Developing a new framework for biocontrol in the Western States

Darcy Oishi
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Communication
Hawaii has always worked collaboratively...
Being Proactive is Good

- Biocontrol is normally reactive
- There are numerous targets we can proactively plan for
- Planning means opportunity for collaboration

Outlook

Proactive biological control: A cost-effective management option for invasive pests

Proactive biocontrol could accelerate responses to invasive pests in urban areas — where pesticide use may be unpopular — before they spread to agricultural areas.

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Invasive pests regularly threaten California agriculture as well as the state’s diverse urban and wilderness areas. Approximately 15 invasive species of insects (e.g., insects, mice, spiders, etc.) establish in the state each year, of which about three become pests (Dowell et al. 2016). These invasive species move globally through trade and tourism. Biological control programs are typically implemented as part of an integrated pest management (IPM) approach for some invasive species introductions in California. However, a proactive approach could be to screen a pest’s natural enemies and approve them for release ahead of time, before the pest establishes in California. Such a project is just getting underway.

California’s agricultural enterprises are vast (valued at $46 billion in 2015), and the state is a world leader in the development of science-based pest management solutions. Biological control and IPM originated here. IPM is a comprehensive approach to managing pests and combines plant and pest management practices, such as biological control to reduce pest damage.

In summary, biological control can help control invasive pests by using natural enemies to suppress pest populations and reduce the need for chemical pesticides.

In several cases, imported natural enemies have suppressed invasive pest populations so that they no longer require management, and in many instances they have contributed significantly to IPM programs by reducing the need to spray pesticides. When a new invasive pest becomes established, IPM programs that carefully manage insecticide use may be disrupted, as spraying increases in response to pressure from the new pest. In urban areas, which can be hot spots for invasive species that threaten agriculture, pesticide use to eradicate or control an invasive pest can cause public resistance, which sometimes results in legal sanctions and the termination of pest control programs.
International Collaborations are of benefit all around
• Biocontrol project part of an international collaboration between CABI, New Zealand and Hawaii
Benefits of collaboration

- Better justification to pursue projects
- Leveraging of resources
- Shared costs
- Better canvassing of the world for foreign exploration
The Path Forward

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<th><strong>US Regional Coordinator</strong></th>
<th>US territories and states</th>
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<td>Leverage broader regional priorities</td>
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<td><strong>Engage with Australia and New Zealand</strong></td>
<td>Expand and leverage targets in the Pacific.</td>
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<td>Increased trade between the Pacific and Asia increases risk to Continental US</td>
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<td><strong>Improve facilities and staffing at the local level</strong></td>
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