
















## Technology developed by CSR&TI, Berhampore for Eastern and North Eastern regions

Sl. No.	Parameters		
1.	<b>Title of the technology</b>	<b>Mulberry variety : S1</b>	
	Year of recommendation	1970	
	Parentage	Not known. Collected from Mandalaya, Burma and acclimatized in West Bengal.	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, bushes open type, greenish-grey in colour;</li> <li>• <b>Leaf:</b> simple, entire, spirally arranged, ovate, dark green, smooth and shiny.</li> <li>• <b>Ploidy status:</b> Diploid (2n=28); Sex: Male, female, bisexual</li> <li>• <b>Days to sprout:</b> 8; <b>Rooting:</b> 85 - 90%; <b>Leaf Moisture:</b> 78 - 79%; <b>Leaf yield:</b> 28-29 mt/ha/yr in irrigated condition, 16-18 mt/ha/yr in rain fed condition</li> </ul>	
	Recommended for	Irrigated and rain fed condition	
	Tips for harnessing best results	Adopt recommended package of practices for cultivation.	
2.	<b>Title of the technology</b>	<b>Mulberry variety: S1635</b>	
	Year of recommendation	1995	
	Parentage	Open pollinated hybrid from CSRS-1 germplasm accession.	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, branches straight, greenish-brown in colour;</li> <li>• <b>Leaf:</b> Rough and green with serrate margin, stipulate base and having acute apex.</li> <li>• <b>Ploidy status:</b> Triploid (3n=42), Sex: Male.</li> <li>• <b>Days to sprout:</b> 6 – 8; <b>Rooting:</b> 80%</li> <li>• <b>Leaf Moisture:</b> 79.58%; <b>Leaf yield:</b> 44-45 mt/ha/yr</li> </ul>	
	Recommended for	Irrigated condition of Eastern and North-Eastern regions.	
	Tips for harnessing best results	Adopt recommended package of practices for cultivation.	
3.	<b>Title of the technology</b>	<b>Mulberry variety: Tr - 10</b>	
	Year of recommendation	1982-85	
	Parentage	Crossing of tetraploid female (T4 of S1) with diploid male – Philippine.	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, stem dark brown</li> <li>• <b>Leaf:</b> Entire with green colour.</li> <li>• <b>Ploidy status:</b> Triploid (3n=42); Sex: Male</li> <li>• <b>Days to sprout:</b> 8; <b>Rooting:</b> 70 - 75%; <b>Leaf Moisture:</b> 76.30%; <b>Leaf yield:</b> 14-15 mt/ha/yr</li> </ul>	
	Recommended for	For Sub-tropical hills: Darjeeling and Sikkim	
	Tips for harnessing best results	Adopt recommended package of practices for cultivation.	
4	<b>Title of the technology</b>	<b>BC<sub>2</sub>59 mulberry variety</b>	
	Year of recommendation	1982-85	
	Parentage	Back crossing of female ( <i>Morus indica</i> Var. Matigara x Kosen) with recurrent parent Kosen	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, with side branches spreading type. Mature branches in colour.</li> <li>• <b>Leaf:</b> Simple, entire spirally arranged, broadly ovate, dark green in colour; <b>Ploidy status:</b> Diploid (2n=28); Sex: Male</li> <li>• <b>Days to sprout:</b> 12-15; <b>Rooting:</b> 60 - 70%</li> <li>• <b>Leaf Moisture:</b> 76.62%; <b>Leaf yield:</b> 9-10 mt/ha/yr at hills and 15-16 mt/ha/yr at foot hills</li> </ul>	
	Recommended for	For Sub-tropical hills: Darjeeling and Sikkim; over & above	
	Tips for harnessing best results	Adopt recommended package of practices for cultivation.	

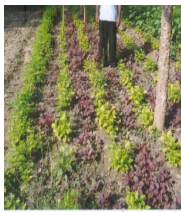


Sl. No.	Parameters		
5.	<b>Title of the technology</b>	<b>C 1730 mulberry variety</b>	
	Year of recommendation	1998	
	Parentage	Evolved by crossing with a tetraploid female (T25) and a diploid male - S 162 variety developed at this Institute.	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, branches straight, stem brown in colour.</li> <li>• <b>Leaf:</b> Thick, green, serrate margin and acute apex.</li> <li>• <b>Ploidy status:</b> Triploid (3n=42); Sex: Male; <b>Days to sprout:</b> 7-9; <b>Rooting:</b> 85.71%; <b>Leaf Moisture:</b> 80.9%; <b>Leaf yield:</b> 15-16 mt/ha/yr</li> </ul>	
	Recommended for	For Red & Lateritic Rainfed: Jharkhand, Orissa and Bihar.	
	Tips for harnessing best results	Adopt recommended package of practices for cultivation	
6.	<b>Title of the technology</b>	<b>C 2028 mulberry variety</b>	
	Year of recommendation	2005	
	Parentage	Cross of China White and S-1532 variety(developed at this Institute).	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, side branches spreading, stem brown in colour; <b>Leaf:</b> Simple, entire, spirally arranged, broadly ovate, glossy, green, smooth and shining; <b>Ploidy status:</b> Diploid (2n=28); Sex: Male; <b>Days of sprout:</b> 9-10; <b>Rooting:</b> 78%; <b>Leaf Moisture:</b> 77.2%; <b>Leaf yield:</b> 35-36 mt/ha/yr</li> </ul>	
	Recommended for	For water logged condition	
	Tips for harnessing best results	Adopt recommended package for mulberry cultivation	
7.	<b>Title of the technology</b>	<b>C 2038 mulberry variety</b>	
	Year of recommendation	<b>Under AICEM Trial</b>	
	Parentage	Cross of CF1 – 10 (a tropical Chinese variety) and C 763 variety developed at this Institute.	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Plant type:</b> Erect, straight, greenish-brown in colour.</li> <li>• <b>Leaf:</b> Smooth and deep green; <b>Ploidy status:</b> Diploid (2n=28); <b>Days of sprout:</b> 10-11 days; <b>Rooting:</b> 78.5%; <b>Leaf Moisture:</b> 78.5%; <b>Leaf yield:</b> 55-56 mt/ha/yr</li> </ul>	
	Recommended for	For irrigated zone	
	Tips for harnessing best results	Adopt recommended package for mulberry cultivation	
8.	<b>Title of the technology</b>	<b>TR23 mulberry variety</b>	
	Year of recommendation	<b>Under AICEM Trial</b>	
	Salient features	<ul style="list-style-type: none"> <li>• Suitable for acidic soil of hills / foot hills specially of Darjeeling hills.</li> <li>• Annual leaf yield 15 mt/ha and 24.5 mt. at Kalimpong and Matigara (Darjeeling district) respectively.</li> <li>• <b>Advantages:</b> Leaf yield gain is around 56% and 77% more than existing (BC259) variety.</li> </ul>	
	Recommended for	For acidic soils of hills and foot hills of West Bengal	
	Tips for harnessing best results	Adopt recommended package of practices for cultivation	
9.	<b>Title of the technology</b>	<b>Bio-fertilizer: NITROFERT (<i>Azotobacter chroococcum</i>)</b>	
	Year of recommendation	2002	
	Salient features	<ul style="list-style-type: none"> <li>• Reduces 50% chemical nitrogenous fertilizer by applying Nitrofert @ 20 kgha<sup>-1</sup>yr<sup>-1</sup> for irrigated and 10 kgha<sup>-1</sup>yr<sup>-1</sup> for rainfed garden.</li> <li>• An eco-friendly approach, reduces the cost of cultivation by Rs.960/-/ha/yr.; Benefit: Cost: Irrigated: 2.9:1, rainfed: 2.6 1</li> </ul>	
	Recommended for	Improvement of soil fertility.	
	Tips for harnessing best results	Adopt recommended dose for mulberry quality and productivity improvement.	






