Abbotsford Soil Conservation Association

The Soil Keeper

Spring 2004 Volume 1, Issue 1

AGROFORESTRY – SUPPLEMENTAL PRODUCTION...SUPPLEMENTAL INCOME CAN YOUR KIDS MAKE $$ FROM PROJECTS ON THE FARM?

Using trees and shrubs on farms is not a new idea but new information and approaches in addition to increased environmental awareness, give new life to an old idea. Agroforestry is a production system that ***purposely blends agriculture with forestry*** practices. It refers to a method of production rather than to a specific group of crops. It ***does not*** include "wild harvesting" of products from the forest such as moss or mushrooms.

Why combine trees and shrubs with your crops or livestock? Agroforestry includes the following potential benefits:

- **Diversify farm income**
  - ✓ Trees and shrubs can yield non-timber products such as medicinals, fruits, nuts, essential oils, woody florals (e.g. boughs) etc.
  - ✓ Trees can also yield longer-term wood products.
  - ✓ Combined crop income can be greater than single crop income.
  - ✓ Reduces economic risk of pests or disease damaging the entire production system.
- **Environmental protection**
  - ✓ Reduces environmental risk of pests or disease damaging 100% of a crop.
  - ✓ Reduce soil erosion.
  - ✓ Reduce excess nutrients from getting into surface water.
  - ✓ Stabilize stream banks.
  - ✓ Increase wildlife habitat.
- **Multi-purpose** – projects can serve other purposes such as, noise or visual screens, dust/odour screens or windbreaks.

Continued on page 4

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Soil Conservation Council of Canada

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Sumas Dyking, Drainage & Irrigation District

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What's inside this issue:

2nd SOIL SAVING SOIREE - A FABULOUS EVENING WITH FRIENDS!

Over 200 people filled the new Ramada Inn in November to share a wonderful evening of fine BC food and wine and support two great organizations. **BC Agriculture in the Classroom (AITC)** and **ASCA** teamed up for the **2nd Soil Saving Soiree** to raise awareness of agriculture, fundraise and showcase delicious Fraser Valley fresh food products. Both ASCA and AITC share a key goal – raising awareness about the importance of soils and agriculture. Did you know only 2% of BC's population produces much of the food you see on store shelves and at farmers' markets? This means farmers are busy farming so ASCA and AITC have a important job—educating students across BC and promoting and conserving agriculture in Abbotsford. The Soiree was a fabulous event for sharing this work with our guests.

The Ramada food booth

BC Culinary Olympic chefs joined forces with **Ramada Chef Michael Traquair** to remind us why we're so lucky to have fresh Fraser Valley products in our backyard - they transformed an array of local food products mouthwatering treats. Soiree guests sampled the various food tables as well as offerings from five local wineries and our fine local chocolatier, **ChocolaTas**.

Soil Keepers—The Grashofs

Soil Soiree guests had the chance to browse information displays and hear various messages by AITC, ASCA, the Environmental Farm Plan Program and Tourism Abbotsford on the importance of soils and agriculture to many aspects of our lives. Rose Schroeder, ASCA director, demonstrated our dependency on soil through her display of "The Earth As An Apple". Try this at home – shave the skin off of 1/32 of an apple – that's the relative portion of the earth that we depend on for agriculture!

A **Soil Keeper Stewardship Award** was given to **Marcel and Wilma Grashof** who operate the **Sunshine Hog Farm** in the Sumas Prairie. They were given the award because they manage their farm as a whole unit and treat manure like brown gold – it's used carefully and always with consideration for their neighbours and the environment.

In addition to the learning opportunities, the evening included unique fundraising activities. Local businesses provided over 50 silent auction items and the live auction provided bidders with some great art, spa and travel adventure packages. "BC Hot Potatoes" were the highlight of the night – BC potatoes wrapped in gold foil with a prize tag hidden inside. The potatoes were a great hit and everyone buzzed with excitement when they were finally allowed to unwrap their prizes!

