Bugs & Diseases

May 1997

info note

1997 Northwest Boreal spray plans

In the Northwest Boreal Region, approximately 16,000 hectares of white spruce stands in the Upper Hay District are scheduled to be aerially sprayed with B.t. in 1997. Three spray blocks have been identified (north of Paddle Prairie, Chinchaga River, Amber River) and will be sprayed in the early part of June. Results of second instar surveys completed in the fall of 1996, indicated moderate to severe defoliation for these stands during 1997. Rupert Hewison, a F.O. I in Rainbow Lake, will be the Operations Supervisor this year and will be responsible for all spray operation activities.

As part of this year's spray program, the LFS will be using a chemical insecticide, MIMIC 240LV, on another 1750 hectares of white spruce stands. This product was field tested on a small scale in 1996 and produced excellent results in terms of budworm control. MIMIC is scheduled to be sprayed on two spray blocks to determine its effectiveness at both one and two applications. ▫

Mike Maximchuk
NWB Forest Health Officer

We're watching from the skies...

Aerial surveys of spruce beetle, spruce budworm and forest tent caterpillar will again be completed in 1997 in the Northwest Boreal Region. These surveys will be used to determine pest incidence, distribution and associated damages to the forest resource. Canadian Forest Service (CFS) and Land & Forest Service (LFS) staff will be jointly conducting these surveys. LFS staff will also receive aerial survey training from CFS technicians, as this service will soon be a LFS responsibility. ▫

Mike Maximchuk
NWB Forest Health Officer

MDFP tackles bug issues

Since 1994, the Manning Diversified Forest Products (MDFP) Trust Fund has been used to fund insect research. We have funded Budworm projects in the Hawk Hills area, and are beginning to fund studies on the spruce beetle and the chemical ecology of forest pests.

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First Trust Fund project

The first Trust Fund project is a spruce budworm study. Jan Volney of the Canadian Forest Service is currently studying the effects of past spraying, and the economic impact of an infestation. An interim report was released this spring. One of the most surprising outcomes was the length of time it took for trees to resume normal growth after an infestation had been controlled. This project was funded for $120,000 during the past two years and has recently been recommended for funding of $60,000 for the 1997/98 year.

Second project

The Fund's second project is a study of the chemical ecology and management of forest pests by John Borden of Simon Fraser University. This is a five year project that will involve many companies in B.C., as well as Forest Renewal B.C., an NSERC grant, and the University. The use of pheromones as a means of managing forest pests will be researched.

Third project

The third Trust Fund project will be a four-year spruce beetle study led by Dave Langor of the Canadian Forest Service. MDFP is interested in this project because the spruce beetle is found in the P6 management unit. The objectives of this study will be:

- Causes of outbreaks, processes and biological cycles;
- Assessment of beetle response to different harvesting practices;
- Comparing populations in cutblocks and adjacent residual stands;
- Developing a hazard rating for the Northwest Boreal Region.

Spruce beetle operations

Besides Trust Fund projects, MDFP is currently involved with spruce beetle control operations. MDFP has been harvesting a beetle-infested area for the last two years. With the assistance of LFS, trap logs were established in planned cutblocks in 1996. In the spring, live trees were cut 50 metres from the edge every 100 metres within several planned cutblocks to attract the beetles. During the winter, all trap trees were harvested. It was observed that the fallen trees had been attacked by the beetles. Pheromone monitoring will continue in this area to observe the effect of the trap logs. For more information, contact Mike Maximchuk of the LFS. ◘

J.P. Bielech
Manning Diversified Forest Products

1997 Forest Pest Outbreak Warning System

Spruce beetle, spruce budworm and gypsy moth pheromone traps will be set up to provide information on insect incidence and distribution within each region (Table 1). Mountain pine beetle baits will also be used in the Southern and Northern East Slopes Regions. The Lindgren funnel traps used to monitor spruce beetle will be set up mid-May and will be collected every 7-10 days until July. The spruce budworm and mountain pine beetle pheromones will be de-

ployed early June and will be removed at the end of August. The gypsy moth pheromone traps will be distributed at the end of June and will be collected at the end of August. ◘

Table 1. 1997 provincial pheromone sites.