Sl. No.	Parameters																																		
10.	<b>Title of the technology</b>	<b>Bio-fertilizer: PHOSPHOFERT</b> ( <i>Arbuscular mycorrhizal Fungi</i> )																																	
	Year of recommendation	2002																																	
	Salient features	<ul style="list-style-type: none"><li>• 70-80% curtailment of phosphatic fertilizer by using AMF-inoculated mulberry saplings grown in nursery @ 200 kg Phosphofert/ ha.</li><li>• Reduces use of chemical phosphatic fertilizer by 70-80%.</li><li>• Increases the population of economically beneficial microorganisms in the soil and thus helps to improve the soil health through eco-friendly way.</li></ul>																																	
	Recommended for	Application 75-100 kg and 40-50 kg /ha in irrigated and rainfed conditions respectively once in 4 years.																																	
	Tips for harnessing best results	Adopt recommended dose for quality and productivity improvement in mulberry.																																	
11.	<b>Title of the technology</b>	<b>Soil-test based Phosphatic fertilizer application</b>	<table><tr><th colspan="2">For Irrigated condition</th></tr><tr><th>Soil test values (kg/ha)</th><th>Requirement (kg/ha/yr)</th></tr><tr><td>10</td><td>356</td></tr><tr><td>20</td><td>287</td></tr><tr><td>30</td><td>218</td></tr><tr><td>40</td><td>150</td></tr><tr><td>50</td><td>81</td></tr><tr><td>60</td><td>12</td></tr><tr><td>70</td><td>0</td></tr><tr><th colspan="2">For Rain fed condition</th></tr><tr><td>10</td><td>75</td></tr><tr><td>20</td><td>57</td></tr><tr><td>30</td><td>40</td></tr><tr><td>40</td><td>23</td></tr><tr><td>50</td><td>5</td></tr><tr><td>60</td><td>0</td></tr></table>	For Irrigated condition		Soil test values (kg/ha)	Requirement (kg/ha/yr)	10	356	20	287	30	218	40	150	50	81	60	12	70	0	For Rain fed condition		10	75	20	57	30	40	40	23	50	5	60	0
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	Year of recommendation	2005																																	
	Salient features	<ul style="list-style-type: none"><li>• Ready reckoners of phosphorus fertilizer application for obtaining targeted yield of mulberry for the common range of soil test values from 10 to 60 kg/ha available phosphate contents under irrigated (West Bengal) and rainfed (Jharkhand, Orissa and Assam) conditions.</li><li>• No limitation and no adverse environmental impact.</li><li>• Mulberry cultivation can be done at reduced cost by utilizing optimum doses of Phosphoric fertilizer from the evolved ready reckoners and the soil fertility is maintained.</li></ul>																																	
	Recommended for	Eastern and North-Eastern states (West Bengal- for irrigated as well as rainfed; Jharkhand, Orissa and Assam).																																	
	Tips for harnessing best results	Adopt recommended dose for quality and productivity improvement in mulberry.																																	
12.	<b>Title of the technology</b>	<b>Soil-test based Nitrogen fertilizer application</b>	<table><tr><th colspan="2">For Irrigated condition</th></tr><tr><th>Soil test values (kg/ha)</th><th>Requirement (kg/ha/yr)</th></tr><tr><td>100</td><td>490</td></tr><tr><td>150</td><td>448</td></tr><tr><td>200</td><td>407</td></tr><tr><td>250</td><td>366</td></tr><tr><td>300</td><td>324</td></tr><tr><td>350</td><td>283</td></tr><tr><td>400</td><td>242</td></tr><tr><th colspan="2">For Rain fed condition</th></tr><tr><td>100</td><td>113</td></tr><tr><td>150</td><td>90</td></tr><tr><td>200</td><td>66</td></tr><tr><td>250</td><td>43</td></tr><tr><td>300</td><td>20</td></tr><tr><td>350</td><td>0</td></tr></table>	For Irrigated condition		Soil test values (kg/ha)	Requirement (kg/ha/yr)	100	490	150	448	200	407	250	366	300	324	350	283	400	242	For Rain fed condition		100	113	150	90	200	66	250	43	300	20	350	0
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	Year of recommendation																																		
	Salient features	<ul style="list-style-type: none"><li>• Mulberry cultivation can be done at reduced cost by utilizing optimum doses of nitrogenous fertilizer from the evolved ready reckoners and the soil fertility is maintained.</li><li>• Ready reckoners of Nitrogen fertilizer application for obtaining targeted yield of mulberry for the common range of soil test values from 100 to 400 kg/ha available Nitrogen contents under irrigated Gangetic alluvial soil (West Bengal) and rainfed Red-laterite gravelly soil (West Bengal, Jharkhand, Orissa and Assam) were developed.</li></ul>																																	
	Recommended for	Eastern and North-Eastern states (West Bengal- for irrigated as well as rainfed; Jharkhand, Orissa and Assam).																																	
	Tips for harnessing best results	Adopt recommended dose for quality and productivity improvement in mulberry.																																	

