

# B

# ugs & Diseases



August 2001

*info note*

## Red Means Dead

The 2001 summer aerial survey of the Willmore Wilderness Park turned up several new patches of mountain pine beetle killed trees. Eight small patches of about 10 trees each were found in the lower Jackpine Valley and Meadowland Creek Valley. A ground probe will be completed in these areas later this season to confirm the number of trees attacked. ■

*Erica Mueller  
Northern East Slopes*

## Armillaria and Selectively Harvested Stands

In British Columbia, selective harvesting of stands with Armillaria root disease is not prescribed because research shows that the fungus can spread to over 80 percent of the retained trees. The fungus spreads quickly from the cut stumps to the live trees.

Near Nordegg, a block along the Forestry Trunk Road has been selectively harvested as part of a fire fuel reduction program. The stand was thinned to 3 meter and 4 meter spacing. In May, Armillaria was identified in

some of the small patches of blow down in the block. We have established 10 meter x 100 meter transects near these known root disease centres to record the spread of the disease, and blow down in the block. We hope to learn how the disease reacts in these environments and to use our knowledge to adjust future harvest plans in the area. ■

*Dan Lux  
Parkland, Bow and Prairie*

## Baited Beetles Kick the Bucket

In the Willmore Wilderness Park the mountain pine beetle pheromone-baited trees that were attacked last year were left to over-winter. The mortality survey completed this year showed that there was no beetle survival in these trees. Galleries were carved out to reveal nothing but dead beetles; there was no evidence of larval feeding and little evidence of egg production. As well, there was no blue stain found in the trees. This mortality may be attributed to the low snow-pack, cold temperature (below 35°C for 5 days in a row) and/or the late beetle flight in 2000.

It is important to note that the zero percent survival rate in the baited trees

does not indicate zero percent survival for the entire area, as other areas may have had less severe temperatures and/or a deeper snow-pack to cover the beetles. ■

*Erica Mueller  
Northern East Slopes*

## Increased Forest Tent Caterpillar Defoliation in the Parkland, Bow and Prairie Region

As determined by the 2001 aerial survey of the Parkland, Bow and Prairie Region, it appears as though the forest tent caterpillar population increased this year over last. The majority of defoliation was along Highway 22 near Highway 53. The digitized maps will be available in August. In the fall, a tree mortality survey will be completed following reports of dead aspen in this area. Three successive years of severe defoliation may have contributed to this tree mortality. ■

*Dan Lux  
Parkland, Bow and Prairie*

## Satin moth: Are you there?

Satin moth is a serious broadleaf defoliator that was recently introduced to Alberta. It was first detected in Edmonton in 1994. Unconfirmed sightings of this pest have been reported from Fox Creek and near Calgary. Until now there was no effective way to detect this moth in the field.

Experimental formulation of the satin moth pheromone, leucomalure, is being field-tested in Alberta to find the efficacy of these lures in

detecting the presence of the satin moth. Dr. Gerhard Gries of Simon Fraser University in British Columbia, who first isolated the pheromone, also formulated this pheromone for field-testing. His research project was partly funded by a research grant from Alberta Sustainable Resource Development (formerly Alberta Environment). Phero Tech Inc. in British Columbia produced the test lures. The pheromone is being tested in the City of Edmonton where satin moth is known to occur and in Fox Creek (Northern East Slopes Region) because of satin moth sightings reported from that area. In addition, this pheromone will also be tested in the Northeast Boreal Region, especially in some hybrid poplar plantations. ■

*Sunil Ranasinghe  
Forest Health Centre*

## Edmonton's Satin Moth Outbreaks Subsiding

Since the peak of Edmonton's satin moth infestation in 1997, populations have been gradually subsiding through to 2000. This year, Edmonton's satin moth population has crashed in most areas, with some notable exceptions especially in south Edmonton. Observations on an introduced braconid wasp, *Cotesia melanoscelus*, that has been present in Edmonton ever since the first satin moth sightings, now suggest this endo-parasitoid wasp is the main cause of the disappearance of Edmonton's once common-place satin moth outbreaks.

