شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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شبكة المعلومات الجامعية

بالرسالة صفحات لم ترد بالأصل

MANAGEMENT OF PURPLE BLOTCH DISEASE ON ONION

By

AYA HOSSAM ELDEN MOSTAFA ABO ZAID

B.Sc. Agric. Sc. (Plant pathology), Fac. of Agric., Ain Shams Univ. (2015)

A Thesis Submitted in Partial Fulfillment
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ABSTRACT

Aya Hossam Elden Mostafa Abo-Zaid: Management of Purple Blotch Disease on Onion, Unpublished M.Sc. Thesis, Department of Plant pathology, Faculty of Agriculture, Ain Shams University, 2021.

Alternaria porri (Ellis). Ciffen causes serious problems in onion plants. It is transmitted with naturally infected seeds and bulbs from the previous crop to infect the new flower stalk of the next crop. Also, onion bulb infection decreases seed vitality. Infected sample were collected from four locations; Giza, Sharkia, Qalyubia and Menofia governorates to measure disease severity.

A survey for occurrence and frequency of most dominant fungal associated with purple blotch disease on onion was carried out. *Alternaria porri* has the most occurrence and the greatest frequency, so the Qalyubia governorate is the most of frequent for *A. porri*.

Study different stages of onion growth; seeds, leaves and blubs infected has been investigated highest load of these parts of *A. porri*. The present thesis is mainly focused on purple blotch diseases of onion study deals with various approaches of purple blotch diseases of onion such as cultural and morphological characteristics, the interaction between host and pathogen, transmission seed pathology, and the yield losses and control measures, the antagonistic effect of various bioagents and antifungal activity of different plant extracts has been studied to control fungal diseases of onion.

An *in-vitro* study has done to achieve the most effective treatments to be applied in pots and field of onion to decrease infection and meet exportation standards.

The botanical treatments carried out, aqueous extract at 5%and 10% concentration, and oil extracts at 50ppm and 75ppm concentration; the bioagents treatments as *Trichoderma* sp., *Chaetomium* sp., *Bacillus* sp. and *Actinomyces* sp.; and fungicides treatments as Score, Dithane M45 and

Achook have a significant action against the mycelial growth of the fungus compared to control.

In vivo studies, in pots were carried out in showed that the *Bougainvillea sp*. at 10%concentration, garlic oil at 50ppm concentration, *Trichoderma sp.* and Dithane M45 were the most effective treatment to manage the purple blotch incidence in pots and using it in the field on two cultivars (Giza red and Giza 20). Garlic oil and Dithane M45 had significant result with Giza red cultivar and more ever *Trichoderma sp., Bougainvillea sp.* and Dithane M45 had the best result with Giza 20 cultivar.

Experiments have been done with naturally infected seeds and bulbs from the previous year by cultivating infected bulbs. based on the percentage of disease severity. Pathogen transmission by the onion seed was investigated, either as internal or external infection type. Results indicated disease severity was increased in blub produced from previous crop, the number of flower stalk was reduced, and its disease severity was increased. Seeds produced from infected blub showed reduction in germination percentage. The most effective seed dressing treatment on seed germination were obtained by using Score and Achook treatment compared with other seed dressing treatments.

Keywords: Onion, Purple blotch, *Alternaria porri*, Seed-borne, Control.

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