Bugs & Diseases

Vol. 24 No. 1 April 2013

Alberta's eye on forest health

Issue highlights:

Red Band Needle Blight at ATISC

Red Band Needle Blight is a foliar disease (primarily affecting pines) with an extensive distribution world-wide. The causative agents are ascomycete fungi which in North America have been separated into two closely related species – *Dothistroma septosporum*, and *Dothistroma pini*. Like a lot of ascomycetes, the species distinction is somewhat tenuous, therefore, I will refer to these species generically as Dothistroma or Red Band Needle Blight for the rest of this article.

Dothistroma can cause severe defoliation and if such defoliation occurs over consecutive years, can be lethal. In the past, it was considered a minor pest, as far as the forestry sector was concerned. The effects of outbreaks vary widely and require the right environmental conditions (i.e. plenty of moisture during the disease's sporulation period) which hasn't been the case significantly enough to elicit much concern. Recently, however, Dothistroma's profile has increased in forestry circles. In British Columbia, Red Band Needle Blight epidemics have grown in size and severity to the extent that it is now a major problem in some areas. Still, in Alberta, it has continued to be considered a minor pest.

As with any forest health damaging agent, the amount of attention paid to Dothistroma can change if it affects certain management objectives. A minor pest in one circumstance can become a major concern in another. Therefore, when this disease was recently diagnosed on pines at the Alberta Tree

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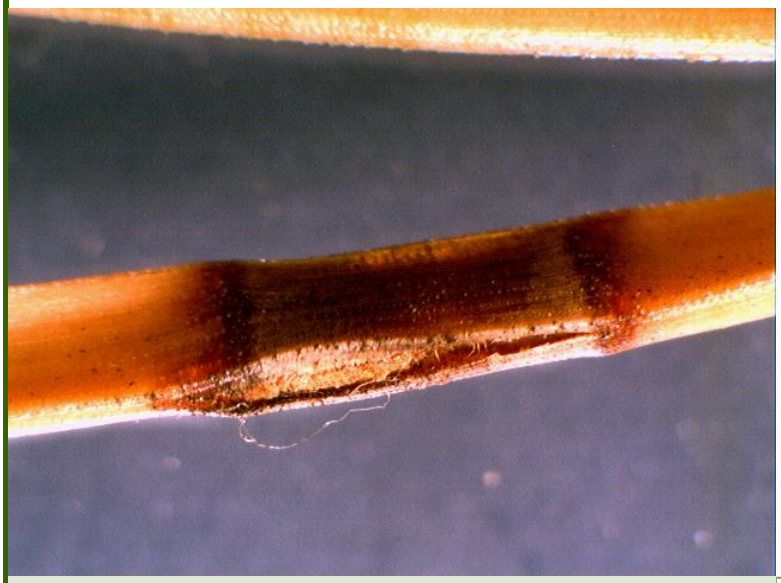


Needle Rupture

Improvement and Seed Centre (ATISC) near Smoky Lake, it did become a cause for concern. ATISC is the Province's primary forest genetics research facility helping to ensure the adaptability, diversity, and genetic integrity of seed available for use on the forested landbase. These resources are crucial to sustainable forest management and the long-term economic and ecological stability of the province. Many of the trees at this site are extremely high value and need to be protected to our utmost ability.

On April 10, 2013 ESRD Forest Health, and ATISC staff conducted a preliminary assessment of the Dothistroma infected trees at the Smoky Lake facility. The intent was to see first-hand the extent of the damage and to start planning a control program, if necessary. It quickly became apparent that some of the pines were very badly affected and that the disease was indeed threatening high value stock. Subsequent to that visit, it has been decided that a spray program for this disease will be conducted in the middle of May. The hope is that an application of fungicide will knock down the incidence and severity of Red Band Needle Blight infection enough to allow affected trees to recover and to protect currently uninfected trees.

Affected Tree

Now that Dothistroma is on the forest health radar, it will be important to monitor for it in the future – particularly in tree nursery settings. Will Red Band Needle Blight become a more important forest pest in other pine areas throughout Alberta? Perhaps – time will tell if this will be the case. For now, efforts will be concentrated on controlling the outbreak at ATISC's Smoky Lake site. Stay tuned for an update in our next newsletter.

Tom Hutchison—Athabasca

2013 Northeast Alberta Weed Coop Workshop Plans Well Underway

Believe it or not, spring is just around the corner and it's time to start thinking once again about weeds and our annual weed workshop. After a one year hiatus, the annual Northeast Alberta cooperative weed management workshop is returning.

This year's edition is booked for Thursday, May 30, 10:00 AM – 3:30 PM, at the Agriplex in Athabasca. We would like to thank the County of Athabasca who have graciously offered to partner again with this event.

This is an excellent opportunity for both you and your associates (including new and summer staff) to receive current information and to meet some potential industry (forestry, oil/gas, service), consulting and government (municipal and provincial) contacts working in your area. There will be something of interest for everyone. To date, we already have over 70 people registered.

