شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

Use of Some Environmentally Safety Treatments for Some Grain Crops diseases and it's Effects on Production, Specific and Technological Quality

Submitted By

Mohamed Abd el Kareem Salama Soliman

Bachelor of Agricultural Science - Plant Pathology Department - Faculty of Agricultural, Banha University – (2005)

Diploma in Environmental Sciences, Institute of Environmental Studies & Research,

Ain Shams University - (2010)

A thesis submitted in Partial Fulfillment

Of

The Requirement for the Master Degree

In

Environmental Science

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2021

APPROVAL SHEET

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This Thesis towards a Master Degree in Environmental Science

Has Been Approved by:

Name **Signature**

1- Prof. Dr. Usama Mohamed Radwan
Prof. of Food Science and Technology
Department of Environmental Agricultural Sciences
Institute of Environmental Studies & Research
Ain Shams University

2-Prof. Dr. Ashraf Mahdy Sharoba
Prof. of Food Science and Technology
Faculty of Agricultural - Banha University.

3- Dr. Gamal Ashour Ahmed Mohamed
Asso.Prof. of Plant Pathology
Faculty of Agricultural - Banha University.

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Under The Supervision of:

1- Prof. Dr. Usama Mohamed Radwan
Prof. of Food Science and Technology
Department of Environmental Agricultural Sciences
Institute of Environmental Studies & Research
Ain Shams University

2-Prof. Dr. Farok Mohamed El Tellawy (Dead)
Prof. of Food Science and Technology
Department of Environmental Agricultural Sciences
Institute of Environmental Studies & Research
Ain Shams University

3- Prof. Dr. Gamal abd El Tawab Shatanof (Dead)
Prof. of Food Science and Technology
Faculty of Agriculture. Ain Shams University

4- Prof. Dr. Wafaa Mohamed Haggag
Prof. of Plant Pathology and Head of the Agricultural Division - National Research Center, Giza, Egypt

2021

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Abstract

This, study was carried out in the Abu Rawash province area Giza Governorate during two successive seasons 2014, 2015.Four grain cultivars were selected (Wheat Masr1, Wheat Masr2, Barley Giza 2000 and Barley Giza 130). This study aims to achieve the effective use of some bioagent induces to increase the resistance of wheat and barley against some diseases that afflict the ears of grain . by using safe and natural compound to control some of the diseases of both wheat and barley and know the impact of them on agricultural products whereas biotechnology and natural compounds were safe of both quality and technological for both, wheat and barley. The maximum fresh weight/1000 grain were obtained with *Streptomyces*, ther followed by *Trichoderma harziunum* and the latest one was *Trichoderma viride* in both seasons. While, the lowest increase of 1000grain weight were recorded in case of control. *Streptomyces* and *Trichoderma viride* recorded the highest reduction of damping off powdery mildew and Leaf Rust of survival wheat plants. CV Barley Giza 2000 gave fresh weight/ 1000 grain weight, powdery mildew and Leaf Rust in both seasons as compared with CV Barley Giza 130. Inoculation of barley (Giza 2000 and Giza 130) with *Streptomyces* increased total protein and fresh weight/ 1000 grain in both seasons. As for the rheological quality, the best treatments with

Trichoderma viride were found to have a non-significant difference between Masr1 and Masr2 wheat cultivars in water absorption, arrival time and dough growth time with treatments (*Streptomyces lydicus*. methyljasmonate, *Trichoderma harziunum*, control).

Key words: Grain Crops- Technological Quality – Wheat – Barley – Leaf Rust – Powdery Mildew.

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Egypt is the largest wheat importer worldwide. Most of the domestic production of wheat goes into rural household consumption, where most farmers use the wheat to bake their own bread. According to the Food and Agriculture Organization of the United Nations **(FAO,2014)**, the area of cultivated wheat in Egypt is 1,336,234 hectares and the obtained yield is 6.58 tons per hectare, resulting in a total wheat production of around 8,795,483 tons. According to the USDA the 2013 domestic wheat consumption in Egypt was 19,100,000 tons. With constant population growth and decreasing arable land in Egypt, the risk to demand levels is ever increasing. In 2010, according to the FAO, Egypt imported 10,593,506 tons of wheat in addition to the consumption of the domestic production **(Boutros, 2013).**

Table A: Wheat chemical component USDA (2019).