

Agroforestry Update

British Columbia Agroforestry Industry Development Initiative

June 2005

West Kootenay Growers Demonstrate Hawthorn Agroforestry



Hawthorn production is new agroforestry opportunity that blends production with riparian conservation.

Extracts from hawthorn (*Crataegus* spp.) have established markets for use in medicinal products. In Western herbalism, hawthorn has a long history of use for treating cardiac weakness and is used as a "blood vitalizer": lowering cholesterol, improving blood circulation, and alleviating hypertension. The majority of hawthorn used in western medicinal practices in Canada is currently imported from Eastern Europe. The West Kootenay region (as well as central/southern regions of British Columbia) has a natural abundance of hawthorn with the potential for development as an alternative crop to supply this market. As referenced in the American Herbal Pharmacopoeia, the native hawthorn species of British Columbia (*Crataegus douglasii*, *C. columbiana*) are both

reported to possess "medicinal value" but neither has been researched extensively. There is also little research or existing information to provide sufficient evidence to health product manufacturers and distributors that our native hawthorn species may be comparable to the European hawthorn (*C. laevigata*, *C. monogyna*), the recognized medicinal standard. Additionally, there is scarce information available to growers for hawthorn crop management practices and basic processing techniques.

With support from the Agroforestry Industry Development Initiative, the West Kootenay Medicinal Herb Grower's Cooperative is addressing this knowledge gap to determine the economic viability of growing hawthorn (both native and European medicinal species) within an environmentally sustainable and enhancing agroforestry management framework.

Based out of Edgewood, the West Kootenay Medicinal Herb Grower's Cooperative was incorporated in August 2004 with the purpose of development of medicinal herbal opportunities that balance economic, social and environmental concerns. Hawthorn production in agroforestry systems represents an opportunity to diversify and strengthen the local economy with an economically and environmentally beneficial

(Continued next page)

In This Issue

Hawthorn Agroforestry Demonstration.....	Page 1
Coming Events.....	Page 3
Silvopasture: Christmas trees and forage.....	Page 4
Island Maple Producer Meet.....	Page 5
Boreal Centre for Conservation Enterprise.....	Page 6
Agroforestry Industry Development Initiative.....	Page 7
Subscription and Contact Information.....	Page 8

Hawthorn Demonstration (continued)



Riparian stewardship along the Inonoaklin River will be enhanced through agroforestry

crop. Another important part of this project is the potential to demonstrate enhanced riparian stewardship. After the Arrow Lakes were flooded for hydroelectric development, compensation included plans for a ladder to replace the loss of fish spawning channels on the Inonoaklin River. The fish ladder was not built however, due to a lack of consensus on the management actions. Based on results of a community survey conducted in 2004, fisheries enhancement and conservation of local creeks and rivers is still a priority within the community. The potential for economic benefit resulting from agroforestry systems may provide landowners with significant encouragement to restore and replant riparian areas with net benefits for fish habitat.

The Hawthorn Agroforestry Demonstration Farm Trials will span four farm sites utilizing a combination of integrated riparian management and alley cropping (sun agroforest) techniques. The production trials will be used to develop and document in detail management practices for hawthorn as an alternative crop in agroforestry production systems and provide an economic feasibility analysis for producing hawthorn as a commercial crop.

The quality and the correct botanical identification of the hawthorn species are crucial to acceptance of these trial results by the health products manufacturers/distributors (in accordance with Natural Health Products regulations, plant materials used in health products must be authenticated). The West Kootenay Medicinal Herb Grower's Cooperative, with additional support from the Health Products and Functional Food Initiative, is using DNA

finger printing and other analytical techniques to conduct a comparative analysis of medicinal species results to both native species and medicinal species standards of evidence. These results will also be correlated to specific growth habitats (climate and soil) and hawthorn management practices (pruning, irrigation, soil amendments, harvest, storage and processing techniques) recorded during the trials. Once fully established, demonstration farm trial tours will be conducted for prospective producers and buyers, government and non-government agencies, as well as other interested individuals and groups. The tours will be conducted through partnership with organizations such as the Tourism Action Society in the Kootenays (TASK) and the BC Medicinal Herb Grower's Association. Planned publications from this project include a survey of manufacturer requirements, an economic feasibility analysis report and a hawthorn management practices technical document.

In addition to the support of the Health Products and Functional Food Initiative, this project has also garnered funding from Columbia Basin Trust, and has endorsements from the BC Herb Growers Association, Regional District of the Central Kootenay, Fisheries and Oceans Canada and the herbal processing industry (Nature's Formulae, Strauss Herbs).



Flowers, fruit and leaves of hawthorn are harvested for medicinal extracts

For more information on the Hawthorn Agroforestry Demonstration Farm Trials, contact Jeanette Lee (D_Saywer@columbiacable.net) director of the West Kootenay Medicinal Herb Grower's Cooperative.

