



Technology Developed

TECHNOLOGY: 04

1	Name of discipline:	:	Plant Pathology
2	Name of technology	:	UmMet (A liquid bio formulation of <i>Metarhizium anisopliae</i>)
3	Year & Place of development and Patent Number	:	2022, CAU-CPGSAS, Umiam, Meghalaya
4	Researchable issues addressed	:	Organic management of soil borne plant diseases of cereals, vegetables, tea etc
5	Technology details	:	<p>UmMet is a liquid bioformulation developed from the native isolate of <i>Metarhizium anisopliae</i> with 1×10^8 cfu/ml. The shelf life of the <i>UmMet</i> is up to 16 months at 23-25 oC</p> <p>Dosage:</p> <ul style="list-style-type: none"> • Mix 10 ml <i>UmMet</i> in a litre of water • Mix 1000 ml of <i>UmMet</i> with 1500 kg of vermicompost. Incubate for 7 days. <p>Method of application:</p> <ul style="list-style-type: none"> • Seed treatment: Soak seeds in <i>UmMet</i> for 30 minutes, shade dry for 1 hour prior to sowing o Root dip treatment: Dip seedling root-zone for 10-15 minutes prior to transplanting • Soil application: Apply 100g <i>UmMet</i> enriched compost in seed bed per sq. meter or 100 kg per acre in main field 3-4 days before planting. In tea Apply 5 kg of <i>UmMet</i> enriched compost per plant during Feb/March and another during Sept/Oct. • Foliar spray: Spray <i>UmMet</i> thrice at an interval of 21 days <p>UmMet is effect for the management of the following pests:</p> <p>Vegetables: Aphids, Scale insects, White flies, Jassids</p> <p>Maize: Fall army worm, Aphid,</p> <p>Tea: Tea Mosquito Bug, Termite, Red Spider Mite</p>
6	Recommended ecosystem	:	Entire North Eastern Region
7	Yield advantage and economics (Factual)	:	C:B is 1:3.50
8	Way forward	:	The technology has the potentiality to manage the aphids, scale insects, white flies, jassids, fall army worm, tea mosquito bug, termite, red spider mite in organic ecosystem, reduce the insecticides use, increase the population of natural enemies and maintain soil health, enhance plant growth and increase plant defense metabolites

9	Spread/Impact/ Adoption (Factual)	:	The bioformulation has been validated in different crops such as turmeric, potato, brinjal, chili, tea, maize etc. in different states such as Assam, Meghalaya, Sikkim, Nagaland, Manipur, and Arunachal Pradesh and farmers are found to adopt the technology.
10	Name of the Scientist/Inventor	:	Prof. Pranab Dutta, Chairman- Crop Protection, CPGSAS, CAU (Imphal), Umiam, Meghalaya
