

Introduction

Livestock is a reliable source of revenue for farmers due to the seasonal nature of crop production. India has emerged as the world's leading milk producer, with a current production of 239 million metric tons (MMT). They must, therefore, be safeguarded against disease. There are medical facilities, but they are expensive and have drawbacks too. Concerns are rising regarding the presence of medication residues in milk and milk products, as well as the rise of drug-resistant microorganisms and associated health hazards from indiscriminate use. Ethno-veterinary medicine (EVM) is a significant substitute for lowering reliance on antibiotics and other synthetic medications.

Ethnoveterinary refers to the traditional knowledge of people's beliefs about using plants and their products to treat animals. Key elements of EVM include: using natural materials, relying on

natural forces, and manipulating or doing surgery. Plants are the most commonly used ingredients in ethnomedicine. Plant elements such as leaves, bark, roots, fruits, flowers, and seeds are commonly utilized in medicine (**Pradhan and Mishra, 2018**). In India, popular herbs for EVM include *Aloe vera*, *Curcuma longa*, *Azadirachta indica*, *Murraya koenigii*, *Cissus quadrangularis*, *Mimosa pudica*, *Acalypha indica*, *Lantana camara*, *Acorus calamus*, *Leucas linifolia*, *Adhatoda vasica*, *Moringa oleifera*, *Gentiana chirayita*, *Ocimum sp.*, *Ocimum basilicum*, *Papaver somniferum*, *Piper betle*, *Lawsonia inermis* and *Tamarindus indica*. Spices typically used include cumin, fenugreek, pepper, coriander, bay leaves, asafetida, and chilly. Commonly utilized vegetables and fruits include garlic, ginger, onion, lemon, bitter gourd, radish, lady finger, coconut, and mustard. Additional ingredients include limestone, coconut oil, sesame/gingelly oil, salt, jaggery, ghee, and butter (**Nair et al., 2017; Rath et al., 2020**).

Table 1. Examples of common ethnoveterinary medicine employed for the treatment of diseases in livestock:

S.No.	Disease	Part used	Mode of administration	Reference
1.	Wound	Bark of <i>Azadirachta indica</i>	About 250 g of <i>Acacia nilotica</i> and 500 g of <i>Azadirachta indica</i> bark are grounded and combined with water. The resulting paste is used over wounds till complete recovery.	Verma, 2014
2.	Diarrhoea/Dysentery	Fruit pulp extract of <i>Aegle marmelos</i> and mango seed kernel; leaf paste of <i>Moringa oleifera</i>	Drenching about 1 kg fruit pulp extract of <i>Aegle marmelos</i> and mango seed kernel for 2-3 days. About 100-200 g leaf paste of <i>Moringa oleifera</i> is given twice daily for 3 to 5 days to cattle.	Verma et al., 2023
3.	Indigestion	<i>Mangifera indica</i> fruit	In the case of indigestion, the paste is made from 50 to 100 g	Verma, 2014

			of fruit and fed to cattle with wheat bread once or twice a day for seven days.	
4.	To enhance lactation	Grain of <i>Oryza sativa</i>	Rice grains are boiled together with black gram, black salts, and black pepper. The mixture is administered once or twice a day for one month to improve lactation in cattle.	Verma, 2014
5.	Fever	Bark of Gulmohar and garlic	<i>Delonix regia</i> Linn. (Gulmohar): For fever therapy, an ethanolic extract of the bark combined with black pepper and garlic is administered twice daily till healed.	Verma <i>et al.</i> , 2023

Conclusion

EVM would prevent the issue of antimicrobial resistance (AMR) and aid with the decrease of antibiotic and other chemical drug residues in animal products. In the management of animals, EVP can be a useful substitute for synthetic drugs and antibiotics. EVM will increase livestock wellbeing and produce dairy products that are safer and more affordable. In the long run, this strategy will improve both human and environmental well-being.

References:

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