

DEDICATION

To my parents, sisters and brothers and sincerely to my
wife and neonate twins Alia and Audai

Acknowledgments

First of all, my thanks and praise are due to almightily Allah. Then my sincere thank goes to; my supervisor Dr. Mohammed. A. Abdalla, of Department of Preventive Medicine and Public Health, College of Veterinary Medicine , Sudan University of Science and Technology, for his guidance, help and kindness with me, to College of Veterinary Medicine, Sudan University of Science and Technology for stimulating my interest in HACCP system during post-graduate study program. To all staff member of Alkwietia Poultry Company for co-operation and co-ordinate research project on HACCP system application to poultry slaughterhouses in the company in Khartoum state. Sincere and faithful thanks are due to my family for their tremendous support, encouragement and patience.

Abstract

The present study aimed to give an available, easy, safe and effective solution to reduce bacterial load in post-slaughterhouse contamination on the carcasses of broilers by applying the Hazard Analysis Critical Control Point (HACCP) System at the Alkwietia Poultry Company in Khartoum State.

Hazard Analysis Critical Control Points (HACCP) is a well-accepted systematic program for identification and control of microbiological hazards associated with poultry processing, and has been applied to the poultry industry to improve microbiological quality of broiler carcasses and reduce microbiological hazards from farm to consumption.

From five Critical Control Points (CCPs) on the broilers processing line, seventy five samples were collected and examined to determine bacterial contamination.

The obtained results showed that the concerned bacteria were determined in different operation (five CCPs) and sides (legs, backs, breast) respectively, There were significant differences between these operations and the sites ($p < 0.05$). Whereas, in Workers hands the TVCs were 1.3 ± 0.02 and 1.4 ± 0.01 \log_{10} CFU $\text{cm}^{-2} \pm \text{Sd}$, in legs and breast sites respectively, with insignificant difference ($p > 0.05$).

Bacteriological findings at each Critical Control Point (CCPs) gave evidence that post-slaughter contaminations constituted hazard, i.e. I detect in this study acceptable contamination, which contained two types of bacterial genera, *Salmonella*, *E. coli*, that affect the quality and safety of poultry meat produced commercially at Khartoum State, in order to take safe and effective solution to reduce bacterial load.

ملخص الأطو حة

هذه الواسة تهدف الي إعطاء الحول الامنة والسهلة والمتاحة والفعالة لتقليل التوث الحوذي بعد الذبح ، علي ذبائح الفوريح ، من خلال تطبيق نظام تحليل المخاطر ، عند نقاط التحكم الحوجة ، بالشوكة المودانية الكويتية ، في ولاية الخوط م .

من خمس نقاط التحكم الحوجة (CCPs) على خط تصنيع الفوريح، تم جمع 75 عينة و تم فحصها لتحديد التوث الحوذي .

مخاطر نقاط التحكم الحوجة (HACCP) هو ونامج لتحديد والسيطرة على الأخطار الميكرو بيولوجية المرتبطة تجهيز الواجن ، و قد تم تطبيقها على صناعة الواجن لتحسين الودة الميكرو بيولوجية للذبائح والحد من الأخطار الميكرو بيولوجية من الورعة للاستهلاك

و أظهرت النتائج التي تم الحصول عليها في نقاط الخمس (CCPs) و الثلاثة مناطق (الإجل ، الظهر ، و الصدر) على التوالي، و كانت هناك اختلافات كبيرة بين هذه النقاط والمناطق (p<0.05). في حين ، عند أيدي العمال كان 1.3 ± 0.02 1.4 ± 0.01 \log_{10} TVCs) ، في الإجل و الصدر على التوالي ، مع فارق ضئيل بينها (CFU cm-2 \pm Sd) ، في الإجل و الصدر على التوالي ، مع فارق ضئيل بينها (p>0.05).

البكتريا التي وجدت في كل نقطة حوجة أعطى دليلا على أن ورحلة ما بعد الذبح يشكل خطرا علي ودة و سلامة لوم الواجن ، و في هذه الواسة وجدنا توث مقبول يحوي علي و عين من البكتريا السلوانيا و الايكولاي ، بحيث يمكن ان تؤثر في ودة و سلامة لوم الواجن المنتجة تجليا و ولاية الخوط م اذا لم يتبع الحول الامنة و الفعالة للتقليل منها .

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