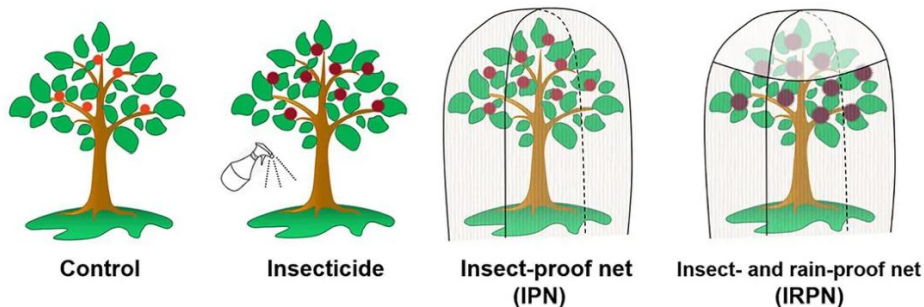


**A** Chinese bayberry trees protected by insect- and rain-proof nets



**B** Different treatments of Chinese bayberry trees



**C** *Drosophila* grown on fruits of Chinese bayberry

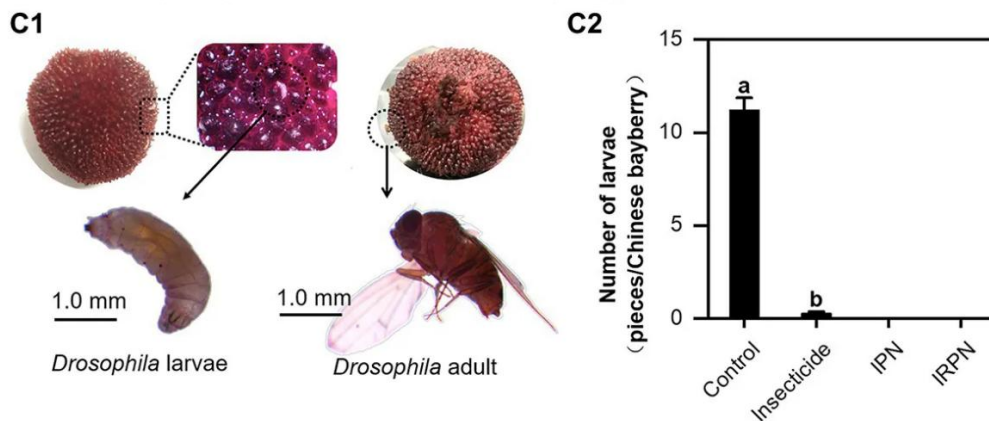


Figure 1 *Drosophila* growth on Chinese bayberry fruits collected from trees grown in different environments. (A) Field image of Chinese bayberry trees protected by insect-proof nets (IPNs) and rain-proof films during the fruit maturation period. (B) The trees were grown under natural conditions (controls) or treated separately with insecticides, IPNs or insect- and rain-proof nets (IRPNs). (C) *Drosophila* (C1) and number of *Drosophila* (C2) on Chinese bayberry fruits collected from untreated and treated trees (Adopted from Yu et al., 2021)

Excessive use of pesticides and antibiotics in waxberry orchards has led to increased residues in soil and along the “soil–fruit–fruit fly” chain. This promotes the accumulation of antibiotic resistance genes and virulence factors in soil and fruit-associated microbial communities, highlighting the need for more restrained and scientifically guided use of chemical inputs (Yi et al., 2024).

## 7.2 Field monitoring and early intervention

Efficient field monitoring and early intervention are central to IPM systems. Pest and disease management should begin with accurate species identification, followed by a clear understanding of their biology and behavior. Population dynamics and risk levels should be systematically monitored before economic thresholds are exceeded (González-Núñez et al., 2022).