

ITK Practices in Pest Management

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Indigenous traditional knowledge, also known as Traditional Ecological Knowledge (TEK), is a rich body of observations, oral and written knowledge, innovations, practices, and beliefs developed by Indigenous Peoples through their long-term interaction with the environment. This knowledge is deeply rooted in the cultural and spiritual relationships between humans and their landscapes. The ITK was developed through,

1. Trial and error method
2. Experience of farmers
3. Selection of suitable measures
4. Living in the same ecosystem over generations

Sources of ITK

- Farmers
- Folklore
- Community leaders
- Songs and poetry
- Elders
- Ancient records

Fundamentals of ITK

1. Prevention is better than cure
2. Integrated pest management
3. Diversifying cultural and control practices
4. High density of flora and fauna
5. Conserve natural enemies
6. Create unsuitable habitat for pest

Insect pest management

NEEM

- ✓ Neem is the primary botanical used in the pest management
- ✓ While ploughing, neem wood was used to kill the weed seeds and insect pupal cases.
- ✓ Neem oil is used to control sucking pests like mealy bugs, aphids and thrips
- ✓ Neem extract solution was used to control various field pests
- ✓ Neem leaves used to control storage pest

Cow urine and dung

- ✓ Used as solution to spray various botanical solution

- ✓ Used to prepare Dasagavya, Panchagavya used to repel against pest

Notchi

- ✓ Notchi leaf extract was excellent pest repeller
- ✓ Notchi leaves used to control storage pest and sucking pest attack

Ash

- ✓ Ash creates the unfavorable condition to insects to eat the leaves
- ✓ Effectively control the sucking pests like thrips and aphids

Kerosene

- ✓ Jute rope with kerosene used to get rid off Caseworms
- ✓ Kerosene in standing water kill the pupa and larvae in the water

Bird perches

- ✓ Bird perches made up of bamboos or sticks act as the resting place for birds to find the larvae
- ✓ Effective in controlling pests at larval and pupal stage

Castor oil cake

- ✓ Castor oil cake with jaggery in a mud pot was buried in the field
- ✓ The odour emitted by the solution attracts the beetles in the field
- ✓ Effectively control the Coconut **Rhinoceros beetle**

Tobacco

- ✓ Tobacco leaf extract was used to irritate the insects
- ✓ Control the stem borers effectively

Flame

- ✓ In late evening period, the fire flame near the field attracts the nocturnal insects
- ✓ It effectively controls the moths

Border crops

- ✓ Border crops are grown at the corners of field to restrict the pest attack in the main field
- ✓ Similar family plants are grown as border crops as same as main field

Bio pesticides**Neemastra**

1. Take 100 ml of water in a vessel
2. Add 5 lit of cow urine
3. Add 5kg of cow dung
4. Crush 5kg neem leaves, add the pulp
5. Ferment for 24hrs and stir solution twice a day by any stick
6. Filter the extract using a cloth
7. Ready for spray against sucking pest and mealy bugs

Agniastra

1. Take 100 lit of water in avessel
2. Add 10 lit of cow urine in it
3. Add 1 kg of tobacco and 500 g of green chilli and garlic each
4. Boil the solution for 5 times continuously
5. Filter the extract using cloth and ferment for 24 hrs
6. Ready to spray against leaf roller, stem borer, pod borer

Brahmastra

1. Add 10 lit of cow urine in a pot
2. Crush 3 kg of neem leaves and add this pulp in this water
3. Boil the solution for 5 times
4. Filter the extract using cloth and ferment for 24 hrs
5. Ready to spray on sucking pest and stem borer

Nature of pest

- Pest was controlled based on their nature
- **Neemastra** was used to control the pest which majorly depend on the crops for the purpose of feeding.
- **Brahmastra** was used to control the pest which majorly depend on the crops for the purpose of reproduction.
- **Agniastra** was used to control the pest which majorly depend on the crops for the purpose of shelter.

Traditional varieties

- Traditional varieties were used as ITK practices to avoid pest incidence
- Some of the traditional paddy varieties that are resistant to several pests are,
 - Perunkar – stem borer and ear head bug
 - Kalar paalai

- Kaliyan samba
- Vaadan samba
- Norungan - leaf folder and stem borer
- Ariyaan - leaf folder and stem borer
- Kallimadayaan - stem borer and ear head bug
- Mara Nel – storage pest
- Kuthiraival samba

Non-insect pests**Birds**

- ✓ Birds were getting rid by sound instruments and scare crow.

Rodents

- ✓ Rat was the major pest in non-insect pests
- ✓ Dried fish along with cement used to get rid
- ✓ Traditional traps were used
- ✓ Coconut mill with glass pieces were used to control rats
- ✓ Smoke of dried chillies creates the irritation
- ✓ Dead frogs and rats were used to create fear to avoid rat incidence in field

Boar

- ✓ Boar attack can be controlled by sound instruments
- ✓ Fences with sound tapes and cloth indicates the presence of human

Storage pests**Botanicals used**

- The several leaves along with stored grains repel the storage pests such are,
 - Neem leaves
 - Notchi leaves
 - Garlic leaves
 - Curry leaves
 - Red chillies
 - Pungam leaves

Storage structures

- several storage structures were adopted to avoid pest incidence
 - Thombai
 - Mankattai
 - Kulukkai
 - Adukku paanai
 - Thallpai
 - Pathayam

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