

Indigenous Technical Knowledge (ITK) for Plant Health Management

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SUMMARY

Indigenous knowledge is the knowledge of the indigenous people inhabiting different geographical regions of the world with their own language, culture, tradition, belief, folklore, rites and rituals. Indigenous people have rich store house of traditional beliefs, folklore, rituals and rites which may not hold any truth and have any practical value but expected to hold some message and therefore need in depth observation in the light of empirical sciences to discover some of these beliefs as sound agricultural practices. These beliefs include that seeds collected and thrashed on new moon day for sowing in the next season are usually not infested by pest and pathogens. Indigenous practices followed by traditional farmers for the management of pests of certain common crops grown in traditional farms in general.

INTRODUCTION

Indigenous Technical Knowledge (ITK) is the local knowledge – knowledge that is unique to a given culture or society. It contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local-level decision making in agriculture, health care, food preparation, education natural resource management and a host of other activities in rural communities. ITK is the information base for a society, which facilitates communication and decision making. The advent of the concept of sustainable agriculture in late eighties in Indian agricultural scenario has evoked interest on indigenous technical knowledge (ITK) that has the element of use of natural products to solve the problems pertaining to agriculture and allied activities. (Sofia et al. 2006).

Attempt is being made here to document some of the indigenous practices followed by traditional farmers for the management of pests of certain common crops grown in traditional farms in general. As such, scientist in this knowledge base economy who are in research of new ideas and innovations expect that indigenous knowledge may hold significant message which may be of use to remedy the deficiencies in modern agricultural and environment related issues (Berkes et al., 2000).

Importance of ITK:

It has little or no cost and readily available in nature.

Some readily available indigenous product are given below

Cowdung & Cow urine

Tribal farmers use fermented solution of 5 kg of cow dung, 5 litre of cow urine, 150 gm lime + 100 litre of water to control khaira disease, bacterial and viral diseases in paddy. Some farmers used to apply fresh cowdung near the collar region of chilli plant to control fungal disease, viz., damping off and dieback. Bactericidal action of cowdung helps reduce the population of the bacteria (*Xanthomonas sp.*).



Figure: Cow urine

Coconut- Buttermilk ghol

1 Lt of this solution diluted with 10L of water before spray. Used as a tool for plant protection against fungal disease and insects. It has fungicidal/pesticidal actions. Putrefied buttermilk is sprayed on cowpea/ green gram crop to control yellow mosaic disease.



Anda-Arkh

Juice of 25 lemons (Approx.) can be collected as waste lemon from lemon field) mix with 5 eggs and jaggery- 250g. Close for 10 days and use 11th day onwards and 10 ml - 50ml of this solution in 10L of water diluted before use. It is use for growth and flowering enhancer (Spray). Spray for disease control (10-50 ml/10 litre water)



Neem

In case of soil-borne disease such as root rot and collar rot – castor cake, karanj cake and neem cake were used as control measures. Banana suckers are immersed for a while in 1 lit. of neem

oil dissolved in 100 lit. of water before planting in order to prevent rhizome rot. Dried neem fruits are powdered and applied @ 200kg./ha. to control fungal diseases.



Ginger and Turmeric powder

A mixture of 2 kg of turmeric powder and 8 kg wood ash is used as dust over leaves for treatment against powdery mildew. Ginger powder at 20 gm/lit of water and sprayed thrice at interval of 15 days can also effectively check the incidence of powdery mildew and other fungal diseases. Successfully in tomato mosaic as preventive.



CONCLUSION

Knowledge and traditional ecological knowledge derived through long experiences and perceptions accumulated by traditional farmers during the course of their interactions with the nature and natural resources need to be effectively integrated and should not be viewed in isolation. Although indigenous pest and disease management knowledge fitted well in the age-old land use system, yet need thorough validation in view of changing agricultural scenario from traditional to integrated farming system through inorganic and organic farming methods. Some of this validated Indigenous Traditional Knowledge (ITK) may be incorporated as an integral component to dovetail neatly into the IPM concept for evolving better pests and disease management strategies in any of these farming systems.

This systematic approach not only protects this fast disappearing ITK under the influence of modern agriculture but also preserve the indigenous pests and disease management identity of farming communities of this country. Therefore, this rich heritage of the county should be harnesses, preserved, documented and developed as modern science such as indigenous integrated pest management before they are lost. Therefore, this rich heritage of the county should be harnesses, preserved, documented and developed as modern science such as indigenous integrated pest management before they are lost.

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