Agenda topics include both Noxious and Prohibited Noxious weed identification, a special section on Aquatic Invasive Plants and an update on the legislation concerning your responsibilities as a "land manager". We will also be covering new chemicals that can be used with integrated land management practices, a bio-control update and, of course, a presentation that focuses on the ever increasing threat of Hawkweed moving eastward.

This is a no cost event, with the venue and lunch costs being supplied through corporate donations.

If you haven't registered yet, I would encourage you to do so.

Please email me directly at Martin.Robillard@gov.ab.ca

Hope to see you there.

Martin Robillard —Athabasca

Farewell to Mike Maximchuk

by Sunil Ranasinghe

I have known Mike since he joined the Forest Insect and Disease (Forest Health, as it was known then) Team in 1993.

In 1992, spruce budworm infestations were expanding at an alarming rate and we decided to hire more personnel to help us with the aerial spray program. Dr. Herb Cerezke, a Research Scientist at the Northern Forestry Centre, mentioned that one of his technical assistants (Mike) was looking for a job at that time because the project Mike was working on was coming to an end. Hideji and I interviewed Mike for a Forestry Aide III position in 1992. He fared very well at the interview. We also received a very good recommendation on Mike from Dr. Cerezke. We decided to offer him the position and I sent him a letter informing him to report to work by a given date. Mike did not show up on the day he was supposed to report for work. A few days went by and there was no communication from him about acepting the job. So, I informed Hideji that Mike does not appear to be interested in the job and we set a “drop-dead” date where we were to call the next person in the list if Mike did not show up by then. Thankfully, Mike showed up the day before the deadline and was offered the job that he was happy to accept. My vague recollection is that Mike wanted to complete all assignments Herb has given him before he left the NoFC. I hate to think that we almost did not hire him.

In early 1990s, Forest Insect and Disease Team was centralized at the Provincial Forest Fire Centre in Edmonton. Many times during the field season Mike and I made the eight-hour trip by road from Edmonton to High Level where we had an ongoing program to manage a large outbreak of the spruce budworm in the Footner Lake Forest (present Upper Hay Corporate Area in Lower Peace LUF Region). We did a lot of pole pruning to collect branch samples to evaluate the second instar budworm populations to earmark areas to be sprayed and pre-spray and post spray samples to evaluate the spray program success. Mike mastered pole pruning and he was, to my knowledge, one of the few who could use seven poles to reach the mid-crown of relatively tall spruce trees (his height no doubt gave him an added advantage!). During one pole pruning session, Mike had a ‘narrow miss’ when a co-worker in a hurry used an improperly fitted cutting blade assembly that came crashing down. Luckily for Mike, who was not wearing his hard hat at that time, he was not hit by the falling cutting blade.

In 1994, Mike became the first Forest Health Officer (FHO) in the province when Ken McCrae, who was the Regional Director of the newly created Northwest Boreal Region, offered him this position within the regionalized Forest Insect and Disease Program. Mike did an admirable job in managing the Forest Health Program in the largest forest region of the province. He was keen on advancing the program by avoiding redundancies, adapting new technology and planning applied research towards improving the program. Almost no

FHO meeting went by without Mike questioning merits of some activities we did or suggested better and efficient ways to carry out the program. In collaboration with forest industry partners and Dr. Volney at the NoFC, Mike was instrumental in setting up a permanent sample net work for long-term monitoring of forest pests hoping to lead towards an integrated pest management program in his region. He invited scientists who developed the Decision Support System on spruce budworm management in eastern Canada to visit Alberta to look into the feasibility of adapting it for the local programs. He co-opted with several NoFC-initiated programs on budworm management (Zama Project on use of silvicultural methods to mitigate budworm impact); budworm sampling methods and use of pheromone trap catches in a given year to forecast defoliation severity in the following year.

Mike M. was one of the dynamic-duo (with Mike U.) who organized many extra-curricular activities at Manning and Peace River where they were stationed at. Perhaps the best known of those was the “annual bug bash,” an evening event to celebrate the end of the field season with music, dancing, singing and camaraderie among friends and co-workers, some nearly inebriated, gathered around a roaring fire under the prairie fall weather till the wee hours in the morning. He is an avid baseball player, golfer, ‘pool shark’ and an angler who enjoys the outdoors.

Mike was at times at the receiving end of pranks by his co-workers. In one well publicized and coordinated event, long before he actually became a biological father, his office was inundated with ‘Father’s Day cards’ posted from far and wide corners in the province and some even from BC by his friends and co-workers. To date I do not know what motivated his peers to do it.

Mike in his relatively young days as a bachelor, had a grand plan to retire at 40, move to a tropical island where he will have a cabana on a nice sandy beach to spend the rest of his life in peace and quiet. Instead his destiny was such that he got married at about his planned retirement age, took to globe-trotting with the longest honeymoon by anyone that I know of and returned to settle down in “not so tropical” Peace River with his beautiful wife expecting their first child. With the new addition of another ‘bundle of joy’ to his family, retirement for Mike looks like at the distant horizon now, eh!

