



# Technology Developed

## Technology: 2

1	Name of discipline:	:	Plant Pathology
2	Name of technology	:	<b>UmBir</b> (A liquid bio formulation of <i>Beauveria bassiana</i> )
3	Year & Place of development and Patent Number	:	2022, CAU-CPGSAS, Umiam, Meghalaya
4	Researchable issues addressed	:	Organic management of insect pest, virus vectors, enhance plant growth
5	Technology details 	:	<p><b>UmBir</b> is a liquid bioformulation developed from the native isolate of <i>Beauveria bassiana</i> with <math>1 \times 10^{11}</math> cfu/ml. The shelf life of the <i>UmBir</i> is up to 16 months at 23-25 °C.</p> <p><b>Dosage:</b> Mix 10 ml UmBir in a litre of water</p> <p><b>Method of application:</b></p> <ul style="list-style-type: none"> <li>• <b>Seed treatment:</b> Soak seeds in <i>UmBir</i> for 30 minutes, shade dry for 1 hour before planting</li> <li>○ <b>Foliar spray:</b> Spray <i>UmBir</i> thrice at an interval of 30 days</li> </ul> <p><b>UmBir is effect for the management of the following pests and diseases:</b></p> <p><b>Vegetables:</b> Aphid, White flies, Thrips, Pythium rot  <b>Rice:</b> Rice hispa, Brown plant hopper  <b>Tea:</b> Tea Mosquito bug, Red spider mite  <b>Fruits:</b> Leaf and fruit scaring beetle, lepidopteran pests like stem borer</p>
6	Recommended ecosystem	:	Entire North Easter Region
7	Yield advantage and economics (Factual)	:	C:B is 1:2.80
8	Way forward	:	The technology has the potentiality for management of aphids, white flies, thrips, <i>Pythium</i> spp, rice hispa, brown plant hoppers, tea mosquito bug, red spider mites, leaf and fruit scaring beetle, lepidopteran pests like stem borer to lead the plant health management in organic ecosystem, reduce the fungicide use, increase the population of beneficial soil microflora and maintain

			soil health, enhance plant growth and increase plant defence metabolites
<b>9</b>	Spread/Impact/ Adoption (Factual)	:	The bioformulation has been validated in different crops such as turmeric, potato, brinjal, chili, pea, maize etc. in different states such as Assam, Meghalaya, Sikkim, Nagaland, Manipur, Mizoram, Tripura and Arunachal Pradesh and farmers are found to adopt the technology.
<b>10</b>	Name of the Scientist/Inventor	:	<b>Prof. Pranab Dutta, Chairman- Crop Protection, CPGSAS, CAU (Imphal), Umiam, Meghalaya</b>

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