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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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

THE USE OF SOME ENVIRONMENTALLY SAFE COMPOUNDS IN THE MILLING OF CEREALS TO PRODUCE HEALTHY BAKERY BRODUCTS

Submitted By
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B.Sc. of Agricultural Sciences, Faculty of Agriculture, Ain Shams University, 1987
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A Thesis Submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Sciences

Department of Environmental Agricultural Sciences
Institute of Environmental Studies and Research
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APPROVAL SHEET

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Abstract

Maha Mustafa Abdel Aziz ZEPEP. Use of some environmentally safe compounds in the milling of cereals to produce healthy safe bakery products, Unpublished Ph.D. Thesis, Department of Agricultural Science, Institute of Environmental Studies and Research, Ain Shams.University, (2020).

The objectives of the present work were study the effects of wheat milling approuches on fungal mycota and mycotoxin distribution in products and by-products . Thus, the effectiveness of some organic acids used as anti - fugals on the fungal pollution in the imported wheat grains during conditioninging and milling were carried out to evaluate and define the efficient dose.

A preleminary study showed that the best organic acids were acetic , ascorbic and propionic.The ٣ organic acids were added to the wheat sub samples with different inclusion rates (0.02%, 0.03%, and 0.04%) for propionic acid, (0.04%, 0.05% and 0.06%)for acetic acid, and (1%, 2% and 3%) for ascorbic acid to study the effect on fungal growth and aflatoxins production in stored wheat samples.

With acetic acid at dose of (0.05%) growth of *Aspergillus flavus was* completely inhibited and no toxins were detected. Ascorbic acid at doses were not enough to inhibited a mold and aflatoxin. The results indicated that wheat grains and its flour can be stored and preserved using propionic and acetic acid. It was recorded a wide range of protein content (10.70 - 11.20%) of flour Propionic and acetic acids at 0.02% and 0.03% concentrations, respectively, had a higher effect on the protein content in wheat flour compared to the control wheat flour. Wet and dry gluten content of wheat flour samples were compatible with its protein content. The results showed that the concentration of 0.05% of acetic acid in wheat flour improved the properties of the bread compared to the bread from other wheat flour

treatments, Thus we recommend the use of the aforementioned dose in conditioninging of wheat before milling to reduce the hazard from mycotoxin to produce healthy bakery products.

Key words: *Aspergillus* , Aflatoxins, Chemical Preservative, Propionate, Acetate, Ascorbic, wheat, Storage.

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