



Insectary Notes

July / August 2011

From the Editor



At times we think that the end of August is the end of summer. Brown spruce longhorn beetle and spruce budworm trapping surveys are finishing. Gypsy moth trapping surveys will finish in mid-September. But fall in Nova Scotia is a wonderful time and Forest Health insect surveys will continue to monitor overwintering populations.

This issue has the yearly index of articles. There are quite a few now included on the website and it is easy to access past articles by clicking the link provided.

'Til next time,

Jacqui

Editing . . . a Rewording Activity

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Say What and Quotes

Regular naps prevent old age, especially if you take them while driving. ~Unk.

I believe we should all pay our tax with a smile. I tried - but they wanted cash. ~Unk.

I have six locks on my door all in a row. When I go out, I lock every other one. I figure no matter how long somebody stands there picking the locks, they are always locking three. ~E. Boosler



Do not argue with an idiot. He will drag you down to his level and beat you with experience. ~Unk.

If it looks like a duck, and quacks like a duck, we have at least to consider the possibility that we have a small aquatic bird of the family *Anatidae* on our hands. ~D. Adams

Laziness is nothing more than the habit of resting before you get tired. ~Unk.

I hope life isn't a joke, because I don't get it. ~Unk.

Provincial Forest Entomologist's Overview

..... What's the Buzz?

Gina Penny

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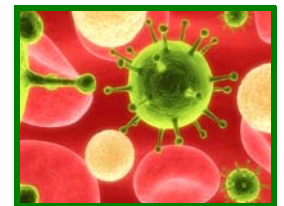
Currently, if you live in the Eastern Region of the province you may be getting sick of seeing defoliation of balsam fir trees caused by the balsam fir sawfly but did you know that insects can get sick as well.



Just like humans insects can be infected by disease-causing organisms such as bacteria, viruses, and fungi. These diseases may reduce the rate of feeding and growth of insect pests and slow or prevent their reproduction. Under certain conditions, such as high humidity or high pest abundance, these naturally occurring organisms may multiply causing disease outbreaks that can decimate an insect population.

Diseases can be important natural controls of some insect pests. An example of an insect pathogen that has been successfully commercialized and used to control its host is Abietiv™. The active ingredient in Abietiv™ is NeabNPV, a naturally occurring nucleopolyhedrovirus (NPV) belonging to the Baculovirus group. This virus selectively infects and kills the larvae of the balsam fir sawfly (*Neodiprion abietis*).

Baculoviruses are a large group of viruses that occur naturally among populations of many insect species. These viruses are extremely small (less than a thousandth of a millimeter across) and are composed of DNA that codes for genes required for the virus to establish itself and reproduce. These viruses have attracted much interest as potential agents for use in suppressing forest insect pest populations. The main attraction is that they are restricted to arthropods, primarily to insects, they are host specific, and many are known to cause sudden and severe disease outbreaks within host populations.



So how do they work? Insect viruses are obligate parasites meaning they are unable to reproduce without a host. Infection occurs after susceptible insect larvae eat foliage contaminated with virus particles. After being ingested, the virus enters the insect's body through the gut. From there the virus invades many tissues forcing the cells to produce more virus particles. Overtime, the host's body tissues are almost completely converted into virus particles. The infected insect dies and "liquefies" or melts away on the foliage, releasing more virus particles into the environment. These new virus particles can infect more insects, continuing the disease cycle.

Abietiv™ was developed between 1997 and 2006 by the Canadian Forest Service and other partners in Fredericton, New Brunswick. The virus (NeabNPV) was isolated from field collected balsam fir sawfly in western Newfoundland. It's effectiveness in controlling balsam fir sawfly populations was tested in western Newfoundland on an experimental basis as part of forest insect control programs from 2000 to 2005. In June of 2006, Health Canada's Pest Management Regulatory Agency confirmed that Abietiv™ was registered for use in Canada.

Abietiv™ is commercially produced by the Fredericton-based company, Sylvar Technologies Inc. Since 2006, more than 40,000 hectares of balsam fir sawfly infested forest in Western Newfoundland and 10,000 hectares in Southern New Brunswick have been treated as part of operational insect control programs. These control programs introduced more of the natural control agent (NeabNPV) into the population in order to cause an earlier collapse of the sawfly infestation and thereby minimizing the impact of the pest.

References

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Bits and Pieces

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Survey Notes

Brown Spruce Longhorn Beetle Traps (Fig. 1)



Fig. 1

The trapping season is over. The final steps to complete this survey are to collect the remaining trap catch, bring in the traps, clean out and rinse the catch containers, and store all the trap components where they can be retrieved to place again next year.