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13.	<b>Title of the technology</b>	<b>Vermicomposting with Seri-farm waste</b>																																	
	Year of recommendation	2004																																	
	Salient features	<ul style="list-style-type: none"><li>Low cost, Eco-friendly and an alternative source of FYM, increases yield and quality of mulberry leaves.</li><li>Dosage: Irrigated: 15 mt/ha/yr; Rainfed : 7.5 mt/ha/yr</li><li>Temperature (20-30°C), Humidity (40-50 %) and pH (6.8 – 7.5) should be maintained; Direct sunlight &amp; water logging in the vermicompost pit should be avoided; Benefit: Cost: 2.08:1</li></ul>																																	
	Recommended for	Improvement of soil health and higher productivity and quality of mulberry foliage.																																	
	Tips for harnessing best results	Use in good condition with required moisture.																																	
14	<b>Title of the technology</b>	<b>Fertilizer &amp; FYM dosages for yield maximization</b>																																	
	Year of recommendation	1982-83																																	
	Salient features	Optimal dose of Chemical fertilizer to boost up maximization of leaf yield.																																	
	Recommended for	<ul style="list-style-type: none"><li><b>Irrigated conditions:</b> NPK @ 336:180:112 kg/ha/yr; FYM: 20 mt/ha/yr; Benefit – Cost ratio : 1.44:1</li><li><b>Rainfed conditions:</b> NPK @150:50:50 kg/ha/yr</li><li>FYM:10 mt/ha/yr; Benefit Cost ratio : 1.65 : 1</li></ul>																																	
	Tips for harnessing best result	Adopt recommendation doses for yield optimization.																																	
15.	<b>Title of the technology</b>	<b>Ready reckoner for Soil-test based Potassic fertilizer application</b>	<table><tr><th colspan="2">For Irrigated condition</th></tr><tr><th>Soil test values(kg /ha)</th><th>Requirement (kg/ha/yr)</th></tr><tr><td>100</td><td>220</td></tr><tr><td>200</td><td>179</td></tr><tr><td>300</td><td>138</td></tr><tr><td>400</td><td>97</td></tr><tr><td>500</td><td>56</td></tr><tr><td>600</td><td>15</td></tr><tr><td>700</td><td>0</td></tr><tr><th colspan="2">For Rain fed condition</th></tr><tr><td>100</td><td>89</td></tr><tr><td>200</td><td>65</td></tr><tr><td>300</td><td>40</td></tr><tr><td>400</td><td>15</td></tr><tr><td>500</td><td>0</td></tr><tr><td>600</td><td>0</td></tr></table>	For Irrigated condition		Soil test values(kg /ha)	Requirement (kg/ha/yr)	100	220	200	179	300	138	400	97	500	56	600	15	700	0	For Rain fed condition		100	89	200	65	300	40	400	15	500	0	600	0
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Year of recommendation	2012-2013																																		
Salient features	<ul style="list-style-type: none"><li>Mulberry cultivation can be done at reduced cost by utilizing optimum doses of Potassic fertilizer from the evolved ready reckoners and the soil fertility is maintained.</li><li>Ready reckoners of Potassium fertilizer application for obtaining targeted yield of mulberry for the common range of soil test values from 100 to 500 kg/ha available Potash contents under irrigated (West Bengal) and rainfed (Jharkhand, Orissa and Assam) conditions have been developed.</li></ul>																																		
Recommended for	Eastern and North-Eastern states (West Bengal- for irrigated as well as rainfed; Jharkhand, Orissa and Assam).																																		
Tips for harnessing best results	Adopt recommendation doses for yield optimization.																																		

16.	<b>Title of the technology</b>	<b>Ready reckoner for Sulphur application in mulberry</b>																												
	Year of recommendation	2012-2013																												
	Salient features	<ul style="list-style-type: none"><li>• Mulberry cultivation can be done at reduced cost by utilizing optimum doses of Sulphur fertilizer from the evolved ready reckoners and the soil fertility is Ready maintained.</li><li>• reckoner of Sulphur fertilizer application for targeted yield of mulberry by applying Sulphur (Ammonium Sulphate) @ 40 kg / ha/ year with a benefit cost ratio of 6.37:1 over control (No Sulphur) for irrigated Gangetic alluvial soil of Eastern India.</li></ul> <table border="1"><thead><tr><th>Soil test value of sulphur (kg ha<sup>-1</sup>)</th><th>Irrigated plains of West Bengal.</th><th>Hills of West Bengal</th></tr></thead><tbody><tr><td>5</td><td>94</td><td>34</td></tr><tr><td>10</td><td>76</td><td>28</td></tr><tr><td>15</td><td>59</td><td>23</td></tr><tr><td>20</td><td>42</td><td>18</td></tr><tr><td>25</td><td>25</td><td>12</td></tr><tr><td>30</td><td>8</td><td>7</td></tr><tr><td>35</td><td>0</td><td>2</td></tr><tr><td>40</td><td>0</td><td>0</td></tr></tbody></table>		Soil test value of sulphur (kg ha <sup>-1</sup> )	Irrigated plains of West Bengal.	Hills of West Bengal	5	94	34	10	76	28	15	59	23	20	42	18	25	25	12	30	8	7	35	0	2	40	0	0
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Recommended for	Eastern and North-Eastern states (West Bengal- for irrigated as well as rainfed; Jharkhand, Orissa and Assam).																													
Tips for harnessing best results	Adopt recommendation doses for yield optimization.																													
17.	<b>Title of the technology</b>	<b>Paired row system of mulberry plantation for better leaf production</b>																												
	Year of recommendation	2008																												
	Salient features	<ul style="list-style-type: none"><li>• Paired row system of plantation [(90 cm+120 cm) x 60 cm] was found promising and leaf yield is almost at par with existing recommendation (60 cm x 60 cm) although the number of plants/ha was double in 60 cm x 60 cm spacing (27,777) against (13,888) in paired row system.</li><li>• Found promising in respect of sustainable &amp; maximum leaf yield with better leaf quality, and net profit.</li></ul>																												
	Recommended for	For sustainable quality leaf yield and additional profit with 4 suitable intercrops (Green gram, cowpea, Toria, and amaranth,) and one green manure crop (sunhemp, <i>Crotalaria juncea</i> ) under 5 crops schedule.																												
	Tips for harnessing best results	Adopt paired row system of plantation with intercrop for more income.																												
18.	<b>Title of the technology</b>	<b>Morizyme-B: (Plant Growth Regulator)</b>																												
	Year of recommendation	2002																												
	Salient features	<ul style="list-style-type: none"><li>• Foliar Spray @ 0.1% after 15-20 days of pruning and again after 15-20 days of 1<sup>st</sup> spray increases mulberry leaf yield by 25-30% during winter season.</li><li>• Increases mulberry leaf yield by 25-30%, leaf protein by 30% and Sugar by 31% during winter season.</li><li>• Benefit Cost ratio: 1.45 : 1.</li><li>• Commercialized to 4 entrepreneurs.</li></ul>																												
	Recommended for	Specially for November – February (late autumn and Spring / Falgooni ) crop																												
	Tips for harnessing best results	Adopt recommended dose for yield productivity during late autumn & Falgooni crop																												



