Watershed Ag Journal

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Integrated Pest Management: Cranberry Growers Monitor Insects to Stream-Line Control

Honing in on pest populations, literally counting bugs, is part of a project with promise for cranberry growers concerned with effective control of the infamous cranberry girdler (Chrysoteuchia topiaria) and the black-headed fireworm (Rhopobota vacciniana). Sound tedious? Not if you want to save a pretty penny and reduce chemical inputs. Agricultural Scientist, Kevin Talbot, with Ocean Spray Cranberries Inc., discussed the insect trapping project with me one morning at the Ocean Spray receiving station south of Bandon. Talbot is in the second year of working with 13 local cranberry growers involved in the IPM* (integrated pest management) program offered through PCCRF (Pacific Coast Cranberry Research Foundation). The program is tailored after a similar IPM program in Washington. "When [market] prices are low, growers can't afford to indiscriminately spray and they also can't afford to spend too much time in the bogs because many of them have to work off the bog now to pay their bills", says Talbot.

How it works: The traps consist of a small white paper box which hangs just above the cranberry vines. The traps are lined with a sticky substance and use specific pheromones, male-attracting hormones, to draw in the adult insects. Insects are counted and traps are reset on a weekly basis over a six to ten week time period beginning in late spring. When the greatest number of adult insects are detected in a week, referred to as 'peak flight', the grower knows the magnitude of the insect pressure and the required timing of any control measures needed. Once the 'peak flight' is detected, the grower can then consider threshold issues such as – 'will the benefits of pest control using insecticides outweigh the cost of materials, labor and ecological effects?'

Talbot explained that in the past, threshold calculations were straight-forward economics. Now growers are also considering other factors like natural predator populations, IPM, and water quality. Precise knowledge of pest populations and life cycles gives the grower an advantage, which allows for more effective use of IPM strategies. Secondary pest problems may arise when natural predator populations, such as spiders and lady bird beetles, decline to the point that the population of other pests they normally prey upon grows unchecked. If insecticides are going to be used, Talbot recommends the species-specific, insect growth regulator 'Confirm'. *(continued on page 4)*

*IPM is a pest population management system that anticipates and prevents pests from reaching damaging levels by using all suitable tactics including natural enemies, pest resistant plants, cultural management, and the judicious use of pesticides, leading to economically and environmentally safe agriculture.

Inside This Issue

New Farm Bill Expands Conservation Incentives

A new 6-year Farm Bill approved May 13th strengthens many existing conservation programs and has added several new programs.

One of the most significant achievements of the 2002 Farm Bill is the establishment of the nationwide **Conservation Security Program** (CSP), which provides incentive, cost-share, annual maintenance and bonus payments to producers who maintain existing conservation practices or install new ones. The new program fills a significant gap in which up until now, when new programs were enacted, producers who were already practicing good stewardship received nothing for what they were already doing. The CSP, which is open to all producers and all agricultural lands, remedies that dilemma by compensating all producers for the environmental benefits they provide to public.

Producers may choose from one of three tiers of conservation practices and systems. CSP contracts are from five to 10 years. Contract payments are based on five, 10 and 15 percent of a national land rental rate per acre for Tiers I, II and III, respectively. In addition to incentive payments, producers will receive cost-share assistance to install practices and annual practice maintenance fees. Maximum annual payments are $20,000, $35,000 and $45,000.

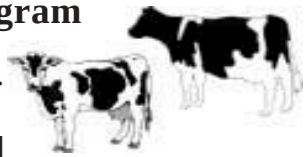
Tier I contracts address at least one significant resource of concern for the land enrolled. Tier II contracts address at least one significant resource of concern for the entire agricultural operation. Tier III contracts apply a resource management system that meets appropriate nondegradation standards for all resources of concern on the entire agricultural operation.

The Environmental Quality Incentives Program (EQIP), enacted in the 1996 Farm Bill at a $200 million annual level, received a major boost in funding to $5.8 billion for EQIP, increasing annual funding to $1.3 billion in 2007.

For more information and local enrollment in these and other USDA conservation programs contact Natural Resources Conservation Service (541) 396-2841 or Farm Service Agency (541) 396-4323.

This and more information on the '02 Farm Bill is available from the National Association of Conservation Districts at www.nacdnet.org.

Changes to the Environmental Quality Incentives Program



♦ Elimination of priority areas.

♦ Adds surface water and groundwater conservation to the purposes of the program and extends eligibility to nonindustrial private forestlands.

♦ Removes prohibition against cost share for waste storage facilities for large, confined animal feeding operations. Requires livestock producers who receive cost share for animal waste systems to have comprehensive nutrient management plans.

♦ Prohibits bidding down — the assignment of a higher priority to an application only because it would present the least cost to the program.

