شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

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بالرسالة صفحات لم ترد بالاصل

STUDIES ON QUALITY PROPERTIES AND STANDARDS OF DOMIATI CHEESE

BY

OSAMA IBRAHIM ABDEL-SALAM EL-BATAWY

B.Sc.Agric. Sc. (Dairy Sc. & Tech.), Ain Shams University, 2000

A thesis submitted in partial fulfillment

of

the requirements for the degree of

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in

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Food Science Department

Faculty of Agriculture

Ain Shams University

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Approval Sheet

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Abstract

Osama Ibrahim Abdel-Salam, studies on quality properties and standards of Domiati cheese. Unpublished Master of Science Thesis, Department of Food Science, Faculty of Agriculture, Ain Shams University, 2005.

The aim of this investigation was to improve the lack in quality properties of Domiati cheese made from heat treated milk through the use of various starter cultures. The study was conducted in two parts, the first one with low-salt Domiati cheese for fast consumption where the salt was added to cheese milk at the rate of 5%. The second part was planed to study the properties of high-salt Domiati cheese with milk salted at the rate of 10%. Therefore, Domiati cheese was made from heated cows' milk with 2 different levels of salt (low-salt, 5% or high-salt 10%) with adding 1% activated commercial starter cultures of YC-X11 (*Str. thermophilus* and *Lb. delbreukii* subsp. *bulgaricus*1:1, T1), Bio Profit (*Lb. rhamnosus and Prop. freudenreichii* subsp. *shermanii* T2) and LC 705 (*Lb. casei* T3). Resultant cheese was pickled in its own whey. The low salted cheese was pickled for 6 months while the high salted cheese was pickled for 9 months. Samples were analyzed for compositional, microbiological and sensory properties when fresh and during pickling period comparing to control one (without starter culture). Moisture, salt, ash and yield of low or high-salt Domiati cheese were decreased with adding starter culture while, an increase was noticed in fat, total nitrogen (TN), acidity, soluble nitrogen (SN), total volatile fatty acids (TVFA) values, formol number and schilovich index. High salt cheeses had significantly higher values for moisture, salt, ash and yield and with significantly

lower fat, TN, acidity, SN and TVFA, formol number and schilovich index than that of low salt cheeses. The values of moisture, salt, ash and yield gradually decreased during pickling while, fat, TN, acidity, SN and TVFA, formol number and schilovich index significantly increased. Domiati cheese with starter culture had higher total viable bacterial (TVBC) and lactic acid bacterial (LAB) counts than that of control being highest in T3. Increasing the salt in cheese milk resulted in lower TVBC and LAB. Values of TVBC and LAB increased in all samples during early pickling and then sharply decreased till the end. There was a remarkable inhibition in the growth of coliform, sporeforming bacteria and yeasts & moulds expressing longer shelf life of cheese with adding starter culture. Sensory quality attributes of Domiati cheese from heated milk improved with adding starter culture. Pickling of cheese up to different periods led to better flavour as well as body & texture but extending the period beyond caused lower quality. The rate of improvements was faster in cheese with 5% than that with 10% salted milk. Starter culture of Bio Profit (T2) produced Domiati cheese of heat treated milk with typical well pickled cheese flavour and texture and can be recommended for low or high-salt cheese.

Key words: Domiati cheese – Low salt – High salt –Starter culture – Sensory quality

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