Sandy Traichel & Lindsay Babineau

***SPECIAL THANKS* to Bruce Fatkin** - ASCA Director and Soiree Committee chair, **Lindsay Babineau** - AITC Executive Director, **Rose Schroeder** - ASCA Director, **Marlene Murray** - AITC graphics whiz, **Mr. Lindsay Babineau** - Emcee **and Donna Scheven Events** as the key contributors. Thanks also go to the many great volunteers on the night of the event. A huge thank-you to the ASCA and AITC directors as well as all of our sponsors – check out our sponsor acknowledgements on page 3.

Soiree Event Sponsors

Ramada Inn & Conference Centre
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University College of the Fraser Valley - Agriculture Department
Willowview Farms
Windmill Deli
4-H Ambassadors

Agroforestry continued...

In BC, there are 5 main types of agroforestry systems:

1. ***Timberbelts*** are multiple tree and shrub rows planted for timber and non-timber crops along a field edge. E.g. 2 or 3 rows of poplars could be planted for pulp production along the edge of a field, mixed with shrubs for a floral crop or berries and slower-growing cedar for windbreak and bough production.
2. ***Integrated Riparian Management*** is planting areas next to streams and ponds/lakes. E.g. willows and dogwood along ditches and streams yield floral market products.
3. ***Shade systems (forest farming)*** include trees combined with shade-tolerant crops. E.g. sword fern grown under trees for the floral market
4. ***Sun systems (alley cropping)*** combine trees with crops that require full sun. E.g. pumpkins or other veggies grown between Christmas trees or fruit trees
5. ***Silvopasture systems*** combine trees with livestock and livestock feed production E.g. sheep or beef cattle grazing within a tree stand managed for forage and timber.

ASCA has worked with a co-operator in the Sumas Prairie to start an integrated riparian project that combines oak trees and Christmas trees along a ditch. The oak trees provide a beautiful visual screen, a bit of a wind buffer and could be considered for a wood product in the future. The Christmas trees provide an alternate crop and will diversify cash flow.

Alisha and Justin at the Integrated Riparian Planting demonstration project

With any new product, finding & developing a market for it is one key challenge. At the 2004 Pacific Agriculture Show, Ernie Meyer, with The Meyer Floral Company, presented a very interesting session on a potential group of agroforestry products – floral greens. Do you ever think about where the greens in a floral bouquet are grown? Meyer Floral is one of the largest suppliers of floral greens in Western Canada and the market is growing. Ernie is interested in finding more product grown in Canada instead of importing it from the US. ***Examples of products he sells that may already be growing in your farm yard include Western red cedar, hydrangea, and holly.***

Agroforestry has many benefits but needs careful long term planning to create a successful project. Improper planning results in tree growth creating too much shade for other crops. Inappropriate crop combinations increase disease problems for other crops grown on the farm. A well-planned project, however, provides a great opportunity for your teenagers to perfect their crop management and marketing skills and help fund their post secondary education. For example, a row of 10 hydrangea bushes yielding 40 floral stems per bush at $1.20 per stem would earn $480 without huge amounts of effort. A project doesn't require acres and acres of trees or shrubs – what about fencelines, or awkward, small pieces that aren't used? What other underutilized areas are on your farm?

There are funding opportunities for agroforestry demonstration projects through the Agroforestry Initiative of the Agri-Food Futures Fund. *A Guide to Agroforestry in BC* is available to help producers work out a plan. It is available at www.woodlot.bc.ca. Follow the Small Woodlands Program menu. The paper version is also available. If you want more information, contact Sandy at 604-556-3732 or Lisa Zabek at 604-814-2690.

SOIL KEEPER Contest Winner— Congratulations to Cynthia Gates for providing **ASCA** with some mottos that we can use in future newsletters. Some of her suggestions were as follows:

- **Soil Conservation—Principles you can stand on!**
- **Make Dirt not Waste**
- **Soil Conservation—Our Mandate is Growing**

Greenhouse Gases = Money in the Air??