	<b>Title of the technology</b>	<b>Intercropping in Mulberry</b>																						
19.	Year of recommendation	Under validation																						
	Salient features	<ul style="list-style-type: none"><li>Mulberry in combination with green gram, cowpea, mustard and amaranth during March-May, June-Aug, Sept-Nov and Dec-Feb seasons have been identified to fetch additional income by the farmers.</li><li>Multiple cropping with available space in mulberry plantation during establishment period and thereafter upto 2-3 years effectively utilized for additional income.</li></ul> <b>Intercrop Schedule:</b> <table><tr><td>Season</td><td>Establishment period</td><td>After Establishment period (up to 2-3yrs)</td></tr><tr><td>Oct – Dec</td><td>Toria</td><td>-</td></tr><tr><td>Jan – Feb</td><td>Red amaranth</td><td>-</td></tr><tr><td>Mar – May</td><td>-</td><td>Green gram</td></tr><tr><td>June – Aug</td><td>-</td><td>Cow pea</td></tr><tr><td>Sept – Nov</td><td>-</td><td>Toria</td></tr><tr><td>Dec – Feb</td><td>-</td><td>Red amaranth</td></tr></table>		Season	Establishment period	After Establishment period (up to 2-3yrs)	Oct – Dec	Toria	-	Jan – Feb	Red amaranth	-	Mar – May	-	Green gram	June – Aug	-	Cow pea	Sept – Nov	-	Toria	Dec – Feb	-	Red amaranth
	Season	Establishment period		After Establishment period (up to 2-3yrs)																				
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	Mar – May	-		Green gram																				
June – Aug	-	Cow pea																						
Sept – Nov	-	Toria																						
Dec – Feb	-	Red amaranth																						
Recommended for	To be followed the intercrop schedule with the mentioned crop																							
Tips for harnessing best results	Maintaining of intercrop schedule wise																							
	<b>Title of the technology</b>	<b>Jalsanjivani- an antitranspirant KCI (1%)</b>																						
20.	Year of recommendation	2012-13																						
	Salient features	<p>Application of KCI (1%) on mulberry</p> <ul style="list-style-type: none"><li>Increase leaf yield gain of 9.5% over the control (8.16 mt/ha/year).</li><li>Increase in plant water status and bioassay of silkworms.</li><li>Economics worked out showed that KCI (1%) was profitable in monetary return over the control to the tune of 6.2% for multivoltine and around 20% for bivoltine silkworm breeds.</li><li>Acts as water stress reliever by increasing leaf moisture and moisture retention capacity of mulberry leaf in water stress condition.</li></ul>																						
	Recommended for	Rainfed condition.																						
	Tips for harnessing best results	Adopted the recommended dose for leaf yield improvement																						
21.	<b>Title of the technology</b>	<b>Management of Thrips - a major pest of mulberry</b> <i>(Pseudodendrothrips mori Niwas)</i>																						
	Year of recommendation	1997																						
	Salient features	<ul style="list-style-type: none"><li><b>Chemical Control</b> : Spray of 0.1 – 0.2% Dimethoate (EC 36%).Thrips population reduced to about 88-92% with safe period of 14 days of spray. <b>Benefit – Cost ratio</b> : 6:1. Additional 200 M x Bi. Dfls can be reared with saved mulberry leaf (1600 kg).</li><li><b>Botanical Control</b>: Application of 2% Pongamia oil reduces thrips infestation to an extent of 75% by 14th day of application with an increase in leaf yield to an extent of 27% with a safe period of 10 days of spray. <b>Benefit – Cost ratio: 2.10 : 1</b></li></ul>																						
	Recommended for	Irrigated and rainfed zone																						
	Tips for harnessing best results	Adopted the recommended doses for management of thrips to save mulberry leaf.																						

22.	<b>Title of the technology</b>	<b>Management of Mealy bug – a major pest of mulberry (<i>Maconelliococcus hirsutus</i> Green)</b>	 
	Year of recommendation	1994-97	
	Salient features	<ul style="list-style-type: none"> <li>• <b>Chemical control:</b> Spray of 0.1-0.2 % dimethoate (EC36) suppresses 76% of Tukra infestation upto 14 days after spray. <b>Benefit– Cost ratio:</b> 2.23: 1. <b>Additional benefit:</b> Additional 50 M x Bi. Dfls can be reared with saved mulberry leaf (725 kg).</li> <li>• <b>Botanical Control;</b> Application of 1.5% Pongamia oil reduces mealy bug infestation to an extent of 75% by 14th day of application with an increase in leaf yield to an extent of 16%. The safe period is 10 days for silkworm rearing. <b>Benefit–Cost ratio :</b> 2.34 : 1.</li> <li>• <b>Biological control:</b> by release of native predator @ 1500 pairs of <i>Scymnusbourdilloni</i> Kippurs (Coleopteran, Coccinellidae) / ha.</li> </ul>	
	Recommended for	Irrigated and rainfed zone	
	Tips for harnessing best results	Adopted the recommended doses for management of mealybug to save mulberry leaf.	
23.	<b>Title of the technology</b>	<b>Control of white fly</b>	 
	Year of recommendation	2002-03	
	Salient features	<b>Chemical/Botanical Control :</b> <ul style="list-style-type: none"> <li>• Spraying of 0.1% dichlorvos (EC76%) reduced 85% population or 1% Neem oil (azadirachtin1500ppm) suppresses 80% upto 14 days after spray with a safe period of 14 days. <b>Benefit–Cost ratio:</b> 6: 1 (dichlorvos) and 2.4: 1 (Neem oil).</li> <li>• <b>Additional benefit:</b> Additional 200 M x Bi. Dfls can be reared with saved mulberry leaf (1630 kg). <b>Benefit– Cost ratio :</b> 1.7 : 1</li> <li>• <b>Mechanical control :</b> By installation of yellow sticky traps (size-2' x2') @ 150/ha effectively reduces whitefly population (25%).</li> <li>• <b>Biological control :</b> by release of native predator <i>B. suturalis</i> @ 1250 pairs/ha suppresses whitefly population upto 23% within a period of 45 days after release.</li> </ul>	
	Recommended for	Irrigated and rainfed zone	
	Tips for harnessing best results	Adopted the recommended doses for management of whitefly to save mulberry leaf.	
24.	<b>Title of the technology</b>	<b>Forecasting for insect pests of mulberry in Eastern and NE India</b>	
	Year of recommendation		
	Salient features	In eastern and north-eastern India, major pests of mulberry are thrips, mealy bug, whitefly and root mealy bug (RMB) in Kalimpong and Sikkim hills. Region wise Forewarning calendars developed and to create awareness amongst the farming community and extension functionaries to remain in preparedness for implementing appropriate management strategies.	
	Recommended for	Eastern and north-eastern India	
	Tips for harnessing best results	Disseminate the technology through awareness programme at farmers' level to take management practices in advance to save crop loss.	


