

## ANNUAL MEETING OF THE POPLAR COUNCIL OF CANADA 2003

### Summary of Discussion, Friday September 19, 2003

#### *'Ligniculture': agriculture or forestry?*

Firstly, Mr. Jim Carle, secretary of the International Poplar Commission, who holds a position in Plantations and Protection in the Forest Resources Development Service of FAO, made a presentation to clarify the relationships between the different organizations concerned with poplars.

He emphasized that the International Poplar Commission of FAO, established in 1947, is one of the oldest such organizations. Canada is very active among the 37 members of this Commission. IPC covers economic, social, scientific and technical aspects of poplar growing. It aims to promote the exchange of ideas and materials regarding poplars and willows, for the benefit of all individuals and organizations involved. To that end, the IPC coordinates programs of collaborative research among member countries. Full Sessions of IPC are held every 4 years, amongst other things to make recommendations to FAO and member countries concerning poplars. IPC includes 5 working parties on the following topics:

- Diseases, insects and other pests
- Logging and utilization
- Genetics, conservation and improvement
- Biomass production systems
- Environmental aspects of poplars and willows

Common interests in sustainable forest management provide links between the Poplar Council of Canada and IPC. Canada is seen as a good model country where the results of science are put into practice. Many other IPC member countries are not as well developed in this regard and could learn from what happens here. Proceedings and recommendations from the Poplar Council's annual meeting could be forwarded to IPC. A national report is prepared by PCC for IPC every 4 years and is valuable in setting trends and identifying issues throughout FAO's 180 member countries.

Mr. Carle underlined the need to act to implement the policies that are established, through procedures, practices and actions. These cannot be achieved without making society aware and more specifically those people who are directly concerned. Priorities change rapidly nowadays and we must give more attention to social and environmental issues which confront us.

Mr. Carle noted two upcoming meetings on poplar:

- The International Poplar Congress, 13-15 November 2003, in Italy. Mr. Carle explained that the principal Canadian poplar people would be officially notified of this congress, inviting their participation.
- The next Session of the International Poplar Commission, tentatively 7-14 November 2004 in Santiago, Chile, with a post-Session field tour in Argentina. [Date since revised to November 28 – December 2, 2004.]

#### **Presentation by Leonard Barnhardt, Alberta Sustainable Resource Development: History of Poplars on the Prairies**

In the Canadian Prairie Provinces, most poplar work is related to agriculture rather than forestry. So, organizations working with poplars have to deal with provincial agriculture policies.

Historically, hybrid poplar development has been related to shelterbelts in Alberta and Saskatchewan, and involved breeding, screening and testing of materials suitable for agricultural land. Extension and support services have been provided from Agriculture Ministries. The land zoning is 60% in public forest land and 40% in private agricultural land. Hybrid poplar is not recognized as a reforestation species on public forest

land, though this policy may be changing. Private agricultural land has fewer policy constraints than public forest land. Federal and provincial support is available for hybrid poplar as an agricultural crop on private land in the west.

Policy advantages of this agricultural focus include the availability of a wide range of chemicals to control pests and competition, support for single-use crops and intensive management, and few restrictions on breeding and genetic deployment. Environmental advantages of agricultural land include soils with better thermal properties, more fertile and productive, less challenging terrain, better environmental information and matching of genotypes to site. Location-related advantages of agricultural land include availability of infrastructure, proximity to processing facilities, more options to lower costs of site preparation and amendment, and more opportunities for cultivation to maximize fibre production. Social benefits of poplars in agriculture include farm crop diversification and supplements to farm income, eligibility for agricultural extension services and support programs, possible carbon credits, and opportunities for environmental enhancement.

In summary, most forest land on the prairies is under public management and as such has significant policy constraints for intensive poplar cultivation. Traditionally, hybrid poplars on the prairies have been developed for farm shelterbelts by agricultural agencies. There is potential for the widest use of available genetic materials and production systems. High-yield poplar cultivation is more appropriate for agricultural lands.

**Presentation by Marc Bonneau, chief forester with Louisiana-Pacific at Chambord:  
Poplar Growing in Saguenay-Lac-Saint-Jean: an industrial perspective**

Poplars in the region go back to 1994-5. Poplar was selected then for its fast growth potential as well as the possibility of new products. At first, the main players were Panneaux Chambord, and private forestry, as well as the Ministère des Ressources naturelles du Québec through its Forest Research Directorate. Work started on public land, but more companies became interested in purchasing land.

