



OREGON STATE
UNIVERSITY



OREGON TILTH, INC.

Conservation Biological Control Farm Walks

***Horton Rd. Organic, Horton, OR and Winter Green Farm, Noti, OR
September 25th, 2003***

Organized by the OSU State IPM Program and Oregon Tilth

Summary, evaluation and next steps

Summary

Introduction: Conservation biological control programs seek to maintain or enhance the numbers and diversity of indigenous beneficial insects and spiders on farms, particularly the predators and parasites of crop pests. The second event of a new conservation biological control program (CBC), led by the Integrated Plant Protection Center (IPPC) at OSU, and Oregon Tilth, took place on two farms, Horton Road Organics in Horton, and Winter Green Farm, in Noti, Oregon on September 25th. Owners Debra Martin and Bill Booth of Horton and manager, Chris Overbaugh hosted the farm walks that explored current CBC practices on their farms as a focus for more general discussions about methods, the insects that are benefited, and limitations that may be encountered.

Approximately 50 Oregon Tilth Certified organic vegetable growers in Douglas, Linn, Benton and Lane counties, were invited to participate by telephone. Again a number of the growers contacted, expressed an interest in the project. Information about the walk was also included in the September 19th edition of the *Capital Press*. The walk was attended by twelve growers, four interns, three interested consumers, one permaculture educator and one independent reporter. This summary is being sent to all that participated, and all those that wished to be kept informed.

These farm walks are part of a project which aims to implement (CBC) on a regional scale within Oregon. To be successful, the methods of CBC will need to be tuned and adapted to fit within local farming systems, they will need to be relevant to local needs, and they will need to be effective. We believe that the best way to achieve this is through establishment of community-based, farmer directed projects that adapt the principles of *Community IPM*. IPM (integrated pest

management) is a practical and effective starting point for learning about ecology and biodiversity on the farm.

Community IPM incorporates IPM in a strategy for local, sustainable agricultural development where farmers:

- act on their own initiative and analysis;
- identify and resolve relevant problems;
- conduct their own local IPM programs that include research and educational activities;
- elicit support from local institutions;
- establish or adapt local organizations that include farmers as decision makers;
- employ problem-solving and decision-making processes that are open and egalitarian;
- create opportunities for all farmers in their communities to participate and benefit from the IPM activity;
- promote a locally sustainable agricultural system.

The farms: There is quite a contrast to Horton and Winter Green farms in that Horton farms 5.5 organic acres and Winter Green farms 76 organic acres. Both farms are community supported, Horton having about 100 subscribers and Winter Green having about 300. Horton sells wholesale and has an established direct marketing presence at local farmers markets whereas Winter Green Farm has a large wholesale aspect to its market and is fairly new in the farmers market scene. Both farms host several on farm event days for members of their CSA and both have participated in on-farm research projects over the years. Horton has done tests of compost tea applications and Winter Green has maintained formal trials on symphytan population management. Horton Rd. has developed an extensive, formal internship program which graduates four interns a year.

Horton Road Farm and current CBC practices: Debra and Bill have owned Horton Road Organics for about 12 years. It produces a number of hand transplanted crops, including broccoli, cauliflower, tomatoes, cabbage, lettuce, kale, collards, eggplant, basil and squash. It also produces a number of direct seeded crops, including corn, beets, carrots, chard, cucumber, spinach, cilantro, fennel and dill. These are distributed in strips among a number of rotational units that are individually managed in each field. CBC practices are distributed within, between and around these commodities, as the farming operation permits.