♦ Maximum cost-share rate for limited resource and beginning farmers is increased to 90 percent, 75 percent for all other.

♦ Establishes payment limitation of $450,000 per producer over the life of the current authorization, regardless of the number of contracts.

♦ Authorizes the Secretary to make incentive payments to producers to implement land management practices and comprehensive nutrient management plans.

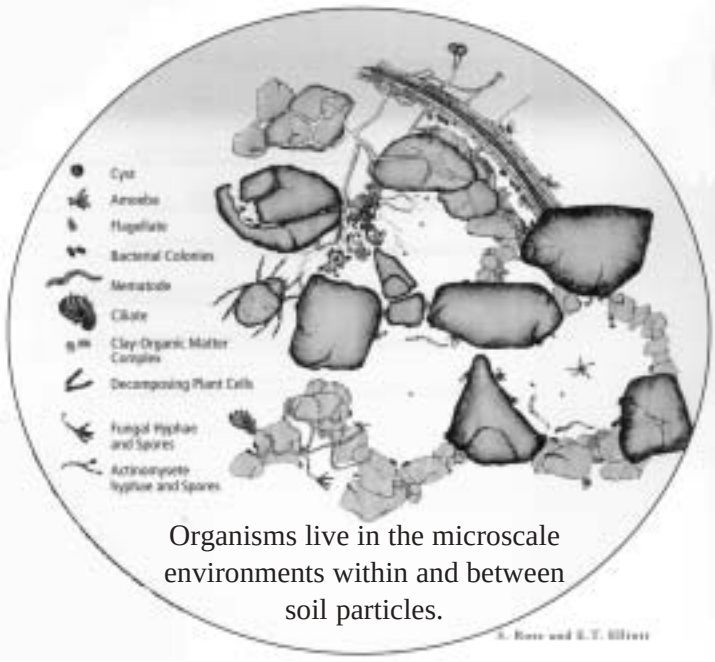
♦ Targets 60 percent of EQIP funding to livestock water quality concerns.

♦ Establishes a national water conservation program to provide cost-share and incentives for ground and surface water conservation in all states, funded at $600 million with $50 million designated for producers in the Klamath Basin.

♦ Establishes a competitive grants program to stimulate innovative approaches to leverage federal funds for conservation purposes. Grants may be awarded government and nongovernment organizations and private individuals to carry out projects using EQIP technical and financial assistance. This section specifically targets market-driven approaches for pollution reduction and carbon sequestration. Projects will be cost shared at 50 percent.

Microbiolgist Studies Soil Health: Food Web at the Root of the Food Web

Microbes in the millions, bugs in the billions – a peek into the world of life under foot gives a creeping introduction to the work of OSU Soil Microbiologist, Elaine Ingham. At a four-hour, high-powered presentation in Bandon, Ingham described the incredibly diverse system of organisms in healthy soil, from the tiniest one-celled bacteria, algae, and fungi, to the more complex nematodes, and micro-arthropods, to the visible earthworms, insects and plants. Ingham has coined the phrase 'soil food web' to describe the interdependent interactions of living and decaying organisms in the soil ecosystem. She explained, for example, that not all species of nematodes are bad, referring to the root and foliar feeders. Many species of nematodes, in fact, prey upon root and foliar-feeding nematodes, and other disease-causing organisms.



Organisms live in the microscale environments within and between soil particles.

The following is an exerpt from the book, Soil Biology Primer, published by the Soil and Water Conservation Society in cooperation with the USDA Natural Resources Conservation Service, 2000, in which Ingham and others in the field explain the functions of the soil food web and how it benefits the land manager.

'As these organisms eat, grow, and move through the soil, they make it possible to have clean water, clean air, healthy plants, and moderated waterflow. There are many ways that the soil food web is an integral part of landscape processes. Soil organisms decompose organic compounds, including manure, plant residue, and pesticides, preventing them from entering water and becoming pollutants. They store nitrogen and other nutrients that might otherwise enter groundwater, and they fix nitrogen from the atmosphere, making it available to plants. Many organisms enhance soil aggregation and porosity, thus increasing infiltration and reducing runoff. Soil organisms prey on crop pests and are food for above-ground animals.'

In her local presentation, Ingham also described how farmers and land managers are enhancing their soil conditions and crops, including sod, by applying these soil organisms as an amendment. The most effective method is through the use of compost tea, which has been used for soil fertility enhancement since the days of the Roman Empire. Modern compost tea applications are done by extracting the organisms from compost, and applying them in a water solution to soil, leaves, roots and seeds depending on the particular conditions, crop and problems to be solved.