The situation is now favourable for hybrid poplars (HP) in the region, according to the company: by using HP, which is more of a tool for increased yield, we hope to achieve our sustainable yield.

Louisiana-Pacific's strategy for HP relates to 8 of its general plans and only involves public forest land. The program calls for annual replanting of 280 ha. Presently available tools are used to determine the best sites for HP, with high productivity sites being targeted.

A disagreement with the Syndicat des producteurs de bois regarding the costs of products, including poplar, contributes to keeping the level of interest for poplar growing low among private producers. Mr. Bonneau said that a private producer had told him he preferred to make money with softwoods, even if it was only once, rather than losing it three times with poplars. This evidently was in reference to the short rotations of poplars and the low selling price for poplar wood compared to softwoods.

The company's disagreement with the Syndicat des producteurs de bois greatly limits the presence of the Syndicat amongst agencies working in the private sector. The company participates in establishing clonal tests with the Forest Research Directorate, on both private and public land. So far, we have dealt with several problems relating to the clones and plants used. Problems have also arisen with site preparation and planting. Everything has not yet been solved. Is Louisiana-Pacific on the right track with HP on public forest land? As far as research is concerned, results are very promising for the forest scene.

**Presentation by Dr. Ariane Plourde, Forest Biology Research Director, Natural Resources Canada:  
Perspective on poplar growing.**

At the Canadian and international level, poplar growing presently concerns forestry as well as agriculture. It all depends on the legislation in place in any particular location. The best way to proceed would be to determine the objectives and to construct regulations to achieve them. We must not forget that, on the national level, we have international obligations principally related to climate change and the Kyoto

Protocol. In that light, it is important and even urgent that we have a positive dialogue between agriculture and forestry, which has not happened yet. Although the same stage of development has not been reached everywhere across the country, or by everyone involved, we can, with the help of experts, go part of the way towards achieving the expected yields. We should consider our successes as well as our failures and apply the best practices.

We don't have any choice but to employ the triad approach or something similar. In fact, great pressure will be imposed on Canada to keep intact the 10% of global virgin forest which we have.

The use of herbicides would be a winning card allowing us to make use of our expertise with hybrid poplars. It would not mean using them on a permanent basis, but for some 10 years. At the end of that period, silvicultural research, which would be strongly supported financially, ought to allow us to get to the point of not using such products any more. Poplar growing, moreover, must be seen as a type of sustainable development which must be integrated into the sectors involved, both forestry and agriculture.

If we continue to simplify the problems and attribute them only to one sector, we will be taking the wrong road. Deforestation in order to spread manure is an eloquent example of that.

**Presentation by Daniel Carle, agronomist and farmer.**

Mr. Carle is a farmer with 500 cows who has harvested some 10,000 tons of poplar over the past 10 years.

According to him, there are still conflicts between forestry and agriculture and economics are the primary reason. He said that poplar growing is really agriculture since it is actually growing trees (arboriculture).

He strongly opposed the reforestation of agricultural land with conifers since the soil is thus mortgaged for 70 years. For him this is a green desert which will not benefit the local people since the harvest will be determined by people in Montreal.

The fallow land in the region will return to cultivation; and with the price of the land, it will be available for forestry only with difficulty. These are good soils which produce the best quality grass in the world. The groundwater is also of a very high quality recognised throughout the world.

Mr. Carle is annoyed with the foresters who have not developed hybrid poplars fast enough in the region. Poplar growing is an interesting concept, but we need to see if it is profitable. The winter of 1994 was very cold and the hybrid poplars showed very little resistance at that time.

Of his 10,000 ha property, 5000 are in spruce and placed "in reserve" for future generations.

He assured the audience that he would read the results of the conference carefully. On the other hand, according to the stock market, poplar growing will be considered like risk capital on several counts: the effects of frost, drought, wind and climate change; insects, diseases and rodents: will hybrid poplars lead to super-beavers? What about cannabis planters?

With regard to financial risks, how can we finance such plantations? Give the soil or just the crop as a guarantee? Will it be possible to insure everything?

As far as tax is concerned, will it be possible to have an option to buy in 10 years?

As for the commercial risks: how many buyers are there? Can the crop be stored if the market is not good? Will the mill still be there when the crop is harvested? What effect will the plastics market have at harvest? How much are