**PEST INCIDENCE CALENDAR FOR DIFFERENT AGRO CLIMATIC ZONES OF EASTERN & NE INDIA**

	JANU	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
THRIPS (No/Leaf)		12.76	11.04	19.91	30.47	23.83	21.98					
WHITEFLY(No/Leaf)						4.02	5.98	20.12	12.63	12.40	20.46	2.40
TUKRA(% infestation)												
	MURSHIDABAD											
THRIPS (No/Leaf)	0.27	6.73	9.12	20.82	13.11	8.83	14.69	13.25	5.58			
WHITEFLY(No/Leaf)								4.73	5.32	0.89	2.55	
TUKRA(% infestation)						28.33	35.00	20.01	1.69	0.15		
	BIRBHUM											
THRIPS (No/Leaf)	0.10	0.69	3.89	7.07	14.17	11.91	11.81	13.03	2.26	0.42	0.03	
WHITEFLY(No/Leaf)										0.13	1.28	
TUKRA(% infestation)								1.17				
	MALDA											
THRIPS (No/Leaf)	9.21	16.78	8.87	3.59	7.18	21.98	12.51	5.56				
WHITEFLY(No/Leaf)					1.02	0.17	7.60	15.41	0.71	3.75	13.19	
TUKRA(% infestation)						33.42	32.09	34.36				
	JORHAT											
THRIPS (No/Leaf)		5.05	14.85	34.07	73.69	66.26	4.19	62.61	71.00	42.78	47.93	
WHITEFLY(No/Leaf)		1.57	3.65	2.94	4.63	4.96	3.38	4.56	16.97	16.12	9.75	
TUKRA(% infestation)		3.71	6.79	7.98	9.64	9.43	1.24	5.65	8.73	11.08	5.89	
	KORAPUT											
THRIPS (No/Leaf)		7.18	4.99	3.32	5.08	26.60		3.15	3.94	4.70	4.07	2.59
WHITEFLY(No/Leaf)		1.32		0.24	0.49	8.30		3.79	4.57	7.49	5.82	4.63
TUKRA(% infestation)		2.10	2.50	2.47	9.29	6.75		2.07	5.75	1.50	1.75	1.50
	KALIMPONG											
RMB(No/plant)	1.12	1.18	2.77	4.04	16.73	19.80	18.70	18.14	25.49	24.45	11.16	4.28

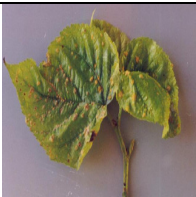




Below danger level


Moderate level

Above ETL

25.	<b>Title of the technology</b>	<b>Management of Brown Leaf rust (<i>Peridiopsisora mori</i>)</b>	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>Whenever disease severity exceeds &gt; 5 PDI, Foliar application of 0.2% Copper oxychloride 50 WP [2.5 g/l of water] on mulberry leaves</li> <li>Reduces 80% leaf rust disease severity with a safe period of 14 days.</li> <li>Saves 600 kg leaf/ha/crop to give cocoon yield (30 kg/ha/crop)</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India.	
	Tips for harnessing best results	Adopted the recommended doses for management of brown leaf rust to save mulberry leaf.	

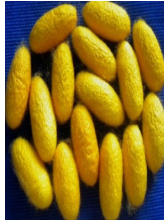






26.	<b>Title of the technology</b>	<b>Management of Yellow leaf rust</b> ( <i>Aecidium mori</i> )	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>Foliar spray of 0.2% Mancozeb effectively controls the disease</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Adopted the recommended doses for management of yellow leaf rust to save mulberry leaf.	
27.	<b>Title of the technology</b>	<b>Management of Fungal Leaf spot</b> ( <i>Myrothecium roridum</i> )	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>When the disease severity exceeds more than 5 PDI, spray of 0.1% Carbendazim (Bavistin) 50 WP (2g / l of water) on mulberry leaves and repeated after 10 days with a safe period of 7 days of last spray; Reduces 70-80% disease severity. Saves 600 kg leaf/ha/crop. Benefit – Cost ratio: 2.14 : 1</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Adopted the recommended doses for management of leaf spot to save mulberry leaf.	
28.	<b>Title of the technology</b>	<b>Management of Bacterial Leaf spot</b> ( <i>Xanthomonas campestris</i> pv. <i>mori</i> )	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>When bacterial leaf spot disease severity exceeds &gt; 5 PDI, spray of 0.01% Plantomycin / Pushamycin (1g/l of water) on mulberry leaves and repeated after 10 days with a safe period of 7 days of last spray.</li> <li>Reduces 60-70% leaf spot disease severity.</li> <li>Saves 600 kg leaf/ha/crop; Benefit – Cost ratio: 2.5 : 1</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Adopted the recommended doses for management of leaf spot to save mulberry leaf.	
29.	<b>Title of the technology</b>	<b>Management of Powdery mildew</b> ( <i>Phyllactinia corylea</i> )	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>Whenever the disease severity exceeds &gt; 5 PDI, spray of 0.1% Carbendazim (Bavistin) 50 WP (2g / l of water) on mulberry leaves and repeated after 10 days with a safe period of 7 days of last spray.</li> <li>Reduces 50 - 55% disease severity.</li> <li>Saves 600 kg leaf/ha/crop; Benefit – Cost ratio: 1.5 : 1</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Adopted the recommended doses for management of leaf spot to save mulberry leaf.	
30.	<b>Title of the technology</b>	<b>Management of Pseudocercospora Leaf spot</b> ( <i>Pseudocercospora mori</i> )	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>Whenever the disease severity exceeds &gt; 5 PDI, spray of 0.1% Carbendazim (Bavistin) 50 WP (2g / l of water) on mulberry leaves and repeated after 10 days with a safe period of 7 days of last spray.</li> <li>Reduces 55 -60% disease severity.</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Adopted the recommended doses for management of leaf spot to save mulberry leaf.	





