

## Influence of manufacturing temperature on the rheological behavior of some vegetable lubricating greases

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**Abstract.** Lubricant greases from renewable resources are considered as an alternative to those manufactured from mineral or synthetic oils, due to their close-loop supply chain. Low toxicity makes them prone for machinery in food industry. The goal of the present study was to find the optimum parameters for their manufacture from some vegetable oils and calcium stearate soap synthesized in situ. The effect of synthesis temperature (between 80-110 °C) and soap concentration (between 15-25% wt.) on the rheology and consistency of the products was studied. The optimum manufacture resulted to be 100 °C and soap concentration between 20-25% wt. The conclusions of these study can serve as a basis for improving the said greases through additivation.

*Keywords:* vegetable lubricating grease; lubricant grease rheology; grease penetration test.

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