Coming Events

Agroforestry Tour and Barbecue

Jay Springs Ranch is pleased to host an agroforestry tour on the afternoon of **July 8, 2005**. Come and see how agroforestry is being implemented operationally to help meet production and marketing goals in their integrated woodlot - sheep system in Pinantan Lake, BC (15 minutes east of Kamloops on the Pinantan-Pritchard Road). For more information on Jay Springs Ranch, visit their website: www.jayspringslamb.ca. Tour participant will also be able meet and interact with members of the provincial Agroforestry Management Committee (AMC) and discuss other agroforestry opportunities. Any and all interested are welcome to attend. Pre-registration is required by July 4th (\$10 per person payable at the event). To register or for more information, please contact George Powell, (250) 983-5114 or e-mail agroforestry@uniserve.com

Non-Timber Forest Products Events

Royal Roads University, Centre for Non-timber Forest Products is sponsoring three events on the local and global impact of non-timber forest products on community development and forest conservation:

A Future Beneath the Trees Symposium

August 25 - 27, 2005

International symposium on non-timber forest products on community development and forest conservation.

Buy BC Wild Conference 2005

August 27 - 29, 2005

BC industry conference for buyers and sellers of non-timber forest products.

Shop the Wild 2005

August 28, 2005

International trade show and public exhibition of non-timber forest products.

For more information on these events visit:

www.ntfpvictoria2005.ca

18th Annual Federation of BC Woodlot Associations Annual General Meeting, Conference and Trade Show.

Hosted by the Shushwap Okanagan Woodlot Association, **October 13 –15, 2005** at the Best Western Vernon Lodge in Vernon, BC in conjunction with the National Woodlot Conference. This year's theme is "Values Added: The Role of Family Forests in Your Community."

Presentations, tours, trade show, networking and break-out sessions, including:

Community Stability – dollar value contributions to social, ecological and monetary economies.

Managing the Interface – fire protections, urban fringe, rural sprawl, recreation use and pressures.

Maintaining Diversity – family forests: a source of innovation with implementation techniques.

For more information please contact: Jan Lacko, Conference Co-ordinator (ruralredcedar@aol.com), phone (250) 838-6882, fax (250) 838-6342

An early bird draw will be held for three nights accommodation at the Best Western Vernon Lodge for those registering by September 1, 2005.

National Woodlot Conference

The Model Forest – Private Woodlot Strategic Initiative (PWSI) and the Canadian Federation of Woodlot Owners are proud to announce the National PWSI Conference, **October 12-14, 2005** at the Best Western Vernon Lodge in Vernon, BC.

This event promises to capture synergies from overlap of themes and attendees of the Federation of BC Woodlot Associations Annual General Meeting and Conference, creating a dynamic framework to take family forest issues from the national level to the local level and back. Presentations, field tours and breakout sessions will provide lots of opportunities to exchange ideas and build for the future. For more information please contact: the Conference Co-ordinator, Jan Lacko, (ruralredcedar@aol.com) or Mike Slivitzky, Model Forests Program, phone (613) 995 5842, or visit www.woodlotscanada.ca

Silvopasture Benefits Christmas Tree Growers, Livestock Producers and Wildlife



Cattle and wildlife benefit from using silvopasture management in Christmas tree stands

Kootenay Tree Farms in partnership with the BC Hydro, the BC Ministry of Forests and local ranchers are demonstrating the feasibility of using agroforestry to manage for Christmas tree production and enhanced forage availability in a low-intensity silvopasture system. The density and growth form of Christmas trees provide large areas for concurrent forage production. In the native-stand Christmas tree system employed by Kootenay Tree Farms, Douglas-fir (*Pseudotsuga menziesii*) are produced by stump culture: a new stem is grown from a lower branch remaining from the harvest of previous tree, creating a perpetual renewal of trees from the same root system. Because the trees have fully established root systems they can take advantage of the nutrients applied at all stages of production. Fertilization therefore benefits the trees and can also increase growth of the grassy understory.

The increased understory biomass however, can pose production problems for Christmas tree growers through tangling in the lower branches and creation of cover for small mammals that can damage the crop trees. Grazing not only benefits livestock production therefore, it also controls the understory biomass surrounding the trees, reducing potential negative impacts of a vigorous grass sward. Increased forage availability is also beneficial to wild ungulate species. There is a critical forage availability issue in the Kootenays with increasing pressure on Crown rangeland from an expanding ungulate population. In addition to the benefits to livestock and wildlife, silvopastoral systems on Crown land combining Christmas trees and forage

production can increase the returns to the Crown 10 fold in comparison to forage only areas.