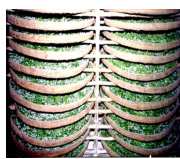
31.	<b>Title of the technology</b>	<b>Management of Root knot (<i>Meloidogyne incognita</i>) disease.</b>	
	Year of recommendation	2007	
	Salient features	<ul style="list-style-type: none"> <li>• Application of 1MT Neem oil cake /ha/yr in 4 split dose effectively reduces the root knot infestation.</li> <li>• The application of Neem cake reduces 60 - 70% disease severity</li> </ul>	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Adopted the recommended doses for management of root knot disease to save mulberry leaf.	
32.	<b>Title of the technology</b>	<b>Forewarning calendars for Mulberry diseases</b>	
	Year of recommendation	2011	
	Salient features	Major foliar diseases of mulberry in the Eastern and North-eastern region of India are Powdery mildew ( <i>Phyllactinia corylea</i> ), leaf rust ( <i>Peridiopsisora mori</i> ), bacterial leaf spot ( <i>Xanthomonas campestris</i> pv. <i>mori</i> ) and <i>Myrothecium</i> leaf spot ( <i>Myrothecium roridum</i> ), <i>Pseudocercospora</i> leaf spot ( <i>Pseudocercospora mori</i> ). Foliar diseases reduce 10-15% leaf yield and quality. Besides, feeding of diseased leaf affects cocoon productivity and quality. This huge loss in leaf and cocoon productivity and quality can be minimized by taking up appropriate disease management practices in time by FOREWARNING of mulberry diseases of Eastern and North-eastern India. Accordingly a Forewarning Calendar is prepared and appended herewith for guiding the farmers' community to remain in preparedness for implementing appropriate management measures. Reduces 55 -60% disease severity.	
	Recommended for	Farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Disseminate the technology through awareness programme at farmers level to take management practices in advance to save crop loss.	

Monthwise Readyreconer for disease forewarning of Eastern and North Eastern India			
Month	Week	Place	Action to be taken ( <i>Application of</i> )
January		Murshidabad (West Bengal)	0.1% Carbendazim
		Singhanpur (Chattisgarh)	0.2% Mancozeb
February	1 <sup>st</sup>	Koraput (Odisha)	0.2% Mancozeb
		Aizawl (Mizoram)	0.1% Carbendazim
		M.P.Raj (Jharkhand)	
March	1 <sup>st</sup>	Imphal (Manipur)	0.1% Carbendazim
		Malda (West Bengal)	0.1% Carbendazim
April		Agartala (Tripura)	0.1% Carbendazim
May		Birbhum (West Bengal)	0.1% Carbendazim
		M.P.Raj (Jharkhand)	0.01% plantomycin
		Murshidabad (West Bengal)	0.01% Plantomycin
		Birbhum (West Bengal)	
June	1 <sup>st</sup>	Malda (West Bengal)	0.1% Carbendazim
	2 <sup>nd</sup>	Birbhum (West Bengal)	0.1% Carbendazim
		Rangpoo (Sikkim)	
	3 <sup>rd</sup>	Malda (West Bengal)	0.01% Plantomycin
		Birbhum (West Bengal)	0.01% Plantomycin
July	I	Jorhat (Assam) / Rangpoo (Sikkim)	0.1% Carbendazim / 0.2% Mancozeb
	II	Dimapur (Nagaland)	0.1% Carbendazim
	III	Sanghanpur (Chattisgarh)	0.2% Mancozeb
	IV	Koraput (Odisha) / Dimapur (Nagaland)	0.1% Carbendazim / 0.2% Mancozeb
August	I	Kalimpong (West Bengal) / Jorhat (Assam)	0.1% Carbendazim / 0.2% Mancozeb
	II	Koraput (Odisha)	0.2% Mancozeb
	III	Murshidabad (West Bengal)	0.01% Plantomycin / 0.1% Carbendazim
		Jorhat (Assam) / Aizawl (Mizoram)	
	IV	Imphal (Manipur) / Agartala (Tripura)	0.1% Carbendazim
September	I	Aizawl (Mizoram) / Imphal (Manipur)	0.2% Mancozeb / 0.1% Carbendazim
	II	Ranchi (Jharkhand)	0.1% Carbendazim
	III	Malda (West Bengal)	0.1% Carbendazim
	IV	Koraput (Odisha)	0.1% Carbendazim
October	I	Malda (West Bengal)	0.1% Carbendazim
	II	Koraput (Odisha)	0.2% Mancozeb
	III	Murshidabad (West Bengal) / Ranchi (Jharkhand)	0.1% Carbendazim
November	1 - IV	NIL	NIL
December	1 - IV	NIL	NIL





### SILKWORM HYBRIDS/BREEDS





33.	<b>Title of the technology</b>	<b>Multi x Multi hybrid: N x M.Con4</b>	
	<b>Year of recommendation</b>	Authorized in 2010	
	<b>Salient features</b>	<ul style="list-style-type: none"> <li>For unfavorable seasons Jaistha [May-June]; Shravani [June-July]; Bhaduni [July-Aug] and Aswina [Aug-Sept] crop.</li> <li>Yield : 35-40 kg/100 dfls, Increase 75 % yield over Nistari</li> <li>Shell percentage(%): 14.00-16.00; Filament length (m): 350-400; Renditta: 9.5-10.5; Incremental benefit % over control: 75%; Rearing condition: Temp.30-33°C, RH: 75-85% (June – Sept.); Authorized and popularized at field level.</li> <li>Large scale testing under post authorization trial.</li> </ul>	
	<b>Recommended for</b>	Unfavorable seasons for the farmers of Eastern & North-Eastern India	
	<b>Tips for harnessing best results</b>	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.	