Region	Spruce Budworm Sites	Mountain Pine Beetle Sites	Spruce Beetle Sites	Gypsy Moth Sites
NWB	49	-	6	15
NEB	15	-	-	6
NES	19	25	-	12
SES	12	37	-	17

NEB Region sets insect and disease priorities

The Northeast Boreal Insect and Disease Management Group met on March 5th. In attendance were representatives from Millar Western, Alberta Pacific, Northlands as well as district and regional Land and Forest Service staff. Robert Stronach, Athabasca district forester, was introduced as the new chairperson for the group. He will also be the regional representative for the provincial insect and disease program.

Terms of Reference

The draft Terms of Reference document for the group was reviewed and adopted. It outlined the function of the committee and the roles and responsibilities of members. The mandate of the group will be to address regional pest management issues through strategic planning. The group is committed to better linking forest protection to forest management.

Regional priorities

The results of an insect and disease survey filled out by members was discussed. Priorities in the region in descending order are spruce budworm, dwarf mistletoe, forest tent caterpillar and white pine weevil. Future meetings will have one of these priorities as a theme. The goal will be to develop regional strategies and guidelines for dealing with a particular pest.

This season's spruce budworm monitoring program will be augmented by the purchase of 72 pheromone traps by Millar Western. The extra coverage will provide a more accurate estimate of population levels and locations.

Future plans

Looking to the future, plans are in the works for an insect and disease identification

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Bugs & Diseases informs LFS, Industry and other forestry-related personnel about current insect and disease issues.

Articles and ideas are welcome! Submission deadline is the 15th of the month before publication.

workshop in June. It will be directed towards industry and LFS field staff. The intent is to provide them with the knowledge necessary to recognize a pest problem while performing their other duties. ◘

Robert Stronach
Athabasca District Forester (I&D)

Sex pheromones to the rescue

Forest tent caterpillar is the most serious defoliator of aspen in Alberta. Tent caterpillar outbreaks are cyclic. These occur every ten years or so and may last four or five years. Severe defoliation lasting three years is estimated to cause 80%-90% loss in radial growth in aspen.

With ever increasing industrial use of aspen, there is interest in monitoring tent caterpillar populations. Synthetic forest tent caterpillar pheromones are available in the market now and the Insect and Disease Management Branch is planning to field test these in 1997. These field tests, carried out in collaboration with the Canadian Forest Service and the University of Alberta scientists, will be located in the Northeast Boreal Region and the Northwest Boreal Region. ◘

Sunil Ranasinghe
Forest Entomologist

Is it worth spraying B.t.?

This project, carried out by Peter Boxall et. al. at the Northern Forestry Centre, Canadian Forest Service in Edmonton, is nearing completion. Preliminary indications are that the benefits exceed the costs by a wide margin (Peter Boxall, personal communication). All along, there has been little doubt about the beneficial effect of using *Bacillus thuringiensis* (B.t.) to control budworm populations. However, this is the first time actual cost:benefit ratios based on hard field data are being looked at under conditions found in Alberta. ◘

Sunil Ranasinghe
Forest Entomologist

Spruce budworm pheromone study continues

To further refine the standards used to predict budworm defoliation based on pheromone trap catches, budworm pheromone traps were deployed at 39 sites with varying budworm populations in the Northwest Boreal Region in 1996 summer. This year, these sites will be re-visited to assess the defoliation levels. These results will be used to generate a correlation between the pheromone trap catches in a given year and the level of budworm-defoliation in the following year. This study is done in collaboration with Mike Maximchuk, Forest Health Officer, Northwest Boreal Region. ◘

Sunil Ranasinghe
Forest Entomologist

Integrated Pest Management (IPM) Committee meets again

The Southern East Slopes Integrated Pest Management Committee held its initial meeting on January 20th 1997 with follow-up meetings on February 3rd and March 4th.

