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LIST OF ABBREVIATION

AMP	Ampicillin
C	Chloramphenicol
C. coli	Campylobacter coli
C.jejuni	Campylobacter jejuni
CCDA	Campylobacter Charcoal Differential Agar
CDC	Centers for Disease Control and Prevention
CFJ	Campylobacter fetus subsp jejuni.
E	Erythromycin
EDTA	Ethylene diamine tetracetic acid
FFC	Florfenicol
GM	Gentamycin
kb	kilobase
kda	kilo Dalton
MAR	Marbofloxacin
MW	Molecular weight
N	Neomycin
NA	Naldixic acid
PAGE	Poly acrylamide gel electrophoresis
PCR	Polymerase Chain Reaction
SDS	Sodium dodecyle sulphate
SXT	Sulphamethoxazole
TAE	Tris acetate EDTA
TBE	Tris borate EDTA
TEMED	N,N,N,N tetra methyl ethylene diamine

6.0 SUMMARY

Campylobacters are one of the of the major causes of food borne diarrheal disease world wide, and numerous studies reported high degree of relatedness between *Campylobacters* from cattle and humans. This work was carried out to survey *Campylobacter jejuni* and *Campylobacter coli* infection in cattle and investigate the plasmid profile and antibiotic resistance, as well as diagnosis *Campylobacter i*solates by using PCR and whole cell protein profile.

The results could be summarized as follow:

-Examination of 161 random samples from cattle revealed the presence of Campylobacter species at rate of 11.2%.

-For cows the incidence rate represent 15.5% while for calves it represent 7.8%.

-The different stage life of cows and age of calves affect the recovery rate as follow: for cows the isolation rate in dairy, dry and pregnant cows represent 16.3, 18 and 9% respectively, while for calves it represent 0, 14.2 and 7.7% for newly born calves, calves less than 6 months and those more than 6 months respectively.

-*Campylobacter jejuni* was the common prevalent strain which represent 83% of total isolates. For cows the isolation rate was 12.7% (14.3, 18 and 0% for dairy, dry and pregnant cows respectively) while *Campylobacter coli* represent 2.8% (2.04, 0 and 9% for dairy, dry and pregnant cows respectively.

-For calves *Campylobacter jejuni* represent 6.6%(10.7% for calves less than 6 months and 7.7%for calves more than 6 months but negative for newly born calves), while *Campylobacter coli* rate was 1.1%.

-The detection of plasmid reveal that all examined isolates carry dominant plasmid of MW higher than 21kbp, and this plasmid present in all isolates either *Campylobacter jejuni or Campylobacter coli*, the two *Campylobacter coli* isolates carry the same plasmid profile (5kbp and ≥ 21kbp), while *Campylobacter jejuni* isolates harbor different plasmid patterns which reveal genetic diversity of *Campylobacter jejuni.*

- In vitro sensitivity test revealed that Flurofenicol was the superior antibiotic followed by Marbofloxacin (100, and 60%) respectively and 50% of the tested isolates were sensitive to chloramphenicol while the reminant 50% had moderate susceptibility. On the other hand the high rate of resistance was detected against erythromycin and ampicillin, 100% for each while

resistance to gentamycin , neomycin and sulphamethoxazole represented 50% for each of them.

- Sodium dodecyl sulphate poly acrylamide gel electrophoresis (SDS-PAGE) analysis of whole cell protein of 8 *Campylobacter jejuni* and two *Campylobacter coli* revealed the presence of differences in the protein makeup of the examined *Campylobacter* isolates.

- PCR was carried out to detect ten *Campylobacter* isolates (eight *Campylobacter jejuni* and two *Campylobacter coli*), it succeeded in detection of all examined isolates and in differentiation between the two Campylobacter genetically related strains (*Campylobacter jejuni* and *Campylobacter col*i) which make it a simple , rapid, and useful method for routine identification.