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SUMMARY

The present investigation was designed to determine the bacterial quality of 100 ready-to-eat variety meats which represented 25 meals. The collected samples included 25 each of ready-to-eat liver, lung, intestine (mombar) and tripe samples which were obtained from fast food restaurants in Assiut city.

The mean values of the aerobic plate count of the examined ready-to-eat liver, lung, intestine and tripe samples were $4.16 \times 10^7 \pm 2.58 \times 10^7$, $4.02 \times 10^7 \pm 2.49 \times 10^7$, $5.51 \times 10^7 \pm 2.83 \times 10^7$ and $4.91 \times 10^7 \pm 2.49 \times 10^7$ cfu/g, respectively. Most of the examined ready-to-eat liver (56%), intestine (48%) and tripe (28%) had aerobic plate count within the range 10^5 -< 10^6 cfu/g, while 32% of the ready-to-eat intestine had counts within the range 10^6 -< 10^7 cfu/g. However, non significant variations in the aerobic plate count were observed between the examined ready-to-eat liver, lung, intestine and tripe samples.

Regarding Enterobacteriaceae, the mean counts of the above mentioned ready-to-eat variety meats were $9.19 \times 10^5 \pm 5.95 \times 10^5$, $9.34 \times 10^5 \pm 7.62 \times 10^5$, $1.99 \times 10^6 \pm 1.64 \times 10^6$ and $8.02 \times 10^5 \pm 6.29 \times 10^5$ cfu/g, respectively. Most of the examined ready-to-eat liver (52%), lung (48%), intestine (44%) and tripe samples (40%) had non detectable counts (< 10/g) while 16, 16, 20 and 16% of such samples had counts within the range 10^3 - < 10^4 , 10^2 - < 10^3 , 10^3 - < 10^4 and 10^4 - < 10^5 cfu/g, respectively. A non significant difference in the mean Enterobacteriaceae count was noticed between the examined ready-to-eat variety meats.

As for *S. aureus*, 80% of the examined ready-to-eat liver samples and 88% each of the examined ready-to-eat lung, intestine and tripe samples

were contaminated with such organism where the mean count values were $1.28 \times 10^7 \pm 9.76 \times 10^6$, $5.51 \times 10^6 \pm 2.70 \times 10^6$, $1.83 \times 10^7 \pm 1.23 \times 10^7$ and $9.59 \times 10^6 \pm 8.60 \times 10^6$ cfu/g, respectively. Most of the examined ready-to-eat liver (32%), lung (28%) and intestine (40%) had *S. aureus* count within the range 10^5 - $< 10^6$ /g, while 40% of the examined ready-to-eat tripe samples had counts within the range 10^4 - $< 10^5$ /g. variations in *S. aureus* count between the examined ready-to-eat variety meats were non significant.

Bacteriological analysis of the examined ready-to-eat variety meats meals revealed that their mean aerobic plate, Enterobacteriaceae and *S. aureus* counts were $1.86 \times 10^8 \pm 9.39 \times 10^7$, $2.87 \times 10^6 \pm 1.71 \times 10^6$ and $3.97 \times 10^7 \pm 2.11 \times 10^7$ cfu/g, respectively. Majority of the examined meals had aerobic plate count (64%) within the range 10^5 - $< 10^6$ /g, Enterobacteriaceae count (20%) and *S. aureus* count (48%) within the range 10^4 - $< 10^5$ /g.

Members of Enterobacteriaceae recovered from the examined ready-to-eat variety meats meals were *E.coli* O₁₂₈:H₂ (2%), *E.coli* O₂₆:H₁₁ (1%), *Enterobacter aerogenes* (6%), *Enterobacter cloacae* (5%), *Klebsiella ozaenae* (6%), *Klebsiella pneumoniae* (7%), *Proteus mirabilis* (5%), *Proteus vulgaris* (3%), *Providencia* (3%), *Salmonella Enteritidis* (1%), *Salmonella Typhimurium* (1%), *Serratia marcescens* (10%) and *Shigella sonnei* (5%).

S. aureus was existed in 80, 92, 96 and 88% of the examined ready-to-eat liver, lung, intestine and tripe samples from which coagulase positive strains constituted 70, 62.2, 54.2 and 59%, respectively. On the other hand, 35.7, 46.7, 30.7 and 61.5% of the recovered coagulase positive *S. aureus* from the aforesaid variety meats proved to be

methicillin resistance *S. aureus* whereas vancomycin resistance *S. aureus* failed to be detected in any of the examined samples.

However, the microbiological quality of the examined ready-to-eat variety meats varied according to its bacterial load and presence of some foodborne pathogens. The public health significance of the isolated microorganisms was discussed and the suggestive measures to protect the consumer and produce high quality variety meats meals were outlined.