Semiochemicals

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Rural Economy and Land Use Programme

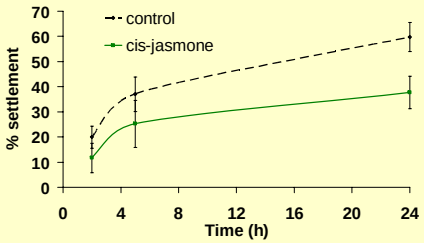
Research Project 0093

Re-Bugging the System: Promoting Adoption of Alternative Pest Management Strategies in Field Crop Systems

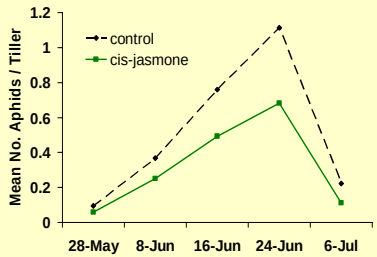
Insects use chemical information (semiochemicals) from their environment to locate suitable hosts. As well as directly influencing pests, semiochemicals are also involved in multitrophic interactions and influence the behaviour of natural enemies of pests. There is thus potential to use semiochemicals in sustainable pest management strategies to disrupt crop invasion by pests and enhance biological control.

1. *cis*-Jasmone: *turns on the plants natural defence mechanisms*

- **Reduced cereal aphid settlement and growth in laboratory tests**

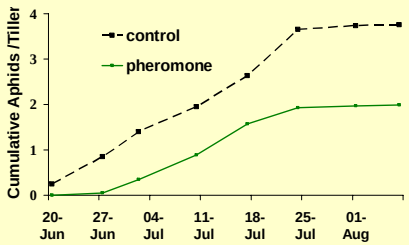


- **Reduced cereal aphid populations in small field plot trials**



2. Nepetalactone: *an aphid pheromone that attracts parasitoids*

- **Increased parasitism and reduced aphid populations in field trials**



- **Semiochemicals are being integrated with field margin management to enhance natural aphid control and avoid the need for chemical pesticides.**
- **Constraints to farmer adoption of these alternative pest management strategies are being investigated.**