With support from the BC Agroforestry Industry Development Initiative this demonstration builds on observations that both tame and introduced grasses in the understory of Christmas trees appear to respond very favourably to fertilization of the trees. In order to quantify the additional forage gained through fertilization, trials are being established on two sites in the East Kootenay near Cranbrook. The first is located on a BC Hydro power transmission right-of-way and the second is located on Crown land in a designated Christmas tree permit area. Fertilization in addition to the normal tree pruning practices will be tested on areas of both a tame grass forage mixture and predominantly native pine grass (*Calamagrostis rubescens*) at the BC Hydro site. On the Christmas tree permit site, the effects of tree pruning and fertilization will be tested alone and in combination on a mixed stand of native and introduced forages. A second area at this site will test the effects of mature timber overstory removal. It is normal practice to harvest overstory trees while protecting the developing sapling understory as the subsequent Christmas tree crop. Enclosures will be placed in the stand pre- and post-harvest to assess forage response to management as a mature stand versus management as a Christmas tree unit.



Vigorous understory growth following Christmas tree pruning and fertilization

(Continued next page)

Christmas Tree Silvopasture (continued)

Kootenay Tree Farms is managing and delivering this project with co-operation from BC Ministry of Forests staff who are providing forage enclosure cages, as well as assistance with drying and weighing forage samples. Annual harvest of the forage samples will be conducted with the co-operation of the two ranchers whose livestock will be grazing the sites. Local resource groups including the Kootenay Livestock Association and the Kootenay Christmas Tree Association have also shown a high degree of interest in the project and will promote the demonstration to their membership.

This project will not only quantify some of the production variables involved, but will also communicate the benefits of agroforestry to industry, agency and stakeholder groups. Annual fall tours of the demonstration will be conducted to serve as an introduction to silvopasture management for the Christmas tree and ranching industries, government agencies and other resource management groups. The tours will also communicate the findings of the

trials and will build awareness of the concept of enhanced forage production through Christmas tree silvopastures. An extension note will also be developed incorporating the demonstration results for use by industry, resource agencies and other stakeholders to assist in decision making.



If left ungrazed, forages can tangle the lower limbs of Christmas trees and interfere with growth

For more information on the silvopasture demonstration please contact Charlie Willis (kootenaytreefarms@shaw.ca).

Island Maple Producer Meet

On May 7th, more than twenty-five forest landowners from Vancouver Island met at Malaspina University-College's G.R. Paine Horticulture Centre to share experiences and plan the future of the new maple-sap product industry. The morning session was lively and information flowed like, well...syrup.

The session began with a round-table introduction with each producer sharing their successes and frustrations, but mainly the excitement. The meeting moved on to a discussion of many items of common interest, including:

- access to groves of maple on private, forest-company, and Crown lands;
- tapping issues: timing, hole closure, optimal number of taps per tree/coppice;
- tree damage from tapping and effect on future health or log quality;
- sap collection, storage and freezing;
- filtering; and,
- home-made and commercial evaporators.

This last season ended with the collection of more than 8 000 litres of sap from a dozen core collectors. The group foresees a new cottage industry arising to compliment the agri-tourism and winery tours on the Island. Discussions are planned for the formation of a new organization to support the emerging maple tapping industry.

Generally speaking, the interest level in maple tapping is quite high and there will be another meeting in the fall to discuss common purchase of equipment and the possible use of co-operative evaporators of finishers.

For more information on this, or future maple producer meetings please contact:

Harold Macy, (250) 337-5332,
hqcreek@island.net; or,

Gary Backlund (250) 245-4939,
backlund@island.net

Boreal Centre for Conservation Enterprise

Submitted by Reg C. Whiten, P.Ag. MCIP

For many First Nations people, pioneer land settlers, and present-day farmers and other private land-owners in the Peace region, making a living has meant having a mixed livelihood strategy. For producers, that commonly includes farming for most of the year and working out in the oil-patch during the winter. As the agricultural sector in the Peace feels the stress of weak commodity prices, higher costs of production and market access restrictions for cattle, there is a growing recognition that agricultural diversification is worth taking a good hard look.

Agroforestry and other bio-product industries offer considerable potential for the region – particularly as the region implements its international Branding the Peace® initiative that emphasizes environmental stewardship as part of its geographic-image identity. In the year 2000, the Boreal Centre for Conservation Enterprise Society was created out of an interest of people involved in rural community development. Its principal goal is to help improve the livelihoods of folks in northern, rural communities through the promotion of profitable, but ecologically & socially responsible enterprise.

Since its inception, the Centre has been engaged in ongoing market research on non-timber forest products in the Peace region, provided technical support on watershed planning, riparian stewardship & restoration. The group has also facilitated regional consultations on community development for the government of BC and to organizations like the Forest Stewardship Council of Canada. A few years ago, it delivered the first Peace regional workshops on agroforestry through the province's Small Woodlands Program.

