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BIOLOGICAL AND MOLECULAR STUDIES FOR THE DETECTION OF PEA SEED BORNE MOSAIC VIRUS

BY

Hesham Mohamadien Abdelmaksoud

(B.sc. in Plant Pathology, Fac. Agric., Ain Shames Univ., 1991)

Thesis

Submitted in Partial Fulfillment of the Requirement for the Degree

Of

Master in Agriculture Science

Plant Pathology

Department of Agricultural Botany
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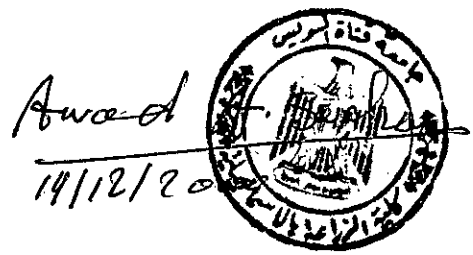
Suez Canal University



2000

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BIOLOGICAL AND MOLECULAR STUDIES FOR DETECTION OF PEA SEED BORNE MOSAIC VIRUS

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INTRODUCTION

Introduction

In Egypt growers are increasingly virus diseases-confronted with the difficult tasks to produce top quality seed. As a basic condition for success, it is logic that they request the best possible assuring the delivery of virus-free seeds. According to the seed industry, growers are better and better informed on the possible incidence of seed transmission and in case of outbreaks, ask by legal means for financial indemnities, which are far beyond the value of the initial seed supplied. However, the Egyptian growers are more interested in reliable virus-free seeds for their crops than in financial compensation. Therefore, growers, government and seed industry have a common interested in making available proven "Clean" seeds.

Pea (*Pisum sativum* L.) is one of the important legume crops for local consumption in Egypt and for exportation to several countries the annual cultivated area is around 31.923 feddans producing about 80.000 tones (Anonymous 1998). Around world wide, pea plants are commonly infected with many virus diseases causing severe yield reduction those including PSbMV, Pea Enation Mosaic Virus (PeEMV), Pea Leaf Roll (PeLRV) and Pea Mosaic Virus (PeMV) (Bos, 1977).

In Egypt, Pea Seed borne Mosaic Virus (PSbMV) causes a noteworthy break in different cultivars grown under Egyptian conditions lead to yield reduction and deformed and/or stained seeds not adaptable for exportation to other countries of interests (Field Research Project "FRP", unpublished data.