Technologies developed and validated

Management of pigeon pea pod borer using entomopathogenic bacteria *Bt* strain ICAR-NBAIR Bt G4

Management of pink bollworm, *Pectinophora gossypiella*, using *Trichogrammatoidea bactrae* starin ICAR-NBAIR for the management of pink bollworm, *Pectinophora gossypiella*

Management chick pea pod borer using *Helicoverpa armigera nucleopol;yhedrovirus* (HearNPV NBAIR 1)

Management of sugarcane white grub through enomopathogenic fungi, *Metarhizium anisopliae* ICAR-NBAIR Ma4

Evaluation of bio-pesticides *Lecanicilium lecani* NBAIR *Beauveria bassiana* NBAIR for the management of tea red spider mite, *Oligonychus coffeae*.

Evaluation of Fungal pathogens *Metarhizium anisopliae* NBAIR *Beauveria bassiana* NBAIR, *Lecanicilium lecanii* NBAIR against chilli yellow mite and cucumber whitefly

Management of apple root borer using of *Metarhizium anisopliae*

Developed biointensive IPM for *Tuta absoluta* in tomato

Management of apple Codling moth, *Cydia pomonella* using *Trichogramma cacoeciae* in Ladakh

Management of chick pea wilt and urdbean root rot through seed treatment with *Trichoderma viride* @ 4g/kg and carbendazim @ 2gm per kg of seed

Management of maize stalk borer, *Chilo partellus* through the release of *Trichogramma chilonis*

Management of soil borne diseases of crops through soil polarizations and biocontrol agents

Biological suppression of shoot and fruit borer, *Earias vittella* Fab. by using Bt formulation in okra

Large scale validation of BIPM (*Pseudomonas fluorescens* + *Beauveria bassiana* + *Trichogramma japonicum / T. chilonis* + /azadirachtin) in rice.

Management of papaya mealybug *Paracoccus marginatus through*
the release of parasitoid *Acerophagous papaya*

Bio-intensive management of insect pests of brinjal using Azadirachtin 1500 ppm @ 2ml/lt and *Lecanicillium lecanii*, pheromone traps and *Trichogramma pretiosum*

Management of Coconut Rugose Spiralling whitefly on coconut using yellow sticky traps, yellow light traps, parasitiod *Encarsia guadeloupae* and predators *viz., Mallada boninensis*

Biological suppression of coconut rhinoceros beetle (*Oryctes* rhinoceros) by prophylactic leaf axil filling with botanical cakes @ 9g/palm, incorporation of *Metarhizium majus* @ 5x 10^{11} spoes/m^3 in breeding sites and release of *Oryctes rhinoceros* nudivirus infected beetles @ 12 beetles/ha and nanoporous matrix delivery of pheromones 1 trap/ha

Biological suppression of black headed caterpillar (*Opisina arenosella*) by augmentative release of stage specific parasitoids (*Bracon brevicornis @ 20/palm)* and *Goniozus nephantidis* @ 20/palm)

Biorational and nutritional management of coconut eriophyid mite (*Aceria guerroronis*) using neem formulation, *Hirsutella thompsonii* @ 20 g talc based preparation/L of water containing $1.6x10^8$cfu, soil-test based nutrition

Bio-intensive management of red palm weevil (*Rhynchophorus ferrugineus*) using prophylactic leaf axil filling with botanical cakes, *Steinernema* sp plus imidacloprid and nanoporous matrix delivery of pheromones

Bio-intensive management of coconut root grub (*Leucopholis coneophora*) using *Steinernema carpocapsae* @ 1.5 billion IJs / ha plus imidacloprid 17.8 SL @ 0.25 ml / litre during September-October, and soil incorporation of neem cake @ 5 kg/palm

Management of rice bug *Leptocorisa acuta* using oil formulation of *Lecanicillium saksenae* (KAU isolate ITCC 7714) and *Metarhizium anisopliae* NBAIR Ma 4

Management of sugarcane white grub using entomopathogenic nematodes, *Heterorhabditis indica* WP NBAIR-H38 and entomofungus *Metarhizium anisopliae* NBAIR-Ma4

Biological control of maize stem borer, *Chilo partellus* using *Trichogramma chilonis* @ 100,000/ha/release at 15, 22 and 29 days after seedling emergence at 7- 10 day interval

Large scale bio-intensive pest management on rice using *Pseudomonas fluorescens, Trichogramma japonicum* and *Trichogramma chilonis* against rice diseases and leaf folder.

Bio intensive pest management on Brinjal using Azadirachtin and *Lecanicillium lecanii, Trichogramma chilonis*

Management of sucking pests of cotton by spraying of *Lecanicillium lecanii* NBAIR- Vl8 - 2 x 10^8cfu/g (1% WP) @ 40 g /10 litre water or *Beauveria bassiana* NBAIR- Bb5a - 2 x 10^8cfu/g (1% WP) @ 40 g /10 litre water at fortnightly interval for three times starting from initiation of sucking pests

Management of okra fruit borer by using *Bacillus thuringiensis* NBAIR *Bt*-G4 (1% WP) @ 50g /10 litre water or NSKE 5% (500g/ 10 litre water) at fifteen days interval for three times or six releases of *Trichogramma chilonis* @ 50,000/ha at weekly interval starting from the initiation of fruit borer (*Earias vittella*) for the effective biological control.

Management of chilli fruit rot/anthracnose disease using *Pichia guilliermondii* (Y-12) or *Pseudomonas fluorescens*

BIPM on tomato through **s**ix releases of *Trichogramma chilonis* @50,000/ha at weekly interval starting from fruit formation

Management of coconut rugose spiralling white fly using entomopathogen *Isaria fumosorosea* @ 5g / lit against