All three meetings were well attended. The committee identified "coding" of damage agents as the first issue requiring attention. Information transfer would be greatly simplified if a single satisfactory coding system could be fashioned to replace the many different systems currently in use throughout the province.

Blairmore meeting

The March 4th meeting in Blairmore addressed this issue and developed a 'menu' of codes, which will be used by all agencies in the Southern East Slopes Region. Surveyors can then choose from the menu to suit their own particular needs. The next step will be to reach an agreement between Regions on a common province-wide coding system. In the meantime the Southern East Slopes codes have been circulated to other Regions in case some may want to adopt or adapt them for their surveys.

As committee members will be busy during the field season, the next meeting will not be called until late summer or fall. That will be an appropriate time to review the use of the codes in the field and discuss any needed revisions or changes.

March 10 meeting

The introductory meeting of the Northern East Slopes IPM Committee was held on March 10th. Company representatives present felt that the concept of an IPM Committee was a good idea but they would need further in-house discussion before making any commitment. It was agreed that, as a first priority, field identification workshops would be offered in each District prior to the upcoming field season. The workshops would deal primarily with the identification of major pests but would also look at ways of collecting, coding and recording pest information during regular silviculture surveys, e.g. survival surveys and regeneration surveys.

The next meeting will be called towards the end of summer to review the field season and to continue discussion of the concept of an IPM Committee and just what role it would play in insect and disease management. ◘

Albert Sproule
NES Forest Health Officer

Forest Health Workshop discusses insect and disease issues

The 1997 Alberta - BC Interagency Forest Health Workshop was held in the Elbow on March 4th. All Agencies were represented although the B.C. presence was reduced due to their current travel freeze. Industry representatives from Atlas (Darryl Allsop), Spray Lakes (Darrell Panas), Sunpine (Shannon Fagnan, Barry McElhinney) and Weldwood (Peter Krog) brought a new dimension to the discussions. Among the presentations were "An Update on *Armillaria* Research" (Don Norris, Nelson Forest Region) and "New Initiatives by Sunpine in Insect and Disease Management" (Shannon Fagnan).

Of possible future interest in Alberta was the observation by Leo Unger (CFS, Victoria) of localized aspen mortality in B.C. from satin moth infestation. The satin moth had maintained a low profile in B.C. since first being recorded there some twenty years ago.

Minutes from the workshop are being compiled and will be distributed shortly. ◘

Albert Sproule
NES Forest Health Officer

Field Identification Workshops planned in the Eastern Slopes

The 1997 field season is rapidly approaching. Forest Protection Technicians (FPT) in the Southern and Northern East Slopes are requested to coordinate with Albert Sproule at Regional Headquarters in arranging field identification workshops.

At a recent Regional Leadership Team (RLT) meeting in Rocky Mountain House (Feb 11th) District Superintendents agreed that they would strongly recommend attendance at these workshops for all field staff. All agencies are welcome to attend these sessions. ◘

Albert Sproule
NES Forest Health Officer

Agriculture Canada renamed

As of April 1, 1997, the federal food inspection, trade-related requirements, and animal and plant health activities have been combined into a new federal agency called the Canadian Food Inspection Agency. This agency will be responsible for the Plant Protection Act, which involves insect and disease. The key Alberta location for this agency will be in Calgary. ◘

No February Issue

Unfortunately, we did not have enough material to warrant a February issue. Therefore, there will only be three issues for 1997. Sorry for any inconvience this may have caused. ◘

PFFC moves downtown

The Provincial Forest Fire Centre (PFFC), Forest Protection Division, has moved downtown to the 10th floor of the former Bramalea Building, 9920-108 Street. Warehouse Services are still located at 10725-120 Avenue.

PFFC, which includes forest fire and forest insect and disease managements, will be having an Open House on May 9, 1997, from 9:00 am to 4:00 pm. This Open House is intended for government agencies and companies that work closely with the Forest Protection Division. For more information, contact Hideji Ono at 427-6807. ◘

COMING UP NEXT ISSUE...

- New interesting I & D web sites
- Summary of summer programs