Gypsy Moth Traps (Fig. 2)



Fig. 2

The survey is finished the week of 12 September. Send the catch (Multiplier, trap A) or the traps (Delta, trap B) to Shubie for processing.



Fig. 3

Spruce Budworm/ HemlockLooper Traps (Fig. 3)

The earliest time to collect the catches from the spruce budworm traps was the week of 22 August. At this time you should also replace the spruce budworm pheromone with the hemlock looper pheromone and re-hang the trap.

These surveys would not be possible without the cooperation of the Pest Detection Officers in the district offices. Thank you once again for your help.

Focus Index July 1993 - July 2011

Another year gone by and it's time for the annual index of *Focus* articles.
(Use underlined issue dates for navigation.)

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Ages of Trees	April 2000	Chinch Bugs	July 1999
Alder Flea Beetle	July/Aug 2004	Cluster Flies	Dec 1993
American Dog Tick	April 1999, May/Apr 2002	Colony Collapse Disorder	May/June 2007
Ants in Lawns	July 1998	Cytospora Canker	July/August 2006
Asian Longhorn Beetle	Aug 1998, July 1999	Deathwatch Beetles	Jan 1994
Asian Gypsy Moth	Nov 1993	Deer Tick	July/Aug 2002
Bacillus thuringiensis	May 1996	Drugstore Beetles	Feb 1999
Bagworm Moths	July 1994	Due Diligence	Feb 1996
Balsam Fir Cytospora Canker	July/August 2006	Dust Mites	Jan/Feb 2007
Balsam Fir Sawfly	Sept 1998, Mar/Apr 2011	Earwigs	April 1995
Balsam Gall Midge	May 1999, Mar/Apr 2008	Eastern Blackheaded Budworm	Oct 1997, Sept/Oct 2004
Balsam Shootboring Sawfly	July/August 2006	Eastern Dwarf Mistletoe	Sept 1994
Balsam Twig Aphid	June 1999	Eastern Spruce Beetle	July 1993
Balsam Woolly Adelgid	Apr 1998, Jan/Feb 2001	Eastern Tent Caterpillar	May 1994
Balsam Fir Decline	Nov 1999	Emerald Ash Borer	Jan/Feb 2003
Bed Bug	May 1998	European Fire Ant	Jul/Aug 2008
Beech Bark Disease	Dec 1999	European Marsh Crane Fly	June 1996, May/June 2002
Bees- Colony Collapse Disorder	May/June 2007	European Pine Shoot Moth	Sept 1996
Biocontrol of Purple Loosestrife	Feb 1997, Mar 1997	European Spruce Bark Beetle	Sept 1996
Biting Insects	June 1995, May/June 2000	Fall Cankerworm	Oct 1993
Blacklegged Tick	July/Aug 2002, Mar/Apr 2010	False Powderpost Beetles	Jan 1994
Blackheaded Budworm	Oct 1997, Sept/Oct 2004	Fleas	Feb 1994, May 1998
Blackheaded Budworm in NS	May/June 2005	Forest Insect & Disease Survey	May 1999
Black Vine Weevil	Jan/Feb 2001	Forest Tent Caterpillar	May 1994
Blow Flies	Aug 1999	Forestry Pest Management Forum Update Nov/Dec '07 , Nov/Dec '08 , Nov/Dec '09 , Nov/Dec '10	
Brown Spruce Longhorn Beetle	July 2000	Fruit Flies	Oct/Nov 98, Aug 99, Sept/Oct 05, July/Aug 06
Browntail Moth	Jan 1999	Fungus Midge	Dec 2000
Bruce Spanworm	Oct 1993	Giant Garden Slug	Oct 1996
Bug Zappers Exposed	July 96, June 98	Giant Water Bug	June 1998
Carpenter Ants	Oct 1994	Gouty Oak Gall	May/June 2001
Carpet Beetle	May/June 2003	Great Grey Slug	Oct 1996
<i>Cerceris fumipennis</i> and EAB	May/June 2009		

