

## ABSTRACT

## ACKNOWLEDGEMENTS

The Effect of Drying Temperature on the Quantity  
and Quality of Nutmeg Essential Oil

Dean of the Faculty, Ramsunair Sookram who initiated the  
project, provided the materials needed and gave useful

advice. Nutmegs have long been distilled for their  
essential oil, which is largely responsible for their  
odour and flavour. This thesis examines the factors that  
affect the quality of the oil this including the  
different methods used for extraction using steam.

Initially, investigations were done on the  
drying characteristics of nutmeg samples at temperatures  
of 34°, 36°, 38°, 40°, and 45° C. On reaching the  
equilibrium moisture content, samples, including one kept  
in cool storage, were water-and-steam distilled. One  
sample was water-distilled.

The results showed that the stored steam-  
distilled sample gave the highest yield with yields  
decreasing with increasing drying temperature. Physico-  
chemical characteristics of the oils differed slightly or  
not at all. Gas chromatographic analysis revealed no  
significant differences in the overall composition of the  
oil. However, on the basis of maximum sabinene and  
minimum safrole content, the stored nutmegs distilled by  
water-and-steam were best in quality.