

Fungal Pathogenesis in Bovine (*Bos Taurus indicus*) Mastitis; Therapeutic Protocol With Ethno Veterinary Formulation

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INTRODUCTION & AIM

Bovine, *Bos Taurus indicus*, are susceptible to various infection caused by a variety of pathogens.

Low Immunity

Poor Hygiene Condition

- Contributing to an important set of problems.

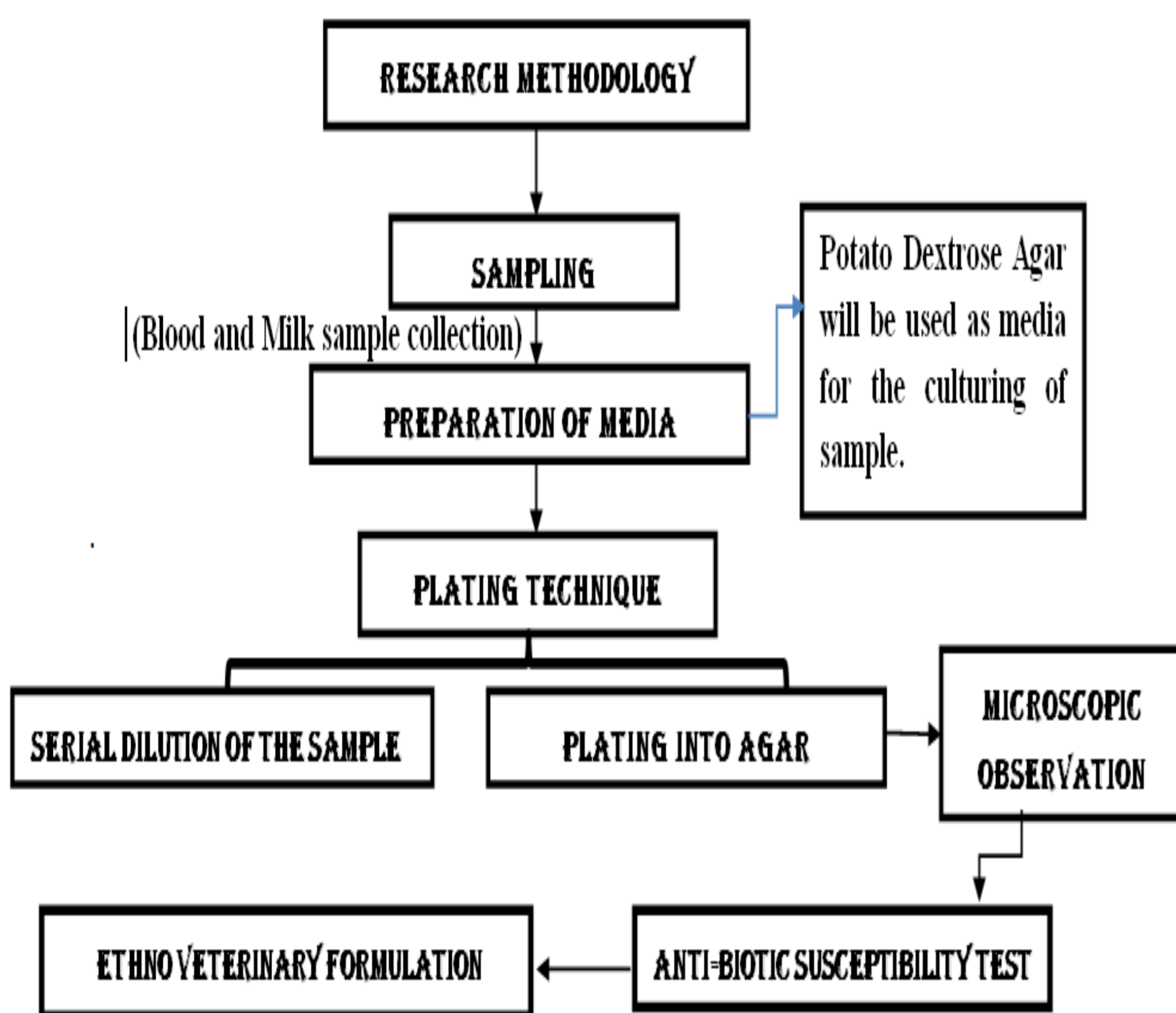
- animal welfare
- productivity losses
- uncertain food security
- loss of income and health.

