3
Pests

The starting point for this chapter is that farms are agricultural ecosystems, not sterile laboratories. It is well known and accepted that soil biology and biodiversity (including earthworms and micro-organisms) are essential for productive farming systems. So it should not be a great step to accept that there are other macro-invertebrates (that is, invertebrates that you can see without a microscope) that contribute to ecosystem health, as determined by farmers. There are species that actively decompose plant material (such as stubble), species that prey on pests and others that are not pests or predators but which provide a link in the food chain.

Why do some insects and mites become pests?

Some things that farmers do can fundamentally change the agricultural ecosystems that they manage. A very recent example of this is the change from 'conventional' tillage to minimal tillage and stubble retention. The habitat for soil-dwelling invertebrates is changed in a substantial way when farmers decide to change from conventional to minimum tillage. The most immediate result seen by farmers is that increased pest problems (in terms of slugs, snails and earwigs) occur. The changed habitats have changed environmental conditions to favour certain pests because these conditions provide an increased food source and increased shelter. Habitat change is just one reason for increased pest problems that has occurred in the last few years. There are many other ways that insects and mites can become pests.

Most farmers grow monocultures of crops where the aim is to produce a single species that will be harvested. For example, a paddock of canola or wheat would