Debra Martin provided a brief summary of CBC practices that have been used at Horton Rd. They include include:

- plantings of flowers to provide nectaries and habitat for beneficial insects
- strips of “grassy ways” in the fields to provide habitat for a variety of beneficial organisms
- allowing plantings of cilantro to go to seed to attract and sustain various beneficial insects;
- planting borders of the field with American cranberry, red twig dogwood, butterfly bush, and other shrubs meant to attract and sustain birds, bees and beneficial insects;
- emphasis on planting flowering cover-crops such as phacelia, and buckwheat
- tried to “naturalize” ends of beds with wild flowers
- intern education on organic disease and pest management; see attached intern handout of the same name which describes what the Horton interns learn (though this is not a farm

practice in the traditional sense, education is a very important component of conservation biological control)

Winter Green Farm and current CBC practices: Winter Green has been owned and managed by its current partners, Jack and Mary Jo Gray and Wali and Jabrila Via for 18 years and a number of CBC practices have evolved and some dropped over the years. A brief summary includes:

- release of purchased lady bird beetles which is no longer done as natural populations are adequate
- planting African marigolds in the greenhouse to deter symphylans
- allowing plantings of cilantro and other umbels to go to seed to attract and sustain various beneficial insects;
- planting a multifunctional hedgerow to provide habitat for birds, and insects as well as alternative income producing opportunities. Please see attached document, *Income Producing Opportunities for Riparian Zones*
- emphasis on planting flowering cover-crops such as phacelia, and buckwheat
- annual releases of parasites of the Horn Fly maggot

The farm walk: The farm walk began at Horton Road Organics and ended at Winter Green Farm. The farm walk was designed to spend one hour in Horton fields, visiting two stations then progressing to Winter Green Farm where two hours were spent visiting three stations interspersed with periods of sweep netting and insect identification, using hand lenses.

Horton Station one included natural enemy displays that were designed to represent the beneficial fauna of both farms. These were used in discussions about identification, prey or host types and life cycles. The displays included:

- live examples of all the life stages of several local species of ladybird beetle;
- live examples of all the life stages of several local species of predacious hoverflies;
- live examples of local species of non-predacious hoverflies;
- live examples of wasps, bees and moths that can be easily confused with hoverflies;
- live examples of predacious ground beetles
- pinned specimens of all the organisms listed above;
- live examples of nabid bugs and big-eyed bugs;
- vials of minute pirate bugs;
- vials of spiders collected from the farm;
- pinned specimens of predacious ambush bugs, soldier beetles and ground beetles;
- pinned specimens of parasitoid wasps;
- parasitoid wasps and aphid feeding flies (Cecidomyiidae) in vials of alcohol
- live prey items included in the above cages to observe feeding;
- live examples of garden symphylans

Station one also included a brief discussion of the scale over which beneficial insects complete their life cycles. Beneficial insects that actively fly or disperse in air currents in search of prey, including ladybugs, hoverflies, parasitic wasps and some spiders, may be born some distance,

possibly miles away from the fields that they colonize. Although local CBC measures may retain them within the field, and enhance their beneficial effects, their population levels also depend upon the landscape beyond the farm, and how it is managed. Beneficial insects that are poor dispersers, or even wingless, including many ground beetles, complete their life-cycles within the local farm or even a single field. These insects are much more dependent upon local practices and the contribution that CBC measures can make.

Horton Station two provided a central look at the cropped fields and the surrounding area. There was a brief discussion about landscape factors that influence invertebrate populations. Horton is surrounded by pastures and forests. Specific practices at Horton Road such as grassy field areas that have been left in the field, flowering cilantro and field margins planted with shrubs were discussed. Practices such as covering newly transplanted rows with remay, crop rotations, and spading instead of repeatedly tilling the soil have proven to be valuable techniques for Horton Road.

After a good discussion in the field participants rallied to their cars and sped off to Winter Green Farm where the same displays were set up at Station one for those participants who met us at Wintergreen Farm.

Winter Green Farm Station one besides being the home for the traveling bug displays this station was also sited on a hillside which provided spectacular vistas of the farm and surrounding habitats. There was a brief interactive session where we were all introduced to a frisky ground beetle who aptly demonstrated many common characteristics of predatory beneficials, be they tigers on the Serengeti plain or lady beetles in a broccoli field of the Oregon Coastal Range. Out on the hill, landscape factors that influence beneficial invertebrates were briefly discussed. Winter Green Farm is bordered by Poodle Creek with its diverse and mature riparian vegetation. The complex strip-cropping pattern was clearly evident. The possibilities this patchwork quilt design of diverse crop strips, vegetative riparian zones, and trees, lends to farm ecology and insect biodiversity was discussed.

