

The Effect of Natural Antioxidants (Loxidan E Ros Liquid +) on the Shelf-Life Prolongation of Beef Tallow and Pet Food

S. Soisontes¹, S. Plitzner¹, R. Khurana¹, R. Janßen¹
¹Kaesler Research Institute, Fischkai 1, 27572 Bremerhaven, Germany

INTRODUCTION

Natural antioxidants for the shelf-life prolongation of fat, oil, and pet food are of great interest. Beef tallow is a rendered fat from cattle that is usually added to pet food, offering numerous health benefits and making meals more appetizing, especially for dogs. It is rich in essential fatty acids, vitamins A, D, E, and K, which are vital for dog health.

Loxidan E Ros Liquid + is a highly efficient natural antioxidant blend including tocopherol extract and rosemary extract.

The objective of this study was to investigate whether the addition of 300 ppm Loxidan E Ros Liquid + to beef tallow can prolong its shelf-life. In addition, it aimed to examine the effect of natural antioxidants on the shelf-life of a finished pet food, which contains Loxidan E Ros Liquid +.

MATERIALS & METHODS

A portion of beef tallow was subjected to an accelerated storage trial at 41 °C, while a further portion was melted and a dosage of 300 ppm Loxidan E Ros Liquid + homogeneously distributed in the tallow. This portion was then also subjected to the accelerated storage trial. A finished pet food stabilized with Loxidan E Ros Liquid + was subjected to the same storage trial.

A storage time of one week at 41 °C roughly translates to a storage time of one month at room temperature. The storage trial was conducted for 12 weeks for both samples of beef tallow and for 18 weeks for the pet food. The peroxide value (POV) and anisidine value (AnV) were measured at regular intervals to track the oxidative status of the samples.

RESULTS

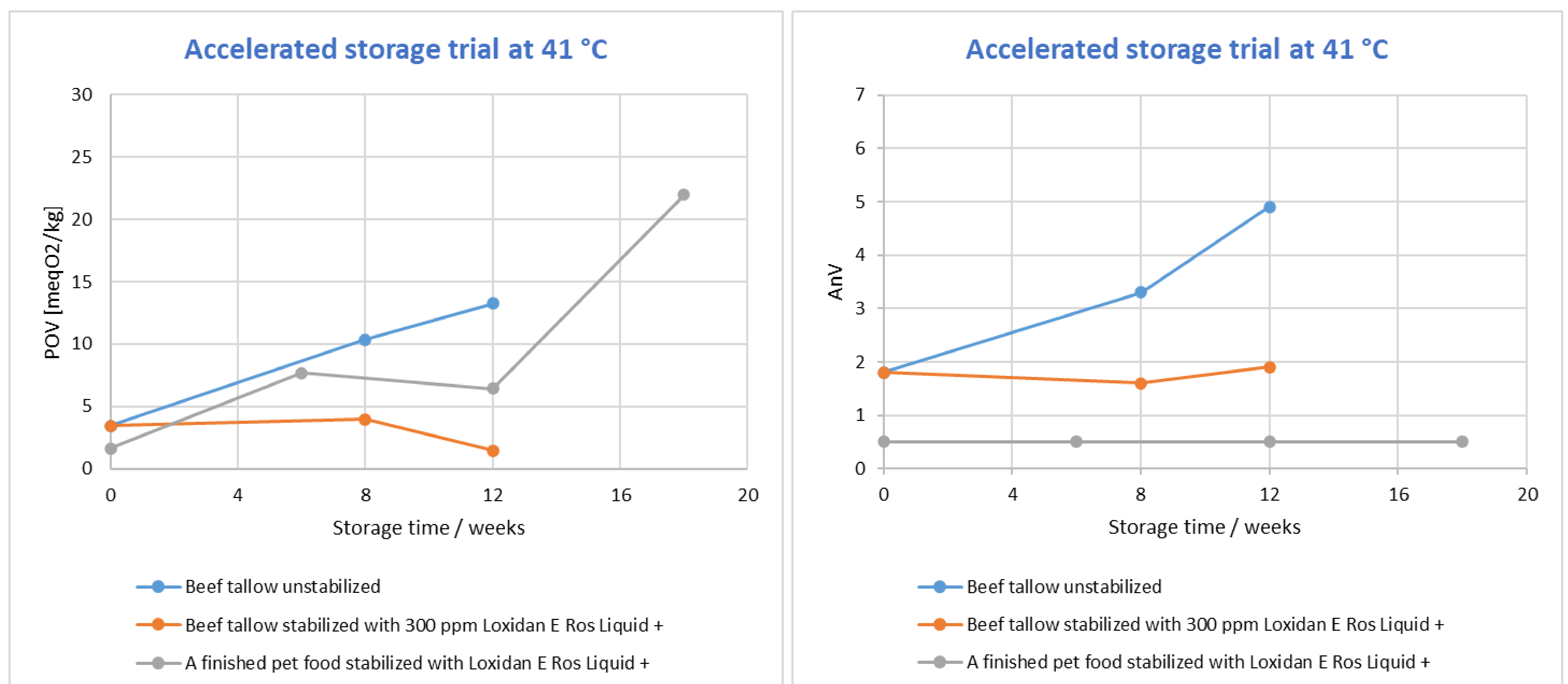


Figure 1: Progression of POV and AnV in unstabilized beef tallow, stabilized beef tallow (300 ppm Loxidan E Ros Liquid +) and stabilized pet food with Loxidan E Ros Liquid +.

CONCLUSION

The addition of 300 ppm Loxidan E Ros Liquid + results in a significant improvement of the oxidative stability of the beef tallow. Also, the tested pet food had a shelf-life of at least 12 months at room temperature, while it can be estimated that it will probably be less than 18 months. A further addition of Loxidan E Ros Liquid + could be considered if a longer shelf-life is needed.

Keep free radicals under control
with our **natural antioxidants.**

LOXIDAN