



Where I work Geoff Gurr

Photographed for *Nature*
by Matthew Abbott.

This photograph was taken at the Angullong estate in New South Wales, Australia, which hosts some of my field trials. The aim is to study sustainable agriculture in vineyards. You have to dodge the odd brown snake, but, as offices go, this one – among the grapevines of such a picturesque part of the world – makes my job quite a privilege.

It's a November evening, which is springtime here in the Southern Hemisphere, and this time of year is when pests such as the light brown apple moth (*Epiphyas postvittana*) start to emerge. That means that ecologists such as myself, as well as the commercial winemakers we collaborate with, move into data-capture mode to track the presence of the insects. These moths produce multiple generations every year, so they can be quite numerous by harvest time, and can cause real damage by getting into the grapes.

We're conducting experiments to see whether positioning various plant species between and under grapevines can help to reduce the population of pests by

encouraging their predators. Parasitoid wasps, for example, target the eggs of light brown apple moths, injecting them with their own eggs. When the wasp larvae hatch, they eat the moth larvae from the inside out. Although quite gruesome, parasitoid wasps could provide an environmentally friendly way to control moth populations.

In my laboratory at Charles Sturt University in Orange, we're incubating moth eggs that we then put on special cards in the vineyard. Because parasitoids love nectar, we expect to see more attacks on the moth eggs in areas where we've planted flowering shrubs than in the control areas, where grass predominates. We collect the cards after about 48 hours in the field, and incubate the moth eggs to measure the level of parasitism. In the next couple of years, with more data, we hope to identify the optimum mix of plant species to manage pests without resorting to chemicals.

Geoff Gurr is a professor of applied ecology at Charles Sturt University in Orange, New South Wales. **Interview by Benjamin Plackett.**