LIST OF CONTENTS

3.1.2.1. Sabouraud Dextrose Agar Medium with chloramphenicol

3.1.2.2. Rice agar

3.1.2.3. Sabouraud broth

3.1.2.4. Sugar Fermentation media

3.1.2.5. Sugar assimilation media

3.1.3. Stains and wet preparation

3.1.4. API 20 C Aux

3.2. Methods

3.2.1. Collection of samples

3.2.1.1. Collection of milk samples

3.2.1.2. Collection of rectal swabs:

3.2.1.3. Collection of nasal swabs:

3.2.1.4. Collection of vaginal swabs:

3.2.2. Isolation of yeast

3.2.2.1. Direct microscopic examination of collected samples

3.2.2.1.1. Microscopic examination of milk samples

3.2.2.1.2. Microscopic examination of rectal swabs

3.2.2.1.3. Microscopic examination of nasal swabs

3.2.2.1.4. Microscopic examination of vaginal swabs

3.2.2.2. Cultivation of samples on SDA

3.2.2.2.1. Cultivation of milk samples

3.2.2.2.2. Cultivation of rectal swabs

3.2.2.2.3. Cultivation of nasal swabs

3.2.2.2.4. Cultivation of vaginal swabs

3.2.3. Identification of isolated yeasts

LIST OF ABBREVIATIONS

ADO	Adonitol
API 20	Yeast identification system
ARA	Arabinose
DNA	Deoxy ribonucleic acid
FAO	Food and Agriculture Organization.
GAL	Galactose
Glu	Glucose
Gly	Glycerol
Gt	Germ tube
KOH solution	Potassium hydroxide solution.
MAL	Maltose
MLZ	Melezitose
Nacl	Sodium chloride
PCR	Polymerase chain reaction
PM	Post mortem
r. p. m	Revolution per minute
RAF	Raffinose
Rap.ID	Rapid identification system
rRNA	Ribosomal ribonucleic acid
SAC	Saccharose
SDA	Sabouraud Dextrose Agar Medium
SDA +C	Sabouraud Dextrose Agar Medium with chloramphenicol

TRE	Trehalose
UYT	Uni Yeast Tek kit
XLT	Xylitol
Xyl	Xylose
2KG	2 Keto D-gluconate

SUMMARY

According to the present study a total of 420 samples collected from diseased and apparently normal buffaloes were cultured on SDA with chloramphenicol for mycological examination. The results revealed 186 yeast isolates.

From diseased buffaloes, 117 yeast isolates were obtained from 240 samples with an incidence of 48.75% while from 180 normal cases 69 yeast isolates were obtained with an incidence of 38.33%.

Out of 120 milk samples of mastitic buffaloes, 27 isolates of yeast were obtained and identified into 4 genera as *Candida* (18), *Rhodotorula* (5), *Saccharomyces* (2) and Trichosporon (2). From 60 milk samples of normal udder 12 yeast isolates obtained and identified into genera as *Candida* (3) , *Cryptococcus* (4) , *Rhodotorula* (2) , *Geotrichum* (2) and *Trichosporon* (1).

Out of 60 rectal swabs samples of buffalo calves with diarrhoea, 54 isolates of yeast were obtained and identified into 4 genera namely *Candida* (46), *Rhodotorula* (4), *Trichosporon* (2) and *Saccharomyces* (2). From 60 apparent healthy calves from rectal swab examination 36 yeast isolates were recovered and identified as Candida (24), *Rhodotorula* (6), *Trichosporon* (4) and *Geotrichum* (2).

Out of 30 nasal swabs samples collected from buffaloes with respiratory manifestation, 18 yeast isolates were obtained and

identified into 4 genera as *Candida* (8), *Trichosporon* (4), *Rhodotorula* and *Cryptococcus* (3 each), from 30 samples collected from apparently normal animal from nasal swab, 15 yeast isolates were obtained which identified into 4 genera mainly *Candida* (6), *Rhodotorula* (6), *Trichosporon* and *Cryptococcus* (2).

From 30 vaginal swabs of buffaloes with reproductive disorder, 18 yeast isolates were obtained and identified into 4 genera as *Candida* (13), *Rhodotorula* and *Geotrichum* 2 for each and *Trichosporon* (1). While from 30 vaginal swabs of normal buffaloes 6 yeast isolates were obtained represented only 2 genera of yeast, *Candida* (3 isolates) and *Rhodotorula* (3 isolates).

All the isolated yeasts were identified by conventional methods including (gross appearance of colonies , microscopic examination on rice agar , sugar fermentation and assimilation) and by commercial method of API 20 C system . By the two methods, the isolated yeast were identified into species named *C. albicans* (9) , *C. parapsilosis* (5), *C. tropicalis* (2) , *C.krusei* (2) , *C. zeylanoides* (3) , *Cr. laurentii* (4), *Geotrichum penicillatum* (2) , *Rhodotorula glutinis* (4), *Rhodotorula rubra* (3), *Saccharomyces cerevisiae* (2) and *Trichosporon cutaneum* (3) in both mastitic and normal milk samples.

Concerning with yeast isolated from diarrhoeic and non diarrhoeic rectal swabs , they were identified into *C. albicans* (25) , *C. parapsilosis* (12) , *C. tropicalis* (11) , *C.krusei* (7), *C. guilliermondii* (2) , *C. famata* (8) , *C. ciferrii* (2) , *C . kefyr* (3) , *Geotrichum candidum* (2) , *Rhodotorula glutinis* (6) *Rhodotorula minuta* (2) ,

Rhodotorula rubra (2) , *Trichosporon cutaneum* (6) and *Saccharomyces cerevisiae* (2).

Isolated yeast species from nasal swabs samples of both respiratory diseased and apparently healthy buffaloes were *C. albicans* (4), C. *parapsilosis* (1) , *C. guilliermondii* (4) , *C. ciferrii* (2) , *C. zeylanoides* (3) , *Cr. laurentii* (5) , *Rhodotorula glutinis* (3), *Rhodotorula minuta* (6) and *Trichosporon cutaneum* (5) .From vaginal swabs of diseased and normal animals yeast isolated were identified into *C. albicans* (12) , *C. parapsilosis* (1) , *C. tropicalis* (3), *Geotrichum candidum* (2) , *Rhodotorula glutinis* (5) and *Trichosporon cutaneum* (1) .