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Biological controls

The most interesting component of IPM for many people is biological control. It is also the most complicated as there is a diverse range of species and types of predators and parasitoids. There are also many more species that are neither beneficial nor pests and it is important for growers to be able to recognise this.

Definitions

The term ‘beneficial species’ in this book is used to describe invertebrates that directly kill pest species. That is, we mean the biological control agents that exist in agricultural systems (wherever they originated). Obviously there are other types of beneficial invertebrates, such as those involved in breaking down organic matter so that nutrients are recycled. Earthworms and many types of beetles, mites and springtails, for example, fall into this category of ‘beneficial’ but not a biological control agent of pests.

There are many different ways to categorise the types of biological control agents in agricultural habitats – where it lives (resident or transient); the origin of the species (native or exotic); and the way it feeds (predator or parasite). Scientists can and do use many other divisions and definitions, but in this book these three categories are the most relevant to our theme.

Resident beneficials

The amount of living plant material in a crop or pasture changes dramatically during a season, from almost bare ground in many cases to a dense canopy of flowering plants. The change from a paddock that is herbicide treated and about to