

بسم الله الرحمن الرحيم

قال تعالى:

﴿و ما اوتيتم من العلم الا قليلا﴾

صدق الله العظيم

سورة الاسراء (85)

Dedication

To my

Father who supported me and gave me strength

To my

Mother who surrounded me with love and care and to whom

.I'm always indebted

TO my

.Husband who tolerated and supported me

To my

.Beloved brother and sisters

To my

.Dear sons and daughters to whom I live and breathe

To

.The people, whom I love, respect and appreciate

.I dedicate this work

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ABSTRACT

The purpose of this work was to study the degree of superficial bacterial contamination of ovine carcasses at El-kadaru, El-shaheed and Elsabaloga slaughterhouse (Khartoum - Sudan) quantitatively by counting the total viable and, qualitatively by the isolation and identification of *Listeria monocytogenese*, *E. coli* and *Salmonella*. Carcasses were examined just after skinning, eviscerating and washing for the total viable count. After skinning for isolation of *Listeria spp*, *E. coli* and *salmonella*. Swab sampling was used. Viable count was done according to the known conventional methods. The isolation of *Listeria* ,*E.coli* and *Salmonella* was don on enriched and . selective media

At Elkadaro slaughterhouse: The highest contamination level was recorded in the evisceration stage at foreleg ($3.19 \pm 1.34 \text{Log}_{10} \text{CFU/cm}^2$), whereas the lowest contamination was recorded in the skinning stage at rump site. ($2.3957 \pm 0.54 \text{Log}_{10} \text{CFU/cm}^2$). At the skinning point the highest contamination levels recorded were in the site of the flank ($2.85 \pm 1.18 \text{Log}_{10} \text{CFU/c m}^2$), whereas the lowest contamination levels recorded were in the site of the rumb ($2.57 \pm 0.354 \text{Log}_{10}$

CFU/c m²) .At the evisceration point the highest contamination levels recorded were in the site of the fore leg ($3.19 \pm 1.34 \text{Log}_{10} \text{CFU/c m}^2$) whereas the lowest contamination levels recorded were in the site of the rump ($2.77 \pm 1.22 \text{Log}_{10} \text{CFU/c m}^2$). At the washing stage the highest contamination levels recorded were in the site of the flank ($3.07 \pm 1.220 \text{Log}_{10} \text{CFU/c m}^2$), whereas the lowest contamination recorded were in the site of the fore leg ($3.04 \pm 1.15 \text{Log}_{10} \text{CFU/c m}^2$). On hands of workers during the process of slaughtering the highest contamination levels recorded at washing point ($3.39 \pm 0.71 \text{Log}_{10} \text{CFU/c m}^2$), whereas the lowest contamination recorded at skinning point ($3.23 \pm 0.59 \text{Log}_{10} \text{CFU/c m}^2$). The bacteriological examination on knives used during skinning and evisceration stages respectively revealed that the highest contamination levels recorded at evisceration stage ($4.77 \pm 2.73 \text{Log}_{10} \text{CFU/c m}^2$), whereas the lowest contamination recorded in the skinning . (point ($4.33 \pm 2.78 \text{Log}_{10} \text{CFU/c m}^2$

At Elshaheed slaughterhouse: At the skinning point the highest contamination levels recorded in the site of the flank ($4.50 \pm 2.07 \text{Log}_{10} \text{CFU/c m}^2$), whereas the lowest contamination recorded in the site of the foreleg ($2.25 \pm 1.53 \text{Log}_{10} \text{CFU/c m}^2$). But the evisceration point at Elshaheed slaughterhouse the highest contamination levels recorded in the site of the rump ($4.66 \pm 1.75 \text{Log}_{10} \text{CFU/c m}^2$), whereas the lowest contamination .(recorded in the site of the flank ($4.01 \pm 2.66 \text{Log}_{10} \text{CFU/c m}^2$

The results of the total viable count indicate that the contamination was increased during slaughter line

Six *Listeria spp* were isolated from examined 600 samples (1%), 42 *E. coli* bacteria were isolated from 300 samples (14%) *Salmonella* was not isolated from examined 200 examined samples. The present results reflect poor conditions of slaughtering and handling of carcasses, as well as hygiene deficiencies as high prevalence of *E. coli* (14%) and *Listeria spp* (1%) represents a real danger for the consumer

ملخص الاطروحة

الغرض من هذه الدراسة هو دراسة التلوث البكتيري السطحي في الاغنام في مسلخ الكدرو،

الشهيد والسبلوقا (خرطوم السودان) كميًا بالعد البكتيري الكلي ونوعيًا بعزل

بكتيريا اللستيريا، الاشريكية القولونية والسالمونيلا.