34.	<b>Title of the technology</b>	<b>Multi x Multi hybrid: M.Con1 x M.Con.4</b>	
	Year of recommendation	Authorized in 2010	
	Salient features	<ul style="list-style-type: none"> <li>For unfavorable seasons Jaistha [May-June]; Shravani [June-July]; Bhaduri [July-Aug] and Aswina [Aug-Sept] crop.</li> <li>Yield: 35-42 kg/100 dfis, 70 % increase over control Nistari.</li> <li>Silk %: 15.00-16.00; Filament length (m): 350-450; Renditta: 9.10-10.0; Incremental benefit % over control: 75%; Rearing condition: Temp.30-33°C, RH: 75-85%; (June – Sept.)</li> <li>Authorized and their parents are popularized.</li> <li>Large scale testing under post authorization trial.</li> </ul>	
	Recommended for	Unfavorable seasons for the farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.	
35.	<b>Title of the technology</b>	<b>Multi x Bi hybrid: N x (SK6 x SK7)</b>	
	Year of recommendation	Recently authorized in 2013	
	Salient features	<ul style="list-style-type: none"> <li>West Bengal: Agrahayani, Falgooni and Baisakhi</li> <li>North – eastern states: Spring, Summer &amp; Autumn</li> <li>Yield : 50-57 kg/100 dfis; Shell percentage(%): 15.00-16.00</li> <li>Filament length (m): 650-700; Renditta: 8.5-9.0</li> <li>Incremental benefit % over control: 25%</li> <li>Rearing condition: Temp.25-30°C, RH: 75-85% (Oct. - April)</li> </ul>	
	Recommended for	Favorable seasons for the farmers of Eastern & North-Eastern India	
	Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.	
36.	<b>Title of the technology</b>	<b>Multi x Bi hybrid: M.Con.1 x B.Con4</b>	
	Year of recommendation	Authorized in 2010	
	Salient features	<ul style="list-style-type: none"> <li>For favourable seasons Agrahayani [Oct-Nov]; Falguni [Jan-Feb] and Baishaki [Mar-Apr] crop.</li> <li>Yield: 50-57 kg/100 dfis; Shell percentage(%): 17.5-18.00</li> <li>Filament length (m): 700-775; Renditta: 8.0-9.0</li> <li>Incremental benefit % over control: 25%.</li> <li>Rearing condition: Temp. 25-31°C, RH: 75-80% (Oct. - April); Authorized and popularized.</li> <li>Under gone large scale testing under post authorization trial; Higher productivity over (N x NB4D2) an increase by 25%.</li> </ul>	
	Recommended for	For favourable seasons for Agrahayani ; Falguni and Baishaki crop in West Bengal; all Eastern & North-Eastern states.	
	Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.	
37.	<b>Title of the technology</b>	<b>Multi x Bi hybrid: M.Con.4 x B.Con.4</b>	
	Year of recommendation	Authorized in 2010	
	Salient features	<ul style="list-style-type: none"> <li>For West Bengal: Agrahayani, Falgooni and Baisakhi season.</li> <li>For North Eastern states : Spring, Summer &amp; Autumn</li> <li>Yield: 50-55 kg/100 dfis; Shell percentage(%): 16.5-17.00</li> <li>Filament length (m): 550-600; Renditta: 7.5-8.5; Rearing condition: Temp. 25-31°C, RH: 75-80%; (Oct. - April).</li> <li>Higher productivity over N x NB4D2 an increase by 25%.</li> </ul>	
	Recommended for	For favorable seasons-Agrahayani, Falguni and Baishaki in West Bengal; all Eastern & North-Eastern states.	
	Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.	

38.	<b>Title of the technology</b>	<b>Bi x Bi Foundation hybrid SK6 x SK7</b>																											
	Year of recommendation	Authorized in 2013																											
	Salient features	<ul style="list-style-type: none"><li>Male component for preparation of Multi x Bi hybrid.</li><li>Yield : 50 – 65 kg/100 dfls; Popular &amp; stable bivoltine hybrids as a foundation cross (FC) for the Eastern &amp; NE region.</li><li>Popularised in Odisha; Jharkhand, Sikkim and entire NE states including West Bengal.</li><li>10% yield increase over NB18xP5.</li></ul> <table><thead><tr><th rowspan="2">Parameters</th><th colspan="2">Season</th></tr><tr><th>Unfavourable</th><th>Favourable</th></tr></thead><tbody><tr><td>Fecundity</td><td>473</td><td>525</td></tr><tr><td>Pupation rate (%)</td><td>80.5</td><td>90.5</td></tr><tr><td>Yield / 100 dfls</td><td>60.5</td><td>68</td></tr><tr><td>Cocoon weight (g)</td><td>1.316</td><td>1.453</td></tr><tr><td>Shellpercentage (%)</td><td>19.3</td><td>20.7</td></tr><tr><td>Filament length (m)</td><td>884</td><td>910</td></tr><tr><td>Gain in cocoon yield over check</td><td>200 %</td><td>46.7%</td></tr></tbody></table>		Parameters	Season		Unfavourable	Favourable	Fecundity	473	525	Pupation rate (%)	80.5	90.5	Yield / 100 dfls	60.5	68	Cocoon weight (g)	1.316	1.453	Shellpercentage (%)	19.3	20.7	Filament length (m)	884	910	Gain in cocoon yield over check	200 %	46.7%
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Recommended for	<ul style="list-style-type: none"><li>For unfavourable P1 rearing seasons</li><li>West Bengal: (Seed crop seasons: Agrahayani, Falgooni and Baisakhi).</li><li>All Eastern &amp; North-Eastern states.</li></ul>																												
Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.																												
39.	<b>Title of the technology</b>	<b>Bi x Bi hybrid B.Con.1 x B.Con.4</b>																											
	Year of recommendation	Authorized in 2013																											
	Salient features	<ul style="list-style-type: none"><li>Yield: 55-67 kg/100 dfls; Shell percentage(%): 19.0-20.0</li><li>Filament length (m): 850-900; Renditta: 6.5-7.5</li><li>Incremental benefit % over control: 10%</li><li>Rearing condition: Temp. 24-26°C, RH: 75-80% (Oct. - March)</li></ul>																											
	Recommended for	All Eastern & North-Eastern states.																											
	Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.																											
40.	<b>Title of the technology</b>	<b>Multi x Bi. hybrid: M6DP (C) x SK4 (C)</b>																											
	Year of recommendation	Authorized in 2013																											
	Salient features	<ul style="list-style-type: none"><li>Yield 52-57 kg/100 dfls.</li></ul>																											
	Recommended for	For favorable seasons																											
	Tips for harnessing best results	Proper incubation, maintenance of hygiene in and around rearing house and feeding with quality mulberry leaf.																											
41.	<b>Title of the technology</b>	<b>Season Specific Package to enhance the cocoon productivity in all the commercial crop seasons</b>	 																										
	Year of recommendation	2008																											
	Salient features	<ul style="list-style-type: none"><li>Bed area - I instar: 16-18 sq.ft.; II instar: 18-54 sq.ft and III instar: 54-100 sq.ft.</li><li>Gap between two rearing trays: 9" ; Normally 4 times feeding with a gap of 6 hours and 3 times feeding during June – September prevailing R.H. 80-95% by keeping the quantum of feed unchanged.</li><li>100-200 sq.ft and 200-400 sq.ft bed space with larval density of 200-400 and 100-200 for 100 dfls during IV and V instar is recommended.</li><li>Plastic Collapsible mountage with 50-60 larvae/ sq.ft.</li><li>Benefit: Cost ration: 4:1 (favourable seasons) and 3.6:1 (unfavorable seasons).</li></ul>																											
	Recommended for	All type of farmers																											
	Tips for harnessing best results	Adopt the packages during rearing for better cocoon yield.																											



