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 الوثائـــــــق الاصليـــــة تالفـــة

بالرسالة صفحات لم ترد بالاصل

٤٠١٤

Post harvest technology for some crops

"Performance study of sorting and separating machine used in producing seeds"

By

El-Desouky El-Desouky Deshish

B.Sc. in Ag. Mech., Faculty of Agric., Kafr El-Sheikh, Tanta University, 1983

THESIS

Submitted to the Gradate Division in Partial Fulfillment of the Requirements for the Degree of Master of Science

In

AGRICULTURAL MECHANIZATION
Agricultural Mechanization Department
Faculty of Agriculture
Kafr El-Sheikh
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1999

APPROVAL SHEET

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For the Degree of
MASTER OF SCIENCE
IN
AGRICULTURAL MECHANIZATION

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DEDICATION

To my parents
to my brothers and sisters
to my wife
and my daughters
(Doaa, Dena, Roan and Reham)

(*El-Desouky El-Desouky Deshish*)

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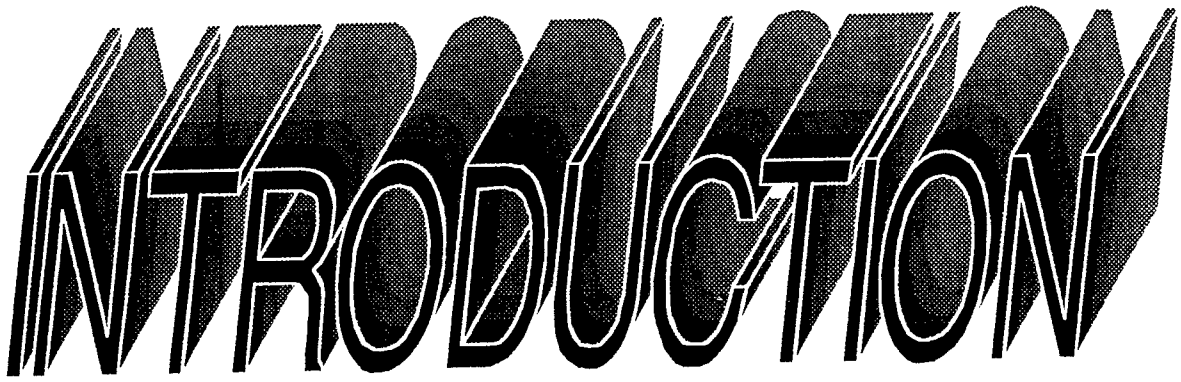
INTRODUCTION

1 - INTRODUCTION

Grain grading is the process key of determining the grain's marketability. Grain cleaning is a basic procedure in the grain grading system in which impurities or contaminants are separated from sound grains. Clean grain reduces problems that occur during storage and handling. Clean grain also save storage space and increases marketability.

Over the last few years, grain production per feddan was improved significantly as a result of using better seeds and new techniques of mechanization.

The modern seed processor is basically interested for the following:

a)-Complete separation (removal of all contaminating or undesirable material from the seeds);

b)-Minimum seed loss (some good seeds are removed along with contaminants in almost every operation, but this loss must be kept at a minimum value; upgrading quality) improvement of seed quality not only through removal of contaminating seed, but also removal of rotten, cracked, broken, insect damaged or otherwise injured crop seeds of low quality;

c)-Efficiency (the highest consistent capacity with effectiveness of separation).; and

d)-Minimum labor requirement (labor is a direct operating cost and cannot be recovered).

Cleaning and grading are two extremely important steps in the production of high quality grains. Established cleaning and grading procedures have enhanced an orderly marketing of grain and seeds.

The purpose of the laboratory gravity separator is to separate light particle form heavy ones. It is therefore possible to separate heavy kernels with high ability to germinate from light and less valuable kernels.

In order to seed to be separated, cleaned or processed, the components of the lot or mixture must differ in some physical characteristic. In most machines separations are made on the basis of differences in only one physical characteristic.

The cleaning and sorting of particles is an important industrial function and is affected by the size of the particles and the screen apertures, the relative particle to screen velocity, the mean particle velocity, and the orientation of oblong particles. The particle velocity in turn is a function of the frequency and amplitude of oscillation, the screen slope and hanger angle and the friction between the particle and the screen.

Seed crops contain assorted contaminants when harvested. These include weed seeds, unwanted crop seeds, broken plant parts, fungal bodies, and soil particles. The function of seed conditioning or seed cleaning operations is to remove or reduce these contaminants to a level