

Section VII  
Foliage & Seed Feeding Pests

UPDATE - ONLINE IPM DECISION TOOLS IN THE NORTHWEST

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We provide an overview of online IPM decision tools for the NW as developed by members of the Oregon Statewide IPM Program, the Integrated Plant Protection Center (IPPC), and collaborators. Our long term goal is to develop and support truly integrated, interactive pest management decision support tools online.

**Online Management Handbooks**

First, we have successfully converted the PNW Insect and Weed Management Handbooks to internet versions, and have added significant enhancements especially to the PNW Insect Handbook (Dan McGrath, Editor 2000-2003). It supports navigation via table of contents, a search engine, pulldown chapter and section menus, and "next page", "previous page" links. Identification photos for eggs, immatures, adults and damage have been linked for all species available from the OSU Entomology Ken Gray Slide Collection (over 2300 links to 650+ photos). Over 650 links to 200+ fact pages from Ralph Berry's book "Insect and Mites of economic Importance in the Northwest", plus hundreds of external web resources have also been added to all 157 sections of the online insect handbook. The Weed Handbook (Ray William, Editor) currently has the same multi-navigational abilities and links to other web resources as the insect book. The next year may bring us the three books integrated within a single website, using a common search engine for all.

**Phenological Models**

The "IPM Weather Data and Degree-Days" website has been updated with more than 700 near real time weather stations in six NW states (OR, WA, ID, MT, WY, AK) plus SW Canada. Weather data sources currently include grower-run networks in Hood River and Medford, and multiple public agency networks (NOAA/National Weather Service, USBR/Agrimet and Hydromet, and the USFS/BLM RAWs network). The site also has a degree-day modeling calculator currently linked to parameters for 44 models, and a degree-day mapping calculator that can estimate degree-days for a five state region. Degree-day maps use PRISM (OSU Climate Service) technologies, and allow downscaling to ca. 360 m resolution. Degree-day maps now have a new interactive GIS interface, allowing zooming, panning, and querying of site-specific degree-days.

**Pest Alerts**

A pest alert system, online at <http://ippc.orst.edu/pestalert>, has been developed and implemented for the first season for tree fruit production in Medford (led by Phil Van Buskirk and Rick Hilton) and Hood River (as led by Steve Castagnoli) regions. In the Willamette Valley, the VEGNET system, online at <http://ippc.orst.edu/vegnet>, was also

established to support vegetable IPM pest alerts (led by Dan McGrath). The system was modeled in part after the Treasure Valley Pest Alert system, which began operations in 2001. These pest alert systems combine web plus email functionality to passing near real-time messages regarding pest management alerts and notices. The IPPC system adds some extra features, and was developed to be extendable to use for other commodities throughout the northwest. The first season of use showed good acceptance and functioned smoothly.

### **Risk Mapping and Decision Support Systems**

There is a new prototype risk warning GIS/mapping expert system to assist the Western Region Cutworm Monitoring Program, a developing 6-state network led by the Montana State University Statewide IPM program (see <http://cutworm.org>). Maps of cutworm densities, degree-day predictions (<http://ippc2.orst.edu/mt/ddmaps.html>), and moisture impacts will be combined as an expert system to produce risk maps for pale western and army cutworms.

Led by Ralph Berry, in collaboration with other researchers, a fully integrated decision support system for peppermint (IPMP version 3.0) includes tools for managing insect, nematode, disease, and weed pests of peppermint in Oregon and Washington (see <http://mint.ippc.orst.edu>).

### **IPM Portal**

Finally, we are announcing the first version of the new Pest Management Centers - Pacific NW Coalition Portal site. This site brings together multiple "channels" of news and customized IPM information for the 5-state NW coalition region (OR, WA, ID, UT, AK). Users may register to configure a "my portal" page for their own needs and interests. Example channels carried by the portal include Pest Alerts from OSU and the Treasure Valley networks, the OSU-IPM-List email list from IPPC, and external agricultural news channels. We will readily work with other states and agencies to make this portal better serve needs throughout the 5-state region.

All systems briefly described here will be accessible from the IPPC homepage, <http://ippc.orst.edu>. They are undergoing continuous improvement and your input and comments to make these sites better serve pest management needs in the NW are greatly encouraged and appreciated.