Support for the goals and objectives of the Boreal Centre has come from producer groups, all levels of government, elected representatives, First Nations leaderships, academic institutions, community development groups and financial organizations. The BCCE is a volunteer-based organization that utilizes summer student assistance and sub-contract consultants to

undertake research and extension activities. In the current year, the group is looking to publish a Directory on Conservation-Based Enterprise that features a range of artisans, producers and marketing outlets for value-added agroforestry products; and also a Botanical Forest Products Guide that provides an overview of 25 forest species and their market potential & product requirements. Related activities include workshops and seminars for developing this sector, including suggestions on how rural land-owners and producers can integrate multiple resource-use on their property. Recognizing that the agroforestry sector is only in its infancy, the Boreal Centre hopes to emerge as a valued resource for developing income-generating opportunities as 'eco-entrepreneurs'. With the right amount of government support in sector-capacity development, research, and extension, the group envisions larger-scale community investments in conservation-based enterprise. Such agroforestry businesses as essential oils, nutraceutical food products, ethanol/bio-diesel, rural/cultural tourism and other innovative ideas are just waiting to be developed – and the opportunities might just be found waiting for you to be found on your farm's 'back forty'!

For further information, please contact Reg Whiten, (250) 788-9635 or mail Box 285 Moberly Lake, B.C. V0C 1X0 or email theborealcentre@hotmail.com



Willow-furniture is just one business opportunity that makes use of an abundant native shrub

British Columbia's Agroforestry Industry Development Initiative

The **Agroforestry Industry Development Initiative** was developed by industry and government representatives to enhance and promote agroforestry in BC. The Initiative has a 5-year strategic plan and \$500,000 of funding will be allocated by the Investment Agriculture Foundation to implement cost-shared agroforestry projects.

The Agroforestry Management Committee (AMC) is working with producers, environmental and community groups, government agencies, educators and researchers to achieve its vision of a dynamic, self-sustaining agroforestry industry. The Federation of BC Woodlot Associations is administering the Initiative on behalf of the AMC.

The participation of individuals and groups of industry stakeholders is welcomed in this Initiative through their submission of project proposals that meet the strategies and goals of the Initiative to facilitate a more self-reliant and innovative agroforestry sector. The four major goals of the Initiative are as follows:

Goal 1: Develop partnerships

Objectives:

1. Demonstrate the economic viability and environmental stewardship of agroforestry systems; and,
2. Foster partnerships among agroforestry practitioners and environmental, government, educational and other interested groups.

Applications are welcomed for projects that involve establishment, evaluation and use of demonstration farms and agroforests. Examples include (but are not limited to):

- On-farm or in-forest operational demonstrations of agroforestry practices.
- Investigations of specific economic and environmental effects of agroforestry systems.
- Development of information notes from the demonstration projects.

Goal 2: Increase awareness

Objective: Increase extension, training and access to agroforestry information.

Applications are welcomed for projects that involve development and transfer of technical information.

Examples include (but are not limited to):

- Tours of demonstration areas.
- Workshops, meetings or conferences.

Goal 3: Link producers and buyers

Objective: Improve the connection between producers, and buyers and consumers.

This funding envelope accepts and reviews applications for projects that link the various market groups. Examples include (but are not limited to):

- Producer and product guides.
- Regional, national and international buyer directories.

Goal 4: Develop a BC Agroforestry brand

Objective: To establish a marketing strategy for an Agroforestry brand identity, synonymous with economically sustainable and environmentally beneficial systems.

Creation of a 'brand' identity will promote higher price points for products produced in Agroforestry systems.

For further project ideas please see the action items identified in the strategic plan at the link below. For 2005, proposals will be accepted on an ongoing basis for projects related to Goals 1, 2, and 3.

Funding is on a 50:50 cost-share basis. A portion of the industry sector contribution may be in-kind.

There may be a cap on funds available for individual projects. Guidelines and application forms are available online at the Initiative's website:

www.woodlot.bc.ca/agroforestry/

For more information, please contact:

George W. Powell

Project development & implementation

E-mail: agroforestry@uniserve.com

Subscribe to Agroforestry Update

If you would like to receive Agroforestry Update or other agroforestry-related information and news, please subscribe to Agroforestry Update. To subscribe by e-mail send a message to agroforestry@uniserve.com with "Subscribe Agroforestry Update" in the subject line. In the body of your message please include your:

- 1) Name & location
- 2) E-mail address
- 3) Organization, or interest in agroforestry (optional)

To subscribe by fax please send the same information to (604) 556 3099

Your personal information is secure. We will never sell, give or distribute your personal information to any third party without your prior consent.

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

George Powell
Agroforestry Update Editor



**The Federation of BC Woodlot Associations
administers the BC Agroforestry
Industry Development 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, Food and Fisheries** provide funding for the Foundation.



**The contents of this publication are the sole and exclusive property of the respective authors.
No reproduction in any manner or any form is permitted without express written permission.**