Fungal diseases with respect to their correlation to infection have not been explored

Aim: Effects of fungus in Bovine – infected with Mastitis.

Proposed Concept: In-vitro and In-silico investigation: Therapeutic Protocol with Ethno Veterinary Formulation

METHOD



Ethno veterinary formulation using Medicinal plant (like Aloe Vera, Neem leaves/ leafstalk, Turmeric, Henna Leaves)

RESULTS & DISCUSSION

Former Initiatives and Results:

Fungi Identification in Mastitis Infected Bovine Blood Samples

- Infected cow blood samples screened for fungi using potato dextrose agar and incubated at 25°C. Colony morphology and mycelial studies were conducted to identify fungi.
- Fungi culture slides prepared using lacto phenol cotton blue stain [LPCB] were analyzed.
- Mastitis infected samples identified as *Aspergillus niger*, *Gliocladium*, *Trichoderma*, *Fusarium oxysporum*, *Trichophyton tonsurans*, and *Candida albicans*.
- These fungi are opportunistic pathogens present in host bovines when severely infected by disease Mastitis

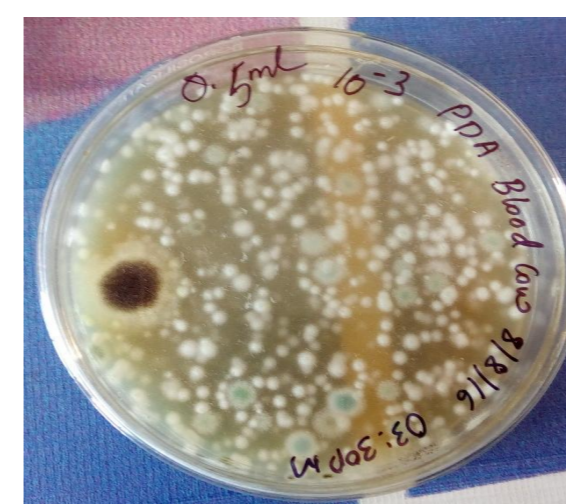


Fig 1

Fig1: Plate 1 of Mastitis infected bovine blood sample (0.5ml of 10⁻³ serially diluted sample) on PDA after 4 days of incubation at 25°C

Fig 2

Fig 2: Plate 2 of Mastitis infected bovine blood sample (0.5ml of blood sample) on PDA after 4 days of incubation at 25°C

Colony No.	A	B	C	D	E
Fungal Identification	<i>Aspergillus niger</i>	<i>Gliocladium</i>	<i>Trichoderma</i>	<i>Fusarium oxysporum</i>	<i>Trichophyton tonsurans</i>

Fungal identification of colonies that are grown on PDA of Plate 1 inoculated with mastitis infected bovine blood sample (0.5ml of 10⁻³ serially diluted bovine blood sample).

CONCLUSION

Mycoses in animals, like aspergillosis, candidiasis, and zygomycosis, are often rare and lead to vague symptoms due to organ variation. Severe infections are uncommon in adults but can occur in newborns. Common pathogens include *Aspergillus*, *Candida*, and *Zygomycetes*. Bovine mycotic abortion is often linked to *Mucor*, *Aspergillus*, *Petriellidium*, *Candida*, and *Mortierella*.

FUTURE WORK / REFERENCES

In the further studies, methodology being used will be contributing to the farmers by reducing the cost of herbal medicine and treatment for fungal pathogenesis by lowering the price, speedy recovery with no side-effects for treatment and medication by producing Ethno veterinary Formulation - Medicinal Plant Extraction from Loosestrife family (Lythraceae) i.e. *Lawsonia inermis* (Henna leaves).

To understand the genome and role of mechanism of the pathogenic fungi will also be carried.