Greenstriped Mapleworm	July 1995	Phenology	Mar/Apr 2010
Ground Beetles	May/June 2001	Pheromones and Allomonones	Sept/Oct 2005
Gypsy Moth	June 1994	Pine Shoot Beetle	March 1999
Gypsy Moth Biocontrol	Jan 1997	Pine Spittlebug	July 1996, July/August 2010
Gypsy Moth in NS	Mar 1995	Pitcher Plant	June 1994
Hairy Chinch Bug	July 1999	Plantwatch	March 2000
Hardwood Discolouration	Aug 1999	Pseudoscorpians	April 1996
Harvestmen	July /August 2006	Rosy Maple Moth	July 1995
Hemlock Borer	May/June 2004	Salt (Tree Susceptibility to Road Salt Damage)	May/June 2010
Hemlock Looper	Aug 1993, Nov 1994, Sept/Oct 2002	Salt Damage	Mar/Apr 2001
Hylobius Weevil	April 1997	Satin Moth	June 1997
Hypoxylon Canker of Poplar	Mar/Apr 2003	Sawflies on Conifers	July 1996
Ice Damage	March 1998	Sawtoothed Grain Beetle	Mar/Apr 2011
Indian Meal Moth	Mar/Apr 2004, Jan/Feb 2008	Seedling Debarking Weevil	April 1997
Insects as Food	Jan 1996	Silverfish	April 1999
Jack-O-Lantern Fungi	May 1995	Sirococcus Shoot Blight	May/June 2010
Jack Pine Budworm	March/April 2006	Snow Fleas	March 1994, Feb 1998, Jan/Feb 2002
Ladybird Beetles	Sept/Oct 2001, Sept/Oct 2006	Sowbugs	Nov 1995, Dec 1999
Ladybugs	Sept/Oct 2001	Spiders	Sept/Oct 1995
Larder Beetle	Jan 1995	Springtails	March 1994, Jan/Feb 2002
Leaf Blotch of Horse Chesnut	Sept/Oct 2010	Springtime & Wildfire	March 1996
Leatherjackets	June 1996, May/June 2002	Spruce Budworm	Sept 1993, Sept/Oct 2007
Leucostoma Canker	July/August 2006	Spruce Beetle (Eastern)	July 1993, March 1995, Jul/Aug 2007
Lice	Oct 1994, July/Aug 2001	Spruce Cone Maggot	June 1994
Lily Leaf Beetle	May/June 2011	Strawberry Root Weevil	Dec 2000
Longhorned Beetles	Jan 1994, Aug 2000	Sugar Maple Borer	Mar/Apr 2001
Maggots Nurse Wounds	Feb 1996	Swiss Needlecast	May 1996
Millipedes	Oct 1999	Tar Spot of Maples	Sept/Oct 2010
Mimic	Dec 1994	Tent Makers	May/June 2008
Moisture Stress	May 1998	Ticks, Removing	May/June 2009
Mosquito Magnetism	July 1997	Ticks, Which is Which?	May/June 2009
Mosquitoes	May/June 2000	Toxic House Plants	Feb 1999
Moth Flies	Dec 2000	Tree Banding	June 1995, Nov 1999
No-see-ums	July/August 2002	Tree Injury	Aug 1996, Nov 1996
Pale Winged Grey	Jan/Feb 2004	True Powderpost Beetles	Jan 1994
Pavement Ants	July/Aug 2005		
People Pressure Diseases	Aug 96, Nov 96		

Western Conifer Seed Bug	May/June 2001	Whitespotted Sawyer	July 2000, May/Jun 2010
What to Watch For (Part 1)	Jan/Feb 2009	Winter Caterpillars	Feb 1998
What to Watch For (Part 2)	Mar/Apr 2009	Winter Insects	Feb 1995, Feb 1999
What to Watch for (Winter Edition)	Sept/Oct 2009	Winter Moth	Oct 1993
White Grubs	Sept 1999	Woolly Alder Aphid	Sept 1997
White Pine Weevil	Aug 1994, Mar/Apr 2007 , Mar/Apr 2008	Yellow-bellied Sapsucker	July 1996
Whitemarked Tussock Moth	Jan 1998, Jan/Feb 2005	Yellowheaded Spruce Sawfly	Aug 2000
Whitemarked Tussock Moth in Christmas Tree Lots	Mar/Apr 2007	Yellowjackets & Paper Wasps	Sept 2000
		Yellow Witches' Broom	May/June 2011

More Bits and Pieces

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Damage Detected in Balsam Fir Stands

Jeff Ogden

The past three weeks there have been reports of large areas of balsam fir being damaged by what appears to be balsam fir sawfly. The first was in the central Cobequids, the Castlereagh area and the second was in the highlands of Cape Breton, just south of Cape Breton National Park.

Forest Health will be following up on both of these reports in the next little while in addition to our egg niche survey which will follow later in this fall.

Any other additional sites or damage notices would be greatly appreciated . . . the more eyes out there the better we can do our job.



Fig. 4 Balsam fir sawfly larva.



Fig. 5 Balsam fir sawfly larvae.

