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

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائق الاصلية تالفة

بالرسالة صفحات لم ترد بالاصل

Menoufiya University

Agricultural Engineering Department

EFFECT OF VIBRATIONS AND HANDLING ON PROPERTIES OF SOME AGRICULTURAL PRODUCTS

By

Mostafa Mohamed Ali Azam

B.Sc. Agric. Engineering. 2001

Thesis

Submitted to the Department of Agricultural Engineering, Faculty of Agriculture, Menoufiya University

In Partial Fulfillment

Of the

Requirements for the Degree

Of

MASTER OF SCIENCE

In

Agricultural Science

(AGRICULTURAL ENGINEERING)

To

DEPARTMENT OF AGRICULTURAL ENGINEERING

FACULTY OF AGRICULTURE

MENOUFIYA UNIVERSITY

SHIBIN EL-KOM

EGYPT

2007

ADVISORY COMMITTEE

Title of thesis: **EFFECT OF VIBRATIONS AND HANDLING ON PROPERTIES OF SOME AGRICULTURAL PRODUCTS.**

By: ***Mostafa Mohamed Ali Azam***

B.Sc. in Agricultural Engineering, 2001.

Supervision committee: **Signature,**

Dr. Mahmoud Ali Mohamed

Professor of Agricultural Engineering,
And Head of Agric. Eng. Department,
Faculty of Agriculture, Menoufiya University,
Egypt.

Dr. Ayman Hafiz Amer Essa

Associate professor of Agricultural Engineering,
Faculty of Agriculture, Menoufiya University,
Egypt.

APPROVAL CERTIFICATE

Title of thesis

EFFECT OF VIBRATIONS AND HANDLING ON PROPERTIES OF SOME AGRICULTURAL PRODUCTS.

Submitted to

Department of Agricultural Engineering, Faculty of Agriculture, Menoufiya University, Shibin El-Kom, Egypt.

Presented by

Mostafa Mohamed Ali Azam

B.Sc. in Agricultural Engineering, 2001.

FOR

The Degree of **Master of Science.**

In Agricultural Science

(AGRICULTURAL ENGINEERING)

This thesis has been Approved by:

		Signature
Prof. Dr.	***Mubarak Mohamed Mostafa***	.....
Dr.	***Ahamed Hassan Gomaa***	.....
Prof. Dr.	***Mahmoud Ali Mohamed***	M. A. Mohamed
Dr.	***Ayman Hafiz Amer Essa***	.....

Committee in charge

Shibin El-Kom: 23/5/2007

I am especially grateful to the members of my Family *Mother, Father, all Brothers and their Wifes, My wifes, and My Children* ***"Mohamed" and "Marwa"***, for their constant encouragement and moral support.

ACKNOWLEDGMENTS

First of all thanks my merciful God for his continuous help during all my life, my work and this study.

The author desires to express his full and deep thanks and his appreciation for the soul of the late ***Prof. Dr. Sayed Mohamed Sharaf***, Professor of Agricultural Engineering, for valuable suggestions, kind help, valuable guidance and encouragement.

I would also like to express my deepest thanks to ***Dr. Mahmoud Ali Mohamed,*** Professor of Agricultural Engineering and head of Agricultural Engineering Department, for valuable suggestions, his encouraging spirit, continuous supervision, reading and correcting the thesis, kind assistance during the course of this work and evaluation of the manuscript.

The author desires to express his deep personal gratitude and sincere appreciation to ***Dr. Ayman Hafiz Amer Essa,*** Associate professor of Agricultural Engineering Department of Agricultural Engineering, for his interest, designing the work, supervision and encouragement throughout the duration of the graduate program. I wish to thank him for his effort, during the preparation of this dissertation, reading and correcting the thesis.

I would also like to express my deepest thanks to ***Dr. Fawkia Ramadan,*** Department of Production Design Eng., Faculty of Engineering, Minoufiya University, for helping me to analysis vibrations measurements.

The author expresses his thanks to ***the staff members*** of the Department of Agricultural Engineering, Minoufiya University, Shibin El-Kom, Egypt for their help and cooperation.

Mostafa Mohamed Ali Azam

CONTENTS

CONTENTS

No.	*List of Tables*	*Page*