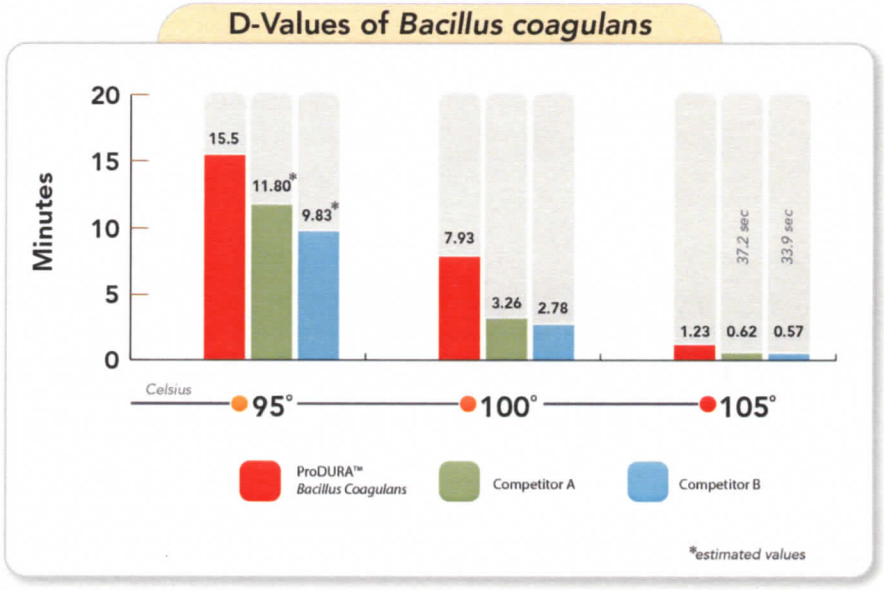
NEBRASKA® CULTURES

New Study Finds ProDURA™ *Bacillus coagulans* Demonstrates Superior Heat Resistance

ProDURA™ survives twice as long as other commercially available strains, according to University of Nebraska Thermal Resistance Study

The heat resistance of three commercial probiotic strains of *Bacillus coagulans*, ProDURA™ and two competitors already well established in the marketplace, were recently compared by determining their D-values at specific temperatures. D-values are defined as the time required to decrease the population of bacteria by 1 log CFU/ml (90% reduction) at a designated temperature. Strains with lower D-values are less resistant to heat.



As shown here, the time necessary to decrease the population of viable ProDURA™ bacteria by 90% is approximately twice as long as the other two strains tested at temperatures up to 105°C.

The experiments were conducted under the supervision of Dr. Jayne Stratton, Research Professor and Microbiology Lab Manager at the University of Nebraska's Food Processing Center in February of 2013.

This study confirms that ProDURA™ demonstrates superior heat resistance compared to other strains of Bacillus coagulans on the market; hence it is ideal for food processing applications.

Conclusion

According to these experiments, ProDURA™ spores had a higher calculated D-value when compared to the other two strains. The data indicate that the time necessary to decrease the population of viable ProDURA™ bacteria by 90% is approximately twice as long as the other two strains tested at temperatures below 110°C.

It is important to note that these values only apply to the specific conditions in these experiments, and may vary significantly if variables are changed. However, as Dr. Stratton observed, "The data collected in these experiments indicate that the ProDURA™ *Bacillus coagulans* could be the strain of choice in food processing applications where thermal stability in a probiotic organism is desirable."

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