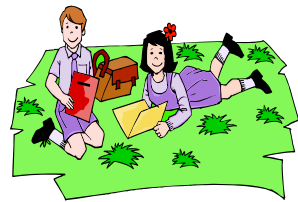
Are they real?? Are they dead???

Jeff Ogden



I wouldn't want to guess how many times I have heard those questions from both children and adults alike over the past 18 + years of doing extension work. And at first I didn't realize that kids don't truly understand sarcasm . . . "Yes, they're real. Yes, they're dead. Which means they're real dead." Baddum-bumb . . . 50% chuckle, 50% blank stare.

Whether it is fun talks to school classes, displays at exhibitions or formal presentations to groups of nationally recognized specialists, extension work has played an important role in the services provided by Forest Health over the years. My first experience with such events was back when we



Although names change, and roles and priorities shift, the importance of letting the public and stakeholders know about the work we do is now more important than ever. We who work in Natural Resources (and with natural resources) have a unique part to play in education. I hesitate to use buzzwords but "Nature Deficit Disorder" (R. Louv) seems to point to a real disconnection between children (and adults too) and the out-of-doors. There's a great opportunity with the upcoming Woodlot Owner of the Year and Kids in the Forest field days, to take part in some interesting and fun activities that will get you out of the classroom or office and into the woods. What a super way to spend a fall day in Nova Scotia . . . don't miss it.

were known as Entomological Services doing dozens of in-school visits and the infamous "Insectary Tours" at our old trailers back in Debert in the early 1990's. With the discovery of vector-borne diseases such as West Nile virus and Lyme disease in the early 2000's I began speaking more often to older crowds at Naturalist groups and national meetings, presenting project data results and updates. Now we concentrate primarily on yearly forestry-centric field days and conferences such as Kids in the Forest, Woodlot Owner of the Year, Christmas Tree Technical Sessions and Woodland Owner Conferences.



A translation for High-Tech Jargon . . .

NEW: Different color from previous design

ALL NEW: Parts not interchangeable with previous design

YEARS OF DEVELOPMENT: We finally got one that works

FUTURISTIC: No other reason why it looks the way it does

MAINTENANCE-FREE: Impossible to fix

ALL SOLID-STATE: Requires 2 people to lift!

SMPTE BUS COMPATIBLE: When completed, will be shipped by mass transit

UNPRECEDENTED PERFORMANCE: Nothing we ever had before worked *this* way

BUILT TO PRECISION TOLERANCES: We finally got it to fit together

AEROSPACE TECHNOLOGY: One of our techs was laid off by Boeing

The Last Laugh . . .

Tom, Dick and Harry went to a party. After the party they returned to the hotel. The hotel was 600 stories high.

Unfortunately for them, the elevator was not working. They made a plan for the first 200 stories, Tom will crack jokes.

The second 200 stories Dick will tell a happy story and lastly Harry will tell a sad story. They then started up the steps.

After 2 hours it was Harry's turn. He turned to the other two and said "Ok guys, here's my sad story. I forgot the keys downstairs.



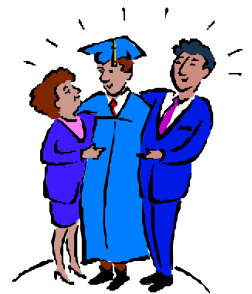
A tiger was walking through the jungle one day and saw two men relaxing under a tree. One was reading a newspaper, and the other was working feverishly on a manual typewriter.

The tiger leapt on the man with the newspaper, and ate him up. The tiger did not bother the other man at all. That's because any predator knows that readers *digest* but writers *cramp*.

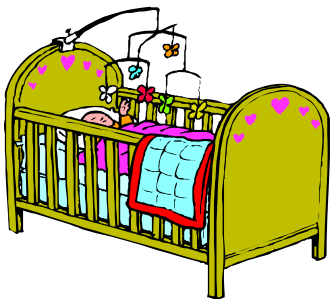
It was graduation day and Mom was trying to take a picture of her son in a cap and gown, posed with his father.

"Let's try to make this look natural," she said. "Junior, put your arm around your dad's shoulder."

The father answered, "If you want it to look natural, why not have him put his hand on my wallet?"



Observing the baby one night a wife found her husband standing over their baby's crib. Silently she watched him. As he stood looking down at the sleeping infant, she saw on his face a mixture of emotions: disbelief, doubt, delight, amazement, enchantment, scepticism.



Touched by this unusual display and the deep emotions it aroused, with eyes glistening she slipped her arm around her husband. "A penny for your thoughts," she said.

"It's amazing!" he replied. "I just can't see how anybody can make a crib like that for only \$46.50."