How might compost tea be useful on the Oregon coast? In a study of compost tea applications to sod, roots were found to grow 12 inches in 20 days. Whether you are a dairy farmer, cranberry grower, or golf course owner, economic sustainability is rooted in the health of your soil. Pacific Dunes golf course, north of Bandon, uses compost tea for maintenance of the organic putting greens. Bandon Dunes golf course found the help they needed with compost tea applications after having problems with disease, runoff and leachate draining into nearby waterways.

How the food web serves the land manager

- Fertilizer requirements may decline as a healthy food web efficiently stores and cycles nutrients.
- Nitrates do not leach into groundwater when soil organisms hold nitrogen in the rooting zone.
- Water quality is protected when organisms effectively degrade pollutants.
- More water soaks into soil and can be used by crops as biological activity enhances soil structure.
- Less topsoil is lost to water and wind erosion where soil organisms have stabilized the soil structure.
- Pesticide use can be reduced as disease suppression improves with a healthy soil food web.

For more information see www.soilfoodweb.com or call Elaine Ingham at (541) 752-5066.

Coos SWCD Announcements

We are sorry to announce that our Watershed Technical Specialist, Matt Drechsel, will be taking a position with NRCS in Klamath Falls. We will have a new Watershed Technical Specialist on board as soon as possible. Thank you and good luck Matt.

There will be a Coos and Coquille Area Agricultural Water Quality Management Plan information table in the commercial building at the Coos County Fair, August 7th through 11th.

The OWEB (Oregon Watershed Enhancement Board) local Small Grant Team has reviewed the first round of grant proposals and has approved six projects for funding. The Small Grant Team is made up of representatives from the Coos SWCD, Coquille Watershed Association, Coos Watershed Association, Tenmile Watershed Association, and the Confederated Tribes. OWEB has committed a total of $100,000 for watershed improvement projects in the Coos and Coquille area for the year.

Of the four proposals submitted by the Coos SWCD, three have been approved by the Team. We thank the following landowners for their work with District staff and water quality improvement: Jan Geaney, Stephen Getz, and Gordon Hayes. Their projects include practices such as riparian fencing, off-stream livestock watering, ground surface improvement, grazing management, and riparian planting for sediment control and water quality protection.

If you would like assistance with submitting a proposal contact Coos SWCD 396-6879.

Attention: Coos Soil and Water Conservation District Board member positions are up for election, Zone 2, Zone 5, and two at large. Information regarding eligibility and candidate packets can be picked up at the District office.

District Staff

District Administrator ---------- Janice Anglin

SB1010 Outreach Coordinator ------ Bessie Joyce

Watershed Technical Specialist ---- Matt Drechsel

Cranberry IPM

(continued from page 1) Use of species-specific chemicals will help the grower avoid killing beneficial insects such as predators and pollinating bees.

Cultural practices, such as 'sanding', if done at the right time, can be an effective deterrent to the opportunistic Cranberry girdler. Sanding strengthens vine growth, and also makes granular applications of insecticides more effective, especially for older bogs with a thick duff layer. Post-harvest flooding is another cultural practice proven to be effective in controlling pest populations.

"Total eradication of pest insects is impractical", says Talbot, "however, the trapping project provides good data so that growers can keep costs of pest control reasonable and effectively integrate multiple strategies." The use of IPM is recommended as a positive management practice in the Coos & Coquille Area Agricultural Water Quality Management Plan. For more information about this IPM trapping program contact Kevin Talbot (541) 347-2446. For questions or concerns about cranberry pest problems contact Dawna Jackson, IPM Specialist, (541) 347-9392.

Check out Coos SWCD's new website
www.coosswcd.oacd.org
to learn more about the Coos & Coquille Area Agricultural Water Quality Management Plan.
Look at a map of the Plan boundaries, fact sheets, and much more!

District Board of Directors

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Director----------Jim Nielsen

Director----------Dan Brelage

Associate Director----------Gordon Ross

Associate Director----------Tom Guerin

Associate Director----------Don Gray

Director Emeritus----------Ken Messerle

Calendar of Events

♦Coos SWCD meetings open to the public 7:30 pm every 4th Thursday, for information call 396-6879

♦Curry SWCD meetings open to the public 7:30 pm every 4th Tuesday, for information call 247-2755

♦Coquille Watershed Council meetings open to the public 7:00 pm every 3rd Monday at the OSU Extension Office, upstairs conference room, for information call 396-2229

♦Tenmile Watershed Council meetings open to the public the last Thursday of every other month, for information call 759-2414

♦Coos Watershed Council meetings open to the public, for information call 888-5922

♦Curry Agricultural Water Quality Management Plan meeings open to the public 7:00 pm every 2nd Wednesday, for information call Linda Smith at 348-2652

Each time we learn how to join together and mend our ties with our own little place called home, we link our souls with the soils that sustain us, and nurture the network that is shaking the earth.

- Elan Shapiro

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