Winter Green Station two began with a stop off at a delightful field of flowers and grass that was planted for a wedding ceremony held there this summer. With hand lens, nets and sample bottles in hand participants got to experience first hand the abundance of insect life attracted to the Rudbeckias, statice, bachelor buttons, sunflowers and many other flowers there. Much insect identification, ecology, and fun was had by all. Flowering patches of cilantro among strips of crops were visited as Chris answered the many questions on crop production at Winter Green Farm. The multifunctional hedgerow that was planted three years ago was visited with a discussion on its placement and conception by Jude Hobbs on the way. The hedgerow is planted parallel to a creek that separates fields in the lower part of the farm, not readily visited by farm visitors or workers. This has left management of the hedgerow a bit out of sight, out of mind. However, a good number of the plantings have out competed the weeds to grow their roots deep enough to become established. Plant species, materials, and project costs can be obtained from the afore mentioned attachment.

The farm walk ended with completing the evaluation, lively discussions and a wonderful meal.

Evaluation

Participants completed an evaluation exercise at the end of the walk. There was broad interest in a number of topics associated with biological control, including insect identification, finding out more about pest biology, learning about techniques that can be applied on the farm, and developing effective ways of sharing on-farm experiences between growers. It was very clear among this group of growers, that the majority of them learn about new techniques and approaches by communicating among themselves. With regard to facilitating this community exchange, a number of approaches were suggested including farm walks, meetings out of the main growing season, Internet-based communications, and establishing regional area farms to use as educational facilities. The idea of a CBC newsletter was also very popular. Overall, the walk was considered to be a success by those that attended though it was clear by the verbal feedback the CBC team obtained and two comments on the evaluations that two farms was a bit too much. It robbed us of the valuable time to engage in the details so important for these exchanges. We humbly apologize that we let our zeal to share these wonderful farms and farmers cloud our common sense in structuring this event and hope it will not deter your enthusiasm to participate in the future.

A detailed summary of the evaluation and the suggestions that were made is given at the end.

Next steps

The verbal and written feedback from both farm walks will be taken into account in planning next year's. The growing list of participants and interested contacts will be kept informed of the projects future events. Our next BYOB (bring your own bug) event is Bugscaping 2003, Practical Conservation Biological Control for your Farm, November 17th from 10-3 at the Benton County Fairgrounds. We are including a flyer and hope you will mark you calendars and attend as presenters and attendees. We are also anticipating a winter farmer meeting and a separate strategy meeting with local non-profit organizations. We will keep you informed. Thank you for your interest and your participation.

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Mario Ambrosino (marioambrosino@yahoo.com)
Nick Andrews (nicka@tilth.org)

Farm Walk II
Participant List
9/25/03

Hosts:

Horton Rd Organics, 93851 Horton Rd:

Debra Martin and Bill Booth

hortonorganics@earthlink.net

Interns: Cara Corbin, Matthew Garrison, Art Velasco, Chris Manley

Wintergreen:

Chris Overbaugh, 541-935-6302

PO Box 414, Noti, OR 97461

folks@wintergreenfarm.com

Other Farmers:

Erin Walkenshaw, 541-736-0164

Wise Acres LLC, 84537 Proden Lane, Pleasant Hill, OR 97455

Sharol Tilgner, 541-736-0164

Wise Acres LLC, 84537 Proden Lane, Pleasant Hill, OR 97455

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Patrick Collier and Gillian Hearst, 503-767-4629

PO Box 614, Stayton, OR 97383

ptcpatrick@mindspring.com

Alice Tranel, 503-835-0894

Twin Creeks, 7525 Zena Rd., Rickreall, OR 97371

DuVonn Amlie, 503-394-3094

Thistledown Farm, 37369 Robinson Dr., Scio, OR 97374

Dave Eskeldson, 503-394-2520

Egor's Acres, 37447 Robinson Dr., Scio, OR 97374

Peggy and Ken, 541-855-1846
Angels Farm, PO Box 858, Gold Hill, OR 97525

Consumers:

Diarmuid Lyons 541-935-2633
84978 Battle Creek Rd. Eugene, OR 97402

Margy Riggs, 541-466-3205
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Marshall Knoderbane 541-935-2633
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Educators and Press:

Lena Pontes, Oregon Tilth (503) 371-7712
2130 Raynor SE, Salem, OR

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John Schmitz, Capital Press, jonjay@open.org

Farm Walk II Evaluation Summary:

Participants completed an evaluation exercise at the end of the walk. The results were as follows:

1. Concerning the enhancement of beneficial organisms on your farm, which topics are the most important to you?

Options listed:

- | | |
|--|---|
| a. identification of organisms; | 5 |
| b. biology and ecology of organisms; | 3 |
| c. how to apply different tactics on your farm; | 2 |
| d. comparative cost analysis of different tactics; | 1 |
| e. learning effective monitoring techniques; | 2 |
| f. developing effective ways of sharing on-farm experiences between other farmers; | 3 |
| g. other; suggestions given; | |

2. We are interested in facilitating a community exchange of information on enhancing beneficial organisms on the farm. For this to work, we need to know about how you learn new approaches on your farm. How did you learn about the newest practice you now regularly employ on your farm? Summary of individual responses (no prompts given):

- | | |
|---|---|
| a. talking to other farmers; | 1 |
| b. the Internet; | 1 |
| c. books; | 2 |
| d. Oregon Tilth; | 1 |
| e. Farm Walk I of the Conservation Biological Control Project | 1 |
| f. classes | 1 |

3. In the interest of developing a broad-based, grower community effort in conservation biological control, we believe grower participation at all levels of program development is essential. What are some of your visions for what such a program would look like? Summary of individual responses (no prompts given):

- a. farm visits and seasonal farm tours at regional area educational farms
- b. more farm walks
- c. internet-based newsgroups, on-line chatting;
- d. enhanced discussions among different interest groups
- e. cooperative knowledge base with a public relations mechanism

4. Who, if anyone other than growers, do you think should be invited to participate in the community-based program you previously described? If possible, please indicate what levels of participation these persons/groups should have. Summary of individual responses (no prompts given):

- a. consumers
- b. students
- c. others involved in education

5. We are very interested in summarizing what we've experienced today and will be holding other farm meetings this summer. We want to share this information with you as soon as possible and establish active dialog with all of you who are interested. Knowing that you are all very busy at this time, what is the best way to accomplish this? Options listed:

- | | |
|--|------------------------------------|
| a. 'Phone calls, if so, when is the best time? | 3 (any(1), eve (1), am (1)) |
| b. breakfasts?; | 2 |
| c. meetings, if so, when is the best time? | 3 (Sundays, evenings) |
| d. e-mail discussion groups; | 4 |
| e. monthly newsletter; | 2 |
| f. other; | |

6. What did you think of this farm walk? We hope to do at least one more this season. Are there ways we can make it better? Summary of individual responses (no prompts given):

- good access to farm hosts and presenters, more time to ask questions at both farms would be good
- it would be good to have definitions of terms given at the beginning
- a discussion of full-season farm operation problems and solutions would be helpful

Conservation Biological Control Farm Walk

Integrated Plant Protection Center, OSU, with Oregon Tilth

Agenda

Horton Road Organics and WinterGreen Farm Walk

25th September, 2003 3pm-6pm

Horton Road 3:00pm

- Participant, program and farmer introductions.....20 min
- Walk to station one to discuss landscape and scale factors with Paul..... 10 min
- Walk to station two to discuss enhancement methods with Debra15 min
- Walk back to displays to discuss with Mario & Gwendolyn.....15 min

WinterGreen 4:20pm

- Walk to station one to discuss landscape and scale comparison with Paul...10 min
- Ride to station two to discuss field enhancements with Chris,
Hedgerow with Jude,
Collecting with Gwendolyn, Jude & Mario.....45 min
- Back to station one for displays, evaluation, food and fun.....45 min +
- Wrap Up.....6:00 pm