

Agroforestry *Update*

September 2006

*British Columbia
Agroforestry
Industry
Development
Initiative*

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Doig River First Nation Tests Alley Cropping in Peace Country

Alley cropping is being tested in the BC Peace region as a means of meeting projected demand for wood fibre and native plants. Using agroforestry to incorporate trees with traditional management techniques will not only supplement incomes such that individual operations become more stable over time, but will also contribute to community and agricultural sector stability.

The **Doig River First Nation (DRFN)**, with funding assistance from the **BC Agroforestry Industry Development Initiative**, is heading a partnership to demonstrate the feasibility of alley cropping poplar and aspen (*Populus* spp.) varieties with native grass species. The development of these systems will not only benefit the DRFN, but will also provide a means for alternative crop and economic opportunities for agricultural producers throughout the Peace region. The DRFN is

leading implementation of the project and benefits from the talents and support of industry, academic and government organizations in the region. The other partners include the North Pine Farmer's Institute, BC Ministry of Agriculture and Lands, Canadian Forest Products Ltd. (Canfor), the McGregor Model Forest Association, Northern Lights Community College, the University of Northern BC, the Prairie Farm Rehabilitation Administration of Agriculture and Agri-food Canada, Louisiana Pacific, Daishowa-Marubeni International, BC Grain Producers Association, the Oil and Gas Commission, and local oil and gas companies.

The DRFN is a member of Treaty 8, which was signed in 1899. Their community of approximately 220 members (half of which are on the reserve) is located 70 km north-east of Fort St. John, and is situated on over

2,500 acres, surrounded by an area that is rich in natural resources. The DRFN has a strong vision for its community, which includes preserving culture, traditional knowledge, stories and songs to pass along to future generations, to share with fellow First Nations, and to use for educational purposes. This First Nation has had generations of prophets, dream keepers and song keepers; their vision, as shared with the people, has been the main motivation of the Doig River First Nation through out the years. Agroforestry is seen as a vehicle to help achieve their stated mission: *"To enhance the quality of the life of the members of Doig River First Nation, today and in the future through culture, education, social and economic development."*

Continued next page.

Alleycropping in the Peace *continued*

“The demonstration will test the suitability and performance of several tree varieties together with varieties of native and traditional grasses in an alley cropping system as compared with pure stands of both trees and grasses.”

Similar to other agricultural crops, hybrid poplar and hybrid aspen are typically grown from superior selections to provide better quality and higher yields over much shorter periods of time. Management regimes include site preparation and establishment of regularly spaced stems, weed control, fertilization and in some cases irrigation. It is projected that hybrid trees in the Peace region (within an agroforestry setting) could be ready to harvest in 18 to 25 years with wood volumes in the range of 275 - 350 m³/ha. In comparison, 150 - 200 m³/ha is produced in native forests over a 70 to 80 year period. As a result, hybrid poplars and aspens have the potential to be an attractive crop for landowners as local forest industry development has created an increased demand for the wood in the production of oriented strand board (OSB). As well, these trees may have potential for use in oil and gas site reclamation.

The Peace River area is one of the primary regions in Canada for producing exceptional quality grass seeds. The region produces approximately 96% of BC's forage seed

yield and together, the Alberta and BC 'Peace Country' produces more, higher value grass seeds than all of the rest of Canada. Grasses are typically managed in pure stands using conventional farming practices. The main forage seeds produced are creeping red fescue (*Festuca rubra*), timothy (*Phleum pratense*), and clovers (*Trifolium* spp.). However, the production of native plants for the reclamation and restoration market has shown strong growth in recent years, with demand frequently outstripping supply. Production of native grass seed therefore has the potential to be an important economic diversification option for producers.

With these opportunities in mind, the specific goals of this project are to:

- (1) Create a demonstration site where current and potential practitioners can develop 'on the ground' agroforestry information and expertise specific to the Peace Region; and,
- (2) To hold a workshop which will bring together First Nations; agricultural producers; agricultural, forestry and oil and gas professionals, and

agencies from the region providing them with up-to-date information on crops, management and potential value-added products.

The demonstration will test the suitability and performance of several tree varieties together with varieties of native and traditional grasses in an alley cropping system as compared with pure stands of both trees and grasses. Eight varieties of hybrid poplar and aspen will be tested in the alley crop system. Possible poplar selections include Walker, WP-69, Northwest, Green Giant, and Hill. Two varieties of native grass seed and possibly shrub selections, including Saskatoon (*Amelanchier alnifolia*) and Dogwood (*Cornus stolonifera*) will be tested as the intercrop. Two alley widths will be tested with each of two varieties of native grass seed: 35 and 55 ft. Each tree belt located between the crop alleys will consist of 5 rows of trees spaced at 15 ft between rows and 10 ft between trees within a row. Each tree belt will incorporate four poplar / aspen selections.

Concluded next page.

Alleycropping in the Peace *concluded*

Each varietal block will be 5 trees wide x 15 trees long for a total of 75 trees.