42.	<b>Title of the technology</b>	<b>Shelf rearing technology</b>	
	Year of recommendation	2008	
	Salient features	<ul style="list-style-type: none"> <li>• Size of Rack: 25'x5'</li> <li>• No. of tiers: 4 with a gap of 24"</li> <li>• Material: Bamboo / Wood</li> <li>• Preparation of Shelf: With Nylon rope &amp; net</li> <li>• Time of shifting: Just after 3rd moult</li> <li>• Method of feeding: Entire shoot in two alternate direction</li> <li>• Feeding frequency: 3 times / day</li> <li>• Bed cleaning: Once in IV instar &amp; twice in V instar</li> <li>• Cocoon yield increase of 10% over existing practices</li> </ul>	
	Recommended for	Unfavorable climatic conditions	
	Tips for harnessing best results	Adopt the technology during unfavorable rearing seasons.	
43.	<b>Title of the technology</b>	<b>Light weight rearing tray</b>	
	Year of recommendation	<b>Patented [IP No. 212 097].</b> Commercialization under process through NRDC.	
	Salient features	It is made up of empty polythene fertilizer bags with support from rigid bamboo strips. The cost of the trays is less than half of the traditional bamboo made tray.	
	Recommended for	Eastern & North-Eastern regions	
	Tips for harnessing best results		
44.	<b>Title of the technology</b>	<b>Incubation pot for better hatching in dry summer</b>	
	Year of recommendation	2001	
	Salient features	<ul style="list-style-type: none"> <li>• Two bucket shaped earthen pots, the bigger one is outer chamber and the smaller one is the inner chamber.</li> <li>• Inner chamber hangs inside the outer chamber from its rim. In between two chambers, there is a space of about 2.5 cm (1").</li> <li>• In both the chambers, there are two holes of 1 cm. in diameter just below the upper rim in opposite direction for inserting bamboo or wooden stick for hanging the egg sheets during incubation.</li> <li>• Effective during summer (March-May) when room temperature and Relative Humidity are 35-37°C and 45-60% respectively,</li> <li>• Maintain uniform temperature of around 29°C and R.H. of 95%.</li> </ul>	
	Recommended for	Farmers of Eastern and North Eastern region do not have any provision for incubation of eggs under fluctuating conditions of environment.	
	Tips for harnessing best results	Use the device for better incubation of silkworm eggs.	
45.	<b>Title of the technology</b>	<b>Labex – Silkworm bed disinfectant</b>	
	Year of recommendation	The product is patented in 1987 and commercialized to six entrepreneurs (Two from West Bengal and four from South India) for large scale marketing the product throughout the country.	
	Salient features	<ul style="list-style-type: none"> <li>• Effective and cheap powder form bed disinfectant.</li> <li>• The formulation maintains 1% chlorine that inactivates all fungal, bacterial, viral and protozoan pathogens of silkworm.</li> </ul>	
	Recommended for	<ul style="list-style-type: none"> <li>• Dusted on the silkworm bed @ 3-4g/sqft of bed area.</li> <li>• 4 kg Labex is required for rearing of 100 dfls (40,000 larvae) for the rearers of West Bengal, Orissa, Bihar and North-Eastern states</li> </ul>	
	Tips for harnessing best results	To adopt recommended dose	

46.	<b>Title of the technology</b>	<b>Sericillin</b> – a synergistic composition for disinfecting silkworm body and silkworm bed.	
	Year of recommendation	Filed for patenting on 18-5-2012. Commercialized by two entrepreneurs from West Bengal.	
	Salient features	<ul style="list-style-type: none"> <li>• Cost-effective powder form bed disinfectant.</li> <li>• Effective against Muscardine as well as against Grasserie, Flacherie, Gattine and Pebrine.</li> <li>• Prevents secondary contamination.</li> <li>• The formulation maintains 1% chlorine that inactivates all fungal, bacterial, viral and protozoan pathogens of silkworm.</li> <li>• Cocoon yield gain around 4 kg /100 dfls. Benefit Cost ratio : 6.4 : 1.</li> </ul>	
	Recommended for	<ul style="list-style-type: none"> <li>• 3-4g /sq. ft. of bed area.</li> <li>• 4 kg Sericillin is required for rearing of 100 dfls (40,000 larvae) for the rearers of West Bengal, Orissa, Bihar and NE states.</li> </ul>	
	Tips for harnessing best results	To adopt recommended dose	
47.	<b>Title of the technology</b>	<b>5% Bleaching powder solution for rearing room disinfection</b>	
	Year of recommendation		
	Salient features	<ul style="list-style-type: none"> <li>• Used both in closed and open type of rearing houses, Works at ambient temperature and action is very immediate.</li> <li>• Yields 4 kg additional cocoons/ 100 dfls.</li> </ul>	
	Recommended for	Stakeholders in Eastern & North-Eastern India.	
48.	<b>Title of the technology</b>	<b>Integrated management of uzifly</b>	 
	Year of recommendation		
	Salient features	<ul style="list-style-type: none"> <li>• <b>Flytrap</b>, an electrical device traps up to 50 % of adult flies inside the rearing house.</li> <li>• <b>2% Bleaching powder</b> solution sprayed on silkworm larvae infested with uzi eggs, kills the uzi eggs and thereby saves the cocoon crop up to 95%.</li> <li>• Cocoon yield gain 3 kg – 5 kg/100 dfls.</li> <li>• Eco-friendly 2% bleaching powder solution has no deleterious effects on silkworm.</li> </ul>	
	Recommended for	Gangetic plains of West Bengal and North Eastern states.	
	Tips for harnessing best results	Precautionary measures well in time of for success of rearing and cocoon harvest.	