

Biologically Intensive Integrated Pest Management: The Future

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Integrated pest management (IPM) initially was defined, developed, and implemented by entomologists. Michelbacher & Bacon (1952) first used the term integrated control in California to describe the timing of insecticide applications for walnut aphid to disrupt minimally the beneficial arthropods in the system. Frisbie & Adkisson (1985) reviewed the concept and definitions of IPM and cited the following Smith & Reynolds (1966) definition as the primary reference for describing the meaning of IPM:

Integrated control is a pest population management system that utilizes all suitable techniques in a compatible manner to reduce pest populations and maintain them at levels below those causing economic injury. Integrated control achieves this ideal by harmonizing techniques in an organized way, by making control practices compatible, and by blending them into a multi-faceted, evolving system.

Synonymy of the terms *integrated control* and *IPM* occurred in the late 1960s, with IPM becoming the common usage.

The original intent of IPM was generated in reaction to agricultural-pest crises resulting from extreme reliance on pesticides. These crises were mainly economic and spawned by insecticide resistance and secondary-pest outbreaks that lead to collapse or near-collapse of