ASCA participates in National Program with Soil Conservation Council of Canada

Did you know that agriculture plays a key role in climate change/greenhouse gases and the Kyoto Protocol? ***AGRICULTURE IS AN IMPORTANT PARTNER IN THE MANAGEMENT OF GREENHOUSE GASES (GHGS)*** because agricultural systems produce GHGs but can also be used to absorb, convert and store GHGs in ways that could reduce or offset the effect of greenhouse gases in the atmosphere.

WHAT ARE GHGs? What Many Canadians are already aware of the connection between greenhouse gases (GHGs) and global warming/climate change and the Kyoto Protocol but may not be aware of the relationship to agriculture. Let's do a quick Greenhouse Gases 101 review. The three most recognized greenhouse gases produced by human or natural processes that occupy the earth's atmosphere include:

- carbon dioxide (CO_2)
- nitrous oxide (N_2O)
- methane (CH_4)

HOW DO GHGs AFFECT US? These GHGs trap or absorb energy put out by the earth's surface, thereby warming the atmosphere. Were it not for the effect of greenhouse gases, the global temperature would be 33° C colder than it is today making the earth quite uninhabitable. The concentrations of greenhouse gases produced by human activity have increased since the 1800's and will continue to concentrate in the atmosphere. Many scientists believe this increase will result in significant climate change. This change could have major impacts on global ecosystems. ***HOW DOES CLIMATE CHANGE AFFECT AGRICULTURE?*** Negative effects of climate change on agriculture include: changes in production patterns, water shortages, and unpredictable changes in the interactions among crops, weeds, insects, and disease. Climate change could have a positive effect on agriculture through northward extension of crop lands and grazing zones. Since the Kyoto Summit in 1997, many developed countries have been implementing programs designed to reduce or offset GHG emissions to lower than 1990 levels.

HOW ARE GREENHOUSE GASES PRODUCED FROM AGRICULTURE? Agriculture generates about 10% of Canada's greenhouse gases – this does not include transportation, input costs or agri-food processing. Agriculture differs from other industry sectors in GHG emissions because its main contributions are nitrous oxide and methane. It contributes very little to production of carbon dioxide. Most nitrous oxide (N_2O) from agriculture is produced in the soil as part of the nitrogen cycle. Methane (CH_4) comes from the breakdown of manure or plant material occurs when there is not enough oxygen present. Examples include cows "chewing their cud" or when manure is stored as liquid slurry. Soil microbes, crops and livestock produce carbon dioxide (CO_2) throughout their life cycle.

These losses of nitrogen and carbon-based GHGs mean that FARMERS ARE LOSING MONEY TO THE ATMOSPHERE! Nitrogen is key for agricultural production and carbon is important for building soil organic matter. Whether or not you accept the phenomenon of global warming/climate change, there are numerous management practices on the farm that can be developed to reduce of offset GHGs that also increase profitability and improve sustainable production. Agribusinesses are also manufacturing products to assist with better management of nitrogen which impacts GHGs. **TerraLink Horticulture** is offering two products which affect GHGs. **Agrotain** reduces the conversion of urea-nitrogen to forms that are lost to the atmosphere. **SuperU** does the same, but also reduces conversion to nitrate, slowing nitrogen losses to groundwater as well (see the ad on page 6 for more information).

