

A success story of ICAR–NBAIR in managing the cassava mealybug through the parasitoid *Anagyrus lopezi* has been nicely featured in ‘The Hindu’.

When a parasitic wasp saved South’s tapioca crops

Rishita Khanna
BENGALURU

Two years after scientists from the National Bureau of Agricultural Insect Resources (NBAIR), under the Indian Council of Agricultural Research (ICAR), released a tiny parasitic wasp into South India’s tapioca fields, the crop that once faced near devastation from an invasive pest is now thriving again. Farmers in Tamil Nadu, Kerala, and Puducherry report that their tapioca harvests have returned to pre-outbreak levels. This marks a rare success in controlling a major agricultural pest without chemicals.

Cassava, better known as tapioca, is grown on



By 2024, ICAR-NBAIR scientists brought the pest under control, eliminating the need for chemical spray. SPECIAL ARRANGEMENT

about 1.73 lakh hectares in India, with Tamil Nadu and Kerala together contributing more than 90% of total production. Before the outbreak, yields averaged 35 tonnes per hectare, far above the global average of 10.76 tonnes, and India exported value-added tapioca products worth nearly ₹200 million annually, ac-

cording to NBAIR officials.

However, the mealybug’s arrival in Thrissur, Kerala, in April 2020 changed this landscape. By 2021, nearly 1.43 lakh hectares were infested, and some areas of Tamil Nadu saw yields collapse to 5-12 tonnes per hectare. The pest fed on the plant sap, causing leaf curling, stunt-

ed growth, and poor tuber formation. With no effective local predators, the infestation escalated quickly and posed a serious economic threat to farmers, they said.

Chemical sprays were considered, but repeated pesticide use was costly, harmful to the environment, and unsustainable for small farmers. ICAR-NBAIR scientists instead turned to classical biological control, a strategy that introduces a natural enemy from the pest’s native region to restore ecological balance. “Scientists identified a tiny parasitic wasp, *Anagyrus lopezi*, that specifically targets the cassava mealybug. The wasp lays its eggs inside the pest, and

the developing larvae consumes it from within, naturally reducing mealybug numbers without harming other crops,” S.N. Sushil, Director, ICAR-NBAIR said.

The institute imported a shipment from the International Institute of Tropical Agriculture, West Africa.

ICAR-NBAIR set up three satellite mass-production centres, distributed over 200,000 parasitoids, and conducted 25 awareness programmes and multiple training sessions. By 2023-24, they had achieved remarkable results. Across the previously infested 1.43 lakh hectares, the mealybug is now under natural control and has eliminated the need for chemical sprays.

When a parasitic wasp saved South India's tapioca crops

Rishita Khanna
BENGALURU

Two years after scientists from the National Bureau of Agricultural Insect Resources (NBAIR), under the Indian Council of Agricultural Research (ICAR), released a tiny parasitic wasp into South India's tapioca fields, the crop that once faced near devastation from an invasive pest is now thriving again. Farmers in Tamil Nadu, Kerala, and Puducherry report that their tapioca harvests have returned to pre-outbreak levels. This marks a rare success in controlling a major agricultural pest without chemicals.

Cassava, better known as tapioca, is grown on about 1.73 lakh hectares in India, with Tamil Nadu and Kerala together contributing more than 90% of total production. Before the outbreak, yields averaged 35 tonnes per hectare, far above the global average of 10.76 tonnes, and India exported value-added tapioca products worth nearly ₹200 million annually, according to NBAIR officials.

However, the mealybug's arrival in Thrissur, Kerala, in April 2020 changed this landscape. By 2021, nearly 1.43 lakh hectares were infested, and some areas of Tamil Nadu saw yields collapse to 5-12 tonnes per hectare. The pest fed on the plant sap, causing leaf curling, stunted growth, and poor tuber formation. With no effective local predators, the infestation escalated quickly and posed a serious economic threat to farmers, they said.

Chemical sprays were considered, but repeated pesticide use was costly,



By 2024, ICAR-NBAIR scientists brought the pest under control, eliminating the need for chemical spray. SPECIAL ARRANGEMENT

harmful to the environment, and unsustainable for small farmers. ICAR-NBAIR scientists instead turned to classical biological control, a strategy that introduces a natural enemy from the pest's native region to restore ecological balance. "Scientists identified a tiny parasitic wasp, *Anagyrus lopezi*, that specifically targets the cassava mealybug. The wasp lays its eggs inside the pest, and the developing larvae consumes it from within, naturally reducing mealybug numbers without harming other crops," S.N. Sushil, Director, ICAR-NBAIR said.

The institute imported a shipment from the International Institute of Tropical Agriculture, West Africa.

ICAR-NBAIR set up three satellite mass-production centres, distributed over 2,00,000 parasitoids, and conducted 25 awareness programmes and multiple training sessions. By 2023-24, they had achieved remarkable results. Across the previously infested 1.43 lakh hectares, the mealybug is now under natural control and has eliminated the need for chemical sprays.