

## ON FARM PRODUCTION OF BIO INPUTS BY FARMERS GROUP – A GROUP APPROACH

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**E**rode District is located in the Western zone of Tamil Nadu. Agriculture and its allied activities like Livestock management and poultry farming play a vital role in sustaining the income of the farming community. The climatic conditions prevailing in the district is suitable for cultivating various crops like cereals, millets, pulses, groundnut, cotton, sugarcane, Banana, Turmeric, Tapioca, flowers and vegetable crops. The total cropped area constitutes about 39% of the geographical area. Nearly 25 percent of the rural populations are directly involved in agriculture, and others are poor, and the landless labourers. Though agriculture is providing income to the farming community, it heavily depends on the successful onset of monsoons.

Moreover, in the present scenario, farmers are using exorbitant usage of chemical pesticide, intensive cultivation practices and so on which declines the population beneficial microorganisms and deteriorate the soil microbes also and reduces in the organic carbon which in turn gives poor yield in crops and lowers the income of the farming community. Keeping the view, ICAR – Krishi Vigyan Kendra, MYRADA in coordination with National Institute of Plant Health Management (NIPHM) Hyderabad have conducted a demonstration on Ecological Engineering for Pest Management in Paddy Ecosystem (ICAR MYRADA KVK, 2014) covering 50 farmers of Kallipatti in T.N. Palayam Block and Andipalayam in Bhavani Block of Erode District in the year 2014 - 15. As part of the demonstration, training on production of bio-inoculants, predators, parasitoids and spiders have organized in the respective villages. The effort resulted in the establishment of on-farm production of bio-inputs by the farmers club in their region.

### **Cropping System in Andipalayam**

Paddy is cultivated in area of 150 ha, Banana 140 ha, Sugarcane 230 ha and Turmeric 175 ha and they have border crops coconut and arecanut plantation. The total area under

cultivation is 695 ha. In these crops, pests and disease occurred are blast in Paddy, leaf spot in Banana and Turmeric, Rhizome Rot in turmeric and Smut in Sugarcane. The non-availability of quality bio-inoculants in their area made yield loss and increase in the cost of cultivation in every season of cropping. Through the intervention of ICAR KVK MYRADA, Erode District have able to learn the techniques of “on farm production of bio-inoculants” have made them to start the biocontrol laboratory to serve the farming community on self help basis.

In order to enhance their knowledge and skills on bio input production, a group of 30 farmers from *Pasumai Ulavar Mandaram* of Andipalayam village had exposed to NIPHM, Hyderabad during March 2015 and learned the production technology of the bio-inoculants (NIPHM 2014 and 2019) followed to this two persons identified once again to NIPHM Hyderabad, during May 2015 to get expertise in the production aspects.



The farmers group Pasumai Ulavar Mandaram at Andipalayam village had established the decentralized bio-input production laboratory in the year 2015 and producing the bio inoculants like *Pseudomonas fluorescens* and *Trichoderma viride* for the benefit of the farming community in their region (NIPHM Video link)



### Production of Bio inoculants

Type of Bio inoculants	Quantity of Bio inputs Production					No. of farmers benefitted	% of Yield increase in crop production		Area covered (ha)
	2015-16	2016-17	2017-18	2018-19	2019-20		Crop	% of yield increase	
<i>Pseudomonas florescence</i>	350 litre	550 litre	675 litre	1000 litre	1000 litre	322	Sugarcane Banana Turmeric	65% 70% 70%	537 ha
<i>Trichoderma viride</i>	400 litres	600 litre	500 litre	750 litre	1000 litre	268	Turmeric Sugarcane Banana	60% 50% 45%	

### Economics of Production

Sl. No.	Bio inoculants	Quantity	Gross cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)
1.	<i>Pseudomonas florescence</i>	3,575 litres	Rs. 1,50,000.00	Rs. 3,57,500.00	Rs. 2,07,500.00
2.	<i>Trichoderma viride</i>	3,250 litres	Rs. 1,30,000.00	Rs. 3,25,000.00	Rs. 1,95,000.00

### Outcome

- Quality input and easily assessable to the farmers
- Reduction in the cost of input in crop production due to non-application of chemical pesticide/fungicide.
- Additional income to the farmer group by production of bio-inoculants in their farm level
- Knowledge improvement on Bio input production technology at farm level by the farmers

The farmers' groups have good linkages with ICAR-KVK MYRADA, NABARD, Pondicherry KVK, TNAU and Department of Agriculture and Horticulture Erode. With regard to quality check-up, the liquid broth have been tested in Pondicherry KVK on every batch of Production from the unit to ensure its quality.

### Conclusion

By adopting these on farm production of bio inoculants the production cost will decrease the cost of cultivation of crops. By this quality inputs is easily accessible to farming

communities in nearby villages in time. Moreover by adopting this group approach farmers, rural youth can get employment opportunities to run the enterprise and sustain their livelihood which will turn benefits the farmers

### References

ICAR MYRADA KVK, Erode 2014 – Annual Review Report Pg: 20- 22.

NIPHM Video Link Reference for the preparation of Bio inoculants: (*Pseudomonas fluorescens* and *Trichoderma viride*) ([https://niphm.gov.in/Videos/Pseudomonas\\_E.mp4](https://niphm.gov.in/Videos/Pseudomonas_E.mp4);  
[https://niphm.gov.in/Videos/Trichoderma\\_H.mp4](https://niphm.gov.in/Videos/Trichoderma_H.mp4)

NIPHM, 2014 – Training manual on On-farm Production of Biocontrol agents and Microbial Pesticides Pg; 50 - 53

NIPHM, 2019 – Training manual on On-farm Production of Biocontrol agents and Microbial Pesticides Pg; 61 – 66 (Revised Edition)