FARMERS HELP REDUCE/OFFSET GHGS AND INCREASE PROFITABILITY ON FARMS by using the following management practices:

- Soil management such as reduced tillage which also reduces tractor fuel use
  - ✓ GHG effect – store more carbon in the soil and reduce carbon dioxide emissions
- Improve application of manure and fertilizers
  - ✓ GHG effect – store more carbon in soil and reduce nitrous oxide emissions
- Improved manure storage
  - ✓ GHG effect – reduce methane emissions
- Including more trees/shrubs or permanent grass cover in farm operations
  - ✓ GHG effect – remove atmospheric carbon dioxide and store in the soil
- Better feed management of ruminant livestock such as beef and dairy cows
  - ✓ GHG effect – reduce methane emissions

ASCA IS COOPERATING WITH 4 PROJECT PARTNERS IN THE FRASER VALLEY to demonstrate some of the management practices mentioned above:

1. ***University of BC Agroecology Research Group*** – Composting poultry manure with composted yard waste from the City of Vancouver.

2. ***Transform Compost Systems Ltd.*** – Composting of hog manure using various techniques. Manure is being used to fertilize poplar trees for pulp production. A small-scale manure digester is being tested to use methane for energy cogeneration while converting solids into compost for field application.

3. ***Pacific Field Corn Association*** – Evaluate different manure application practices, reduced tillage in livestock forage/corn management systems and relay cropping (see the Feb 2003 and May 2002 Soil Keeper for relay cropping articles).

4. ***Sustainable Poultry Farming Group*** – Demonstrate use of shelterbelt trees around poultry barns to reduce dust and ammonia emissions.

Major Program Sponsors/Partners:
- Agriculture and Agri-Food Canada
- Soil Conservation Council of Canada
- Canadian Cattlemen's Association

BC Partners:
- ASCA
- Peace River Forage Association of BC
- Peace River Soil Conservation Association

If you would like more information on GHG projects, contact our office, Sandy Traichel (604)556-3732, e-mail asca@pacificcoast.net.

Update on Environmental Farm Plans and Terasen Pipeline

Environmental Farm Plans (EFPs)

There have been 2 previous articles in the Soil Keeper (see November 2001 and March 2002 editions) about Environmental Farm Plans. **British Columbia is the first province in Canada to have an EFP agreement signed between the Investment Agriculture Foundation and Agriculture and Agri-Food Canada.** The BC Agriculture Council will manage the program in co-operation with the following agencies:

- BC Ministry of Agriculture, Food and Fisheries (BCMAFF)
- The Department of Fisheries and Oceans (DFO)
- Environment Canada (EC)
- The BC Ministry of Water, Land and Air Protection (BCMWALP)

Fundamental principles of the program are that it is **voluntary, confidential and producer driven**. **Farm organizations will deliver the program to producers**. If you are interested in participating in the Environmental Farm Planning Process for your farm, contact one of the EFP Coordinators, Niels Holbek at 1-877-334-6547 or Ron Bertrand at 604-308-6755 to find out more. You can also visit the web site at www.bcac.bc.ca/efp_programs.htm.

Natural Gas Pipeline Proposal by Terasen Gas (formerly BC Gas) - Update on the Inland Pacific Connector

The Soil Keeper has reported on the proposed pipeline and potential impacts on agriculture since March 2000. The Terasen website reports that, “The current status is that the project is on hold. Economic conditions have led to Terasen Gas postponing development of the IPC pipeline. But information sharing and First Nations consultation continues.”

"We believe the project is in the best interest of our customers, and Terasen Gas will proceed with the project when economic conditions improve," said IPC project director Bill Manery. No proposed start date was provided. Visit the Terasen Gas website for more information on the project status at www.terasen.com/Gas/AboutTerasenGas/InlandPacificConnector/default.htm.

Abbotsford Soil Conservation Association

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Directed by Farmers for Farmers & the Community

The Soil Keeper *is a regular publication of the Abbotsford Soil Conservation Association, a non-profit society registered in the Province of BC.*

Key issues the group will be addressing are the following:

- *Soil conservation and related practices*
- *Water Quality and Nutrient Management*
- *Increased public awareness and education*

The ASCA takes a cooperative approach to solutions regarding these issues, focusing on sustainable land stewardship strategies that are economical and effective.

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