الذبائح تم فحصها مباشرة بعد السلخ، استخراج الاحشاء الداخلية والغسيل للعد البكتيري

،وبعد السلخ لعزل بكتيريا الليستيريا، الايكولاي والسالمونيلا.

العينات أخذت بطريقة المسحات ،العد البكتيري اجري بالطريقة المتبعة عالميا.

عزل الليستيريا ،الاشريكية القولونية والسالمونيلا تم في الاوساط الداعمة للنمو والانتقائية

في مسلخ الكدروا على نسبة تلوث سجلت كانت في مرحلة تفريغ الاحشاء في الرجل الامامية)

$(1.34 \text{Log}_{10} \text{CFU/cm}^2 \pm 3.19)$ ، وأقل مستوى تلوث سُجل في مرحلة السلخ في منطقة

العجز $(0.54 \text{Log}_{10} \text{CFU/cm}^2 \pm 2.3957)$..

في مرحلة السلخ اعلى نسبة تلوث سُجلت كانت في منطقة الخاصرة $(1.18 \text{Log}_{10} \text{CF} \pm 2.85)$

$(0.354 \text{Log}_{10} \text{CFU/c m}^2 \pm 2.57)$ العجز) واطل نسبة سجلت في منطقة العجز

في مرحلة تفريغ الاحشاء اعلى نسبة سجلت كانت في منطقة الرجل الامامية (± 3.19)

$(1.34 \text{Log}_{10} \text{CFU/c m}^2)$ واطل نسبة سجلت في منطقة العجز (1.22 ± 2.77) Log_{10}

..(CFU/c m^2)

في مرحلة الغسيل اعلى نسبة سجلت كانت في منطقة الخاصرة $(\text{Log}_{10} \text{CFU} 1.220 \pm 3.07)$

cm^2 واطل نسبة سجلت كانت في منطقة الرجل الامامية $(\text{Log}_{10} \text{CFU/c m}^2 1.15 \pm 3.04)$

اعلى نسبة تلوث سجلت من ايادي العاملين في المسلخ كانت في مرحلة الغسيل (0.71 ± 3.39)

$(\text{Log}_{10} \text{CFU/c m}^2 59.0 \pm 3.23)$ واطل نسبة سجلت في مرحلة السلخ

(CFU/c m^2)

اعلى نسبة تلوث على السكاكين كانت في مرحلة تفريغ الاحشاء ($2.73\text{Log}_{10}\text{CFU}/\pm 4.77$)

($2.78\text{Log}_{10}\text{CFU}/\text{c m}^2 \pm 4.33$) واكل نسبة في مرحلة السلخ

في مسلخ الشهيد اعلى نسبة تلوث سجلت في مرحلة السلخ كانت في منطقة الخاصرة)

$2.07 \pm 4.50 \text{Log}_{10} \text{CFU}/\text{cm}^2$ واكل نسبة سجلت كانت في منطقة الرجل الامامية (± 2.25)

. ($1.53\text{Log}_{10} \text{CFU}/\text{c m}^2$)

في مرحلة تفريغ الاحشاء اعلى نسبة سجلت كانت في منطقة العجز ($1.75\text{Log}_{10}\text{CF}\pm 4.66$)

$2.66\text{Log}_{10} \text{CFU}/\text{c m}^2 \pm 4.01$) واكل نسبة سجلت كانت في منطقة الخاصرة

نتيجة العد البكتيري تدل على ان التلوث ازاد اثناء مراحل الذبح . تم عزل 6 انواع من

الليستيريا من 6 عينات من مجموع 600 عينة بكتيريا الشريكية القولونية تم عزل 42 نوع من

مجموع 300 عينة .

بكتيريا السالمونيلا لم يتم عزلها من مجموع 200 عينة .

هذه النتيجة تعكس فقر البيئة في المسالخ وسؤ تناول الذبائح كما لاتوجد صحة بيئية لان

نسبة 1% لستيريا و 14% الاشريكية القولونية تمثل خطر حقيقي للمستهلك .

