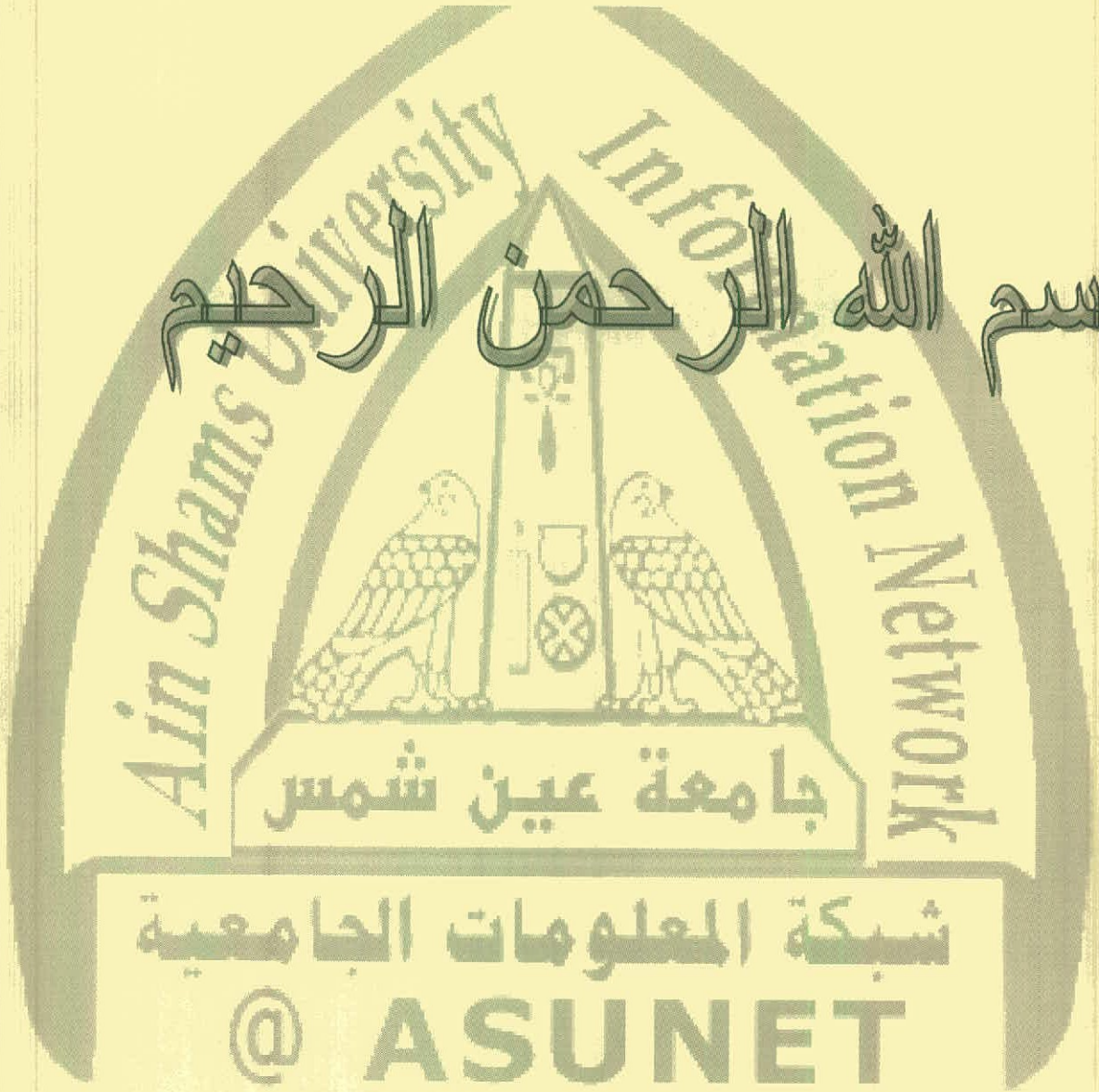
شبكة المعلومات الجامعية



بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائـــــــق الاصليـــــة تالفـــة

بالرسالة صفحات لم ترد بالاصل

CONTROL OF MICROBIAL POLLUTION IN FEED-STUFFS OF ANIMAL ORIGIN AS AFFECTED BY SOME ENVIRONMENTAL FACTORS

By
AHMED FAREED ABDEL-SALAAM
B.Sc. Agric.(Agric. Microbiology), Ain Shams Univ., 1992
Diploma in Environmental Science, 1998

A thesis submitted in partial fulfillment
of
the requirement for the Master degree
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Environmental Science

Department of Agriculture Sciences
Institute of Environmental Studies
and Research
Ain Shams University

2001

APPROVAL SHEET

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ABSTRACT

Ahmed Fareed Abdel-Salaam "Control of microbial pollution in feedstuffs of animal origin as affected by some environmental factors". Unpublished Master of Science Thesis, University of Ain Shams, 2001.

Feedstuffs of animal origin (meat & bone meal and fish meal) used as supplements in poultry diets were subjected to microbiological analysis to determine their contamination with pathogenic bacteria (*Salmonella*, *Staphylococcus aureus*, *E. coli*, *Klebsiella* and *Shigella*) as well as their total bacterial and fungal load. The effect of some environmental conditions (storage temperature and moisture content) on total bacterial and fungal densities was periodically evaluated during a period extended to 30 days. Chemical components (protein, fat, ash and fiber content) of meat & bone meal and fish meal as affected by environmental factors were also determined. In an experiment, trials were paid to eliminate samonellosis from chicks fed on a diet contaminated with *S. typhimurium* which cause high mortality percentages amongst the infected chicks. Application of competitive exclusion technique (CE) in chicks infected with *S. typhimurium* (by oral inoculation with anaerobic culture isolated from the caecal contents of adult chickens and(or) given 2.5% lactose in drinking water) was investigated. Densities of *Salmonella* in cloaca and caeca, mortality of treated birds, pH, VFAs, lactic acid of caecal contents were estimated periodically. Growth performance and blood analysis of treated birds as affected by CE treatments were also evaluated.

Results show that both of *Staph. aureus* and *Salmonella* are present in fish meal, and meat & bone meal. Storage temperature and moisture content play an important role on increasing microbial load of both feedstuffs under investigation. In contrast, chemical analysis showed no variation under

different storage temperatures or moisture contents. Using CE technique (anaerobic culture + lactose, 2.5%) appreciably reduced salmonellosis in chicks infected with *S. typhimurium*.

Key words : *Salmonella typhimurium, Shigella, Klebsiella, E. coli, Staph. aureus,* Competitive exclusion, Volatile fatty acids (VFAs).

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