*Cotesia melanoscelus*, also an enemy of other lymantriid caterpillars, has been studied extensively as a biocontrol agent for the gypsy moth. Interestingly, this wasp can over-winter either as an endo-parasitoid larva inside diapausing host caterpillars, or in a free-living stage inside a cocoon. As an agent against the gypsy moth,

which spends winter in the egg stage, it is forced to spend the winter outside the host where it's an easy target for hyper-parasitoids. On the other hand, as a natural enemy of the satin moth the wasp can avoid heavy mortality by living inside over-wintering satin moth caterpillars. So, because of life cycle differences in the host, this wasp's success in gypsy moth control is nullified, whereas it's an excellent control agent for satin moth.

The wasps that emerge from over-wintering satin moth hosts are able to cycle through four of the caterpillar's seven larval instars. This enables its population to grow relatively quickly, producing two generations for every one of the satin moth. Measurements in 2000 in Edmonton showed a combined 40 percent mortality of the satin moth by *Cotesia melanoscelus*'s two generations. ■

*Chris Saunders  
Edmonton Community Services*

## Northeast Boreal Region Weed Co-op Underway

On July 12, 2001 the first meeting of the Northeast Boreal Region Co-operative Weed Management Working Group was held in Athabasca. Approximately 40 representatives from Forestry, Oil and Gas, Transportation and local Municipalities as well as Land and Forest Division (LFD) staff participated in the meeting. The next meeting is scheduled for mid-October. In the interim, industry participants will actively inventory their sites and forward data to the LFD. The data will be used to generate a map that will highlight areas with major weed infestations in the region. This map will be a valuable tool for participants when attempting to plan co-operative control measures. Companies will also work on developing and implementing a weed management plan for their operations. Hopefully, joint industry – government working groups like this one will help to raise awareness of weed control issues in the region and help to limit the spread of weeds in the future. ■

*Tom Hutchison / Janet Kamelchuk  
Northeast Boreal*

## Bugs & Diseases



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## Letting the Bugs Loose

Two species of insects used for biological control of scentless chamomile were released in the Northern East Slopes Region in June 2001. Each of these two species (seed weevil - *Omphalapion hookeri* and gall midge - *Ryopalomyia* spp.) were released at two sites. The four sites will be monitored this year and next to determine if the insect populations become established. These and other biological control agents are available through the Alberta Research Council in Vegreville. ■

*Erica Mueller  
Northern East Slopes*

## Mountain Pine Beetle Landscape Management Plan Progressing

Alberta Sustainable Resource Development is still working with Banff National Park to identify opportunities to reduce mountain pine beetle hazard across the region and to improve the habitat of bears, wolves, and elk (with aspen). All of the pine stands in the Parkland, Bow and Prairie Region and in Banff National Park have been analyzed for their susceptibility to pine beetle damage. We are now determining how we can treat highly susceptible stands to reduce the beetle hazard and improve the habitat of the other mammals. The options include prescribed burning, thinning and clearcut harvesting in the region.

Eventually a 20-year plan for the region will be developed, but currently we are focusing on three areas: the South Spray Lake, the Bow Valley, and the Red Deer River Valley. These sites were chosen based on the current beetle hazard and their proximity to the current beetle infestations in Banff National Park.

Please contact Dan Lux if you have any questions. ■

*Dan Lux  
Parkland, Bow and Prairie*

## Kids Go Buggy

The long awaited "Envirokids Investigate Forest Health" activity book will be available September 2001.

The booklet complements the grade 6 curriculum, but may also be used for grades 7 and 8. A detailed teacher guide and "Focus on Forest Health" article will also be available in September. For more information call Christine Kominek at the Forest Health Centre in Edmonton at (780) 427-8474. ■

*Christine Kominek  
Forest Health Centre*

## Root Disease Limerick

Armillaria is a killer root rot  
And species specific it is not;  
Be it pine, fir, or shrub,  
It's all mushroom grub,  
And hopes for good regen are shot. ■

*Tom Hutchison  
Northeast Boreal*

## Integrated Pest Management Committee Meeting

The fifth annual Integrated Pest Management Committee Meeting is scheduled for October 22, 2001 in Edmonton. To submit agenda items, or acquire more information email Hideji Ono at [hideji.ono@gov.ab.ca](mailto:hideji.ono@gov.ab.ca) or call him at (780) 422-8801. ■

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## COMING UP NEXT ISSUE...

- ◆ Survey results
- ◆ MPB update
- ◆ Provincial IPM Meeting Update