Mike I am so happy that we hired you. It was a pleasure to work with you in Forest Health.

Note: Mike is still with the Government of Alberta as the Regional Lead, Lower Peace Aboriginal Affairs Branch, ESRD.

My First Time

Part of a Forest Health Officer's role is to provide insect and disease diagnostic services to the forest industry and the general public that approach our offices. It is the general public that really provide the most entertaining of stories.
When Mountain Pine Beetle (MPB) first came to the region, there were many calls that would come in to our office and the 310-BUGS phone line. People would be adamant that MPB was in their trees. These calls would peak in the fall.

A typical call would go like this:

Caller: "My trees have MPB in them!"
FHO: "Okay, can you tell me what kind of trees you have?"
Caller: "Oh yes! They are those spruce trees!"
FHO: "I see. Now, do they have needles or leaves, these trees?"
Caller: "They have leaves!"
FHO: "Leaves are on deciduous trees and MPB does not attack deciduous trees."
Caller: "But the leaves are all turning color like the news says they are supposed to!"
FHO: "Yes, that is a natural process for those trees. However, MPB do not attack that species of tree."

And after a few more exchanges of a very similar nature, the caller would be satisfied that their tree was safe and would likely grow again in the spring, provided that it didn't get hit by a grass trimmer in the spring…

Sometimes the requests for diagnostics would come into the office with some form of evidence for me to consider. One of my favorite instances of this was approximately 24 film pictures of a spider that was out of focus, for ALL 24 pictures. Yes, it was a large spider and brownish in color. This was all I was able to gather from the photo. Sadly, I was not able to help this person.

This was how the bulk of my interactions with the general public would go. Their concern over a bug that I had no idea what it was other than it wouldn't be poisonous and wouldn't likely harm them, their kids, pets or house.

Then, this February something odd happened.
A sample of bugs was dropped off at my office. I knew what these bugs were! Immediately! Walking around exploring their new home of a plastic bag were two Spruce Beetles, *Dendroctonus rufipennis*.

I was shocked. I called the lady back and we had a nice conversation about the spruce beetles and what they were doing in her house (escapees from firewood). Here is the neat part of the story—*Dendroctonus spp*. find their host trees by visual and olfactory senses. These Spruce Beetles were congregating in her kitchen near her stove which happened to be black. I bet those beetles were upset when they got to the base of what they thought was a 30 inch White Spruce stump but it was actually a 30 inch Maytag! That was the first time I was asked to identify an actual forest insect from a general public client.

I will be keeping my eye out for other spruce beetle locations around the Town of Whitecourt this coming summer. Last August we had a significant wind event on the east side of town that damaged the timber and caused blow down of white spruce, a favorite breeding ground for spruce beetles.

Seena Handel—Whitecourt

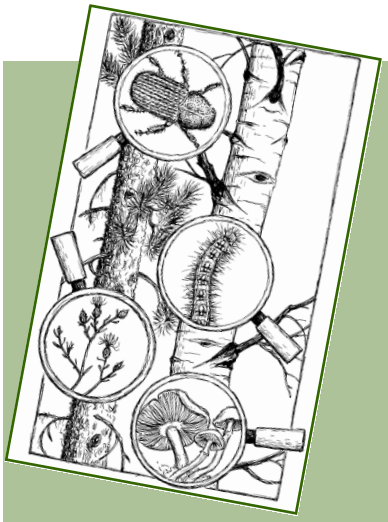
Hawkweeds - A Formidable Forest Invasive

A number of non-native, invasive hawkweed species have begun appearing around the province over the last 2-3 years. Most are yellow-flowered and easily missed among the myriad of other native, yellow-flowered plant species, but one is orange and much easier to notice. The yellow hawkweeds have been hybridizing in some instances, complicating positive identification.

All of these species reproduce by both wind-dispersed seed and vegetatively via stolons or sprouting from adventitious buds. It is the vegetative reproduction that enables rapid and complete colonization of disturbed or degraded sites. Some of these species are already on the Prohibited Noxious list of the Alberta Weed Control Act Regulations—which means they must be eradicated.

Hawkweeds have dandelion-like flowers that are borne in clusters. All hawkweeds have stiff hairs on the stems and leaves. If you find a plant that you think might be a hawkweed contact your local Forest Health staff, listed on the back page of this newsletter. Early detection offers the best opportunity for control and/or eradication.

Marian Jones—Clearwater



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Red Band Needle Blight, You're in for a Fight!

Bugs & Diseases

Foliar disease
Not a pretty sight
Is it any wonder
It's called a needle blight?

Dothistroma is a menace
A cause of some unease
Afflicting undo hardship
On rather costly trees

Whence did you come from
Red Band Needle Blight?
Whither shall we send you
To get you off our site?

A cold, hard reckoning
Is soon to come your way
I hope it makes us happy
But leads to your dismay

Tom Hutchison—Athabasca