شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

HOSSAM MAGHRABY

شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

HOSSAM MAGHRABY

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بالرسالة صفحات

لم ترد بالأصل

HOSSAM MAGHRABY

BIOCHEMICAL STUDIES ON DEGRADATION OF SOME PHOSPHORUS COMPOUNDS DURING GRAINS STORAGE

By

Kamal El-Din Abd El-Hamid Ibrahim

B.Sc. Agric., (Biochemistry) Ain Shams University, (1979)

A thesis submitted in partial fulfillment
of
the requirements for the degree of

Master of Science
in
Agriculture
(Biochemistry)

Department of Biochemistry
Faculty of Agriculture
Ain Shams University

1997

APPROVAL SHEET

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ABSTRACT

Kamal El-din Abd El-Hamid Ibrahim, Biochemical studies on degradation of some phosphorus compounds during grains storage, unpublished Master of Science, University of Ain Shams, Faculty of Agriculture, Department of Biochemistry, 1997.

Two varieties of wheat grains, Sakha 69, and Giza 164 were treated with malathion and aluminum phosphide at two concentrations 2 and 4 ppm for each. All treated wheat grains were stored at room temperature for 180 days. The samples were taken for analysis after 0,1,3,7,15,30,60,90,120, 150 and 180 days to determine the residues of malathion insecticide outside and inside wheat grains, and for studying the effect of malathion and aluminum phosphide on the components of wheat grains, i.e. protein, amino acids, lipids, sugars and on germination of wheat grains. The storage of treated wheat grains showed that the residues of malathion insecticide in Sakha 69 was less than that of Giza 164. Also, the total residues were lower than the allowed tolerance. There was an observed decrease in total protein content of two varieties of treated wheat grains during storage. The quantitative determination of amino acids in each variety, indicated that the use of insecticides decreased the amino acids content. The total sugars percentage in Sakha 69 was lower than Giza 164, the reducing and non-reducing sugars were affected by treatment with insecticides at

different concentrations compared with those of control. The oil percentage of two varieties of wheat grains treated with insecticides did not change compared with control. Also, the results of iodine, saponification and acid values did not change comparing with control during storage and parallel with the results of oil percentage.

The statistical analysis between two varieties (Sakha 69 and Giza 164) and two concentrations 2 and 4 ppm of malathion residues inside and outside wheat grains showed significant values. There was insignificant between two concentrations (2 and 4 ppm) for malathion and aluminum phosphide on crude protein, total reducing, non-reducing sugars, oil (and some of its constants) and germination in Sakha 69 and Giza 164 wheat grains.

Key words:

Sakha 69, Giza 164, malathion, aluminum phosphide, crude protein, amino acids, total, reducing, non-reducing sugars, oil percentage, iodine value, saponification value, acid value and germination.