Comparisons will be made of the annual yield of native grass varieties in the alley crop versus the conventional field crop system, as well as comparisons of tree growth, damage and survival in the agroforestry setting versus the plantation system. An economic assessment and

comparison of the three systems will also be conducted. A one-day workshop followed by a second day field tour will highlight alley cropping and other agroforestry opportunities for the Peace Region. The field tour will include a visit to a poplar-forage intercropping site near Manning Alberta, and the BC Grain Producer's trials near Fort St. John to look at crop options.

It is hoped that this project will demonstrate that Peace Country landowners have an alternative cropping opportunity through agroforestry that provides increased flexibility and improved economics, while also benefiting the environment through the effects of the trees on soil, water and air quality and by providing long-term carbon sinks.

For more information on this project, please contact the project coordinator:

Todd Bondaroff at
Todd.Bondaroff@gov.bc.ca



From L. to R., Todd Bondaroff (BC Ministry of Agriculture and Lands), John Sam and Carl Pouce-Coupe (both with Doig River First Nation) describe their plans for a hybrid poplar/aspens alley cropping project at the recent Boreal Agroforestry Symposium in Dawson Creek.

Allen Eagle photo.

Announcements and Upcoming Events

A reminder that next **deadline** for letters of intent and applications to the British Columbia Agroforestry Industry Development Initiative is **Wednesday, November 15th**

Fraser Valley Agroforestry Workshop and Tour Agroforestry Opportunities – Conservation That Pays

September 29 and 30, 2006

The Federation of BC Woodlot Associations, on behalf of the Agroforestry Management Committee of the BC Agroforestry Industry Development Initiative, is pleased to host the Fraser Valley Agroforestry Workshop and Tour, Friday September 29 and Saturday, September 30, 2006 in **Abbotsford**.

Workshop, Friday September 29, will focus on agroforestry practices for production and conservation, direct marketing and alternative crops. Presentations include:

- Agroforestry Projects & Funding Opportunities
- Agroforestry Programs at the BC Ministry of Agriculture and Lands
- Cedars and High Value Hardwoods
- Agroforestry and Fisheries Habitat Management
- Direct Farm Marketing and Diversification
- Speciality Crop Opportunities
- What are Floral Buyers Looking For?
- Small Lot Agriculture

Tour, Saturday September 30, to various agroforestry demonstrations and direct farm marketing sites in the Fraser Valley including:

- Cedars and High Value Hardwoods demonstration
- Jayendee Farm – hybrid poplar agroforestry intercropping
- Page Creek Farm - integrated riparian management

The full event agenda can be downloaded at:

www.woodlot.bc.ca/agroforestry/pdf/Fraser-Valley-AF-Workshop-and-Tour-Agenda.pdf

The registration form can be downloaded at:

www.woodlot.bc.ca/agroforestry/pdf/Fraser-Valley-AF-Workshop-and-Tour-Registration.pdf

Workshop and tour space is limited; to assist us with ordering the catering, your pre-registration by Friday September 22 is appreciated.

For more information, please contact George Powell at: agroforestry@uniserve.com

Announcements and Upcoming Events *continued*

Workshop Announcement

“Agroforestry Potential for the Peace”

October 17-18, 2006
Taylor Community Hall,
Taylor, BC

This one day workshop, followed by a second day field tour, will highlight alley cropping and other agroforestry opportunities in the Peace Region. The Tuesday workshop session will feature invited speakers covering a general introduction of agroforestry systems; presentations on setting up and managing a poplar / aspen intercropping operation; how carbon sequestration and credits integrate into business planning; wildlife damage potential (rodents and ungulates); alternate crops for intercropping and other agroforestry production systems; and presentation and discussion of the Doig River First Nation demonstration project.

The Wednesday field tour will visit the Murdoch Lake Agroforestry Demonstration near Manning, Alberta. The bus will leave Fort St. John at 7:00 a.m. and return at 6:00 p.m. Early bird registration until September 30, 2006.

Registration form is available online at:

www.mcgregor.bc.ca/downloads/Doig%20River%20Workshop%20Announcement.pdf

For more information please contact either:

Cindy Buker
(cindy@mcgregor.bc.ca)
or Dan Louisier
(whiskeyjackscience@telus.net)

First Announcement and Call for Papers

Plan to spend part of your next summer in *la Belle Province*. The **10th North American Agroforestry Conference: Opportunités économiques et bénéfiques environnementaux de l'agroforesterie / Economic Opportunities and Environmental Benefits from Agroforestry** will be held **June 10-13, 2007 at Université Laval, in Québec City**.

The intent of the conference is to stimulate the development and the adoption of sustainable rural land management practices centered on the integration of trees into the landscape. Riparian buffers, windbreaks and shelter-belts, silvopastoral systems, intercropping

systems, and forest farming systems will be the main practices discussed during the conference. Target participants belong to all spheres of the advising, teaching and research fields, whether with private companies, advisory groups, municipalities, government departments, educational institutions or research centres specializing in the fields of agriculture, forestry, environment and planning.

The conference will include two days of talks, a scientific poster session and a field-day in La Pocatière, Québec. Other pre- or post-conference field trips are also planned.

The conference organizers are interested in oral and poster presentations that update current and emerging knowledge on temperate agroforestry practices as well as presentations related to the socioeconomic, political and environmental aspects of agroforestry. Papers focusing on practical examples of agroforestry practices and on technology transfers to producers are particularly welcome.

Online registration will begin on November 2006. For more information please visit the conference web site: www.agrofor2007.ca or email: info@agrofor2007.ca

Agroforestry Symposium Yields New Initiatives

Contributed by Reg Whiten

A recent symposium hosted by the Boreal Centre for Conservation Enterprise (BCCE) Society brought together about 25 representatives to discuss current efforts to develop the agroforestry sector in the Peace River region. Representatives from the agricultural industry, provincial, federal and regional government, academic institutions and non-profit rural organizations learned about a range of rural entrepreneurs who are diversifying their operations to include a mix of profitable tree species, crops or other botanicals grown in inter-cropped rows, as part of a silvo-pastoral grazing system, or just harvesting valuable plants from shelterbelts.

The session began with a welcome by BCCE president Elmer Kabush and conference organizer Reg Whiten. MLA Blair Lekstrom, who also provided words of welcome, spoke of the importance of a diversified northern economy and recognized the work of the Boreal Centre in that regard. Mayor Calvin Kruk also shared some information on the initiatives that the City of Dawson Creek is taking as

part of its regional leadership in adopting "Natural Step" practices - a global initiative to incorporate conservation-principles and actions into its policies, operations and capital works

Speakers from the Doig River First Nation (Carl Pouce-Coupe, John Sam) and Todd Bondaroff (BC Agriculture) highlighted their planned efforts to raise various species of traditional grasses between rows or blocks of fast-growing hybrid poplar trees to serve both the land reclamation, and oriented-strand board industries. Other presenters from Quesnel (Kim McIvor, and Ted Traer) spoke about their success in tapping birch trees for syrup, growing Christmas trees, and harvesting various conifers for the floral decorative market. Another interesting session was a talk about the use of goat herds to manage competing vegetation in recently planted forest cutblocks. Conrad and Donna Linblom, have expanded their herds to over a thousand goats with service contracts to Chetwynd Forest Industries and the McLeod Lake First Nations.

As part of the session, the group analysed various

challenges, issues and opportunities that must be considered in developing the sector within the Peace region. Undoubtedly, the increasing trend in demand for health / nutraceutical products, agri-tourism services, and other value-products should help to grow the sector in the coming years.

At the plenary session on the Saturday, attendees agreed that formation of a Peace Region Agroforestry Network in partnership with Northern Lights College, UNBC, the Boreal Centre, government, and agricultural industry partners would be a very worthwhile initiative to undertake. Other prospects like an agroforestry field tour, increased public/industry awareness activities, and demonstration projects on School District or NLC lands were also discussed.

Attendees at the plenary session discussed the formation of a Peace Region Agroforestry Network

Christmas Tree – Silvopasture Demonstrating Agroforestry Success in the Kootenays

An enthusiastic and diverse group including Christmas tree and livestock producers, representatives from BC Hydro, the BC Ministry of Forests and Range and the BC Ministry of Agriculture and Lands attended the recent agroforestry tour in the Picture and Rampart Valleys of the East Kootenay. The tour, hosted by Kootenay Tree Farm as part of an ongoing silvopasture demonstration project, visited test sites on a Crown Christmas tree permit and BC Hydro powerline right-of-way near Cranbrook. Preliminary results have shown positive results with up to a four-fold increase in understory forage production resulting from thinning, pruning and fertilizing that is employed to produce high quality Douglas-fir Christmas trees. Livestock grazing on the resultant forage benefits the trees through reducing competition, elimination of snow press problems and drying the sites to reduce the occurrence of damaging fungal infestations. Area livestock producers are enthusiastic about the forage gains a means to offset some of the losses to forest ingrowth and encroachment prevalent throughout the Southern Interior.

“...up to a four-fold increase in understory forage production resulting from the tree thinning, pruning and fertilizing that is employed to produce high quality Douglas-fir Christmas trees.”



Charlie Willis, of Kootenay Tree Farm, discusses forage production in relation to various Christmas tree management regimes during the recent agroforestry tour.

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If you have suggestions for future editions of the *Update* or know of an event that should be included, please let us know.



The Federation of British Columbia Woodlot Associations administers the BC Agroforestry Initiative.



Financial support for the Agroforestry Industry Development Initiative is provided by the **Investment Agriculture Foundation of British Columbia**.

Agriculture and Agri-Food Canada and the **British Columbia Ministry of Agriculture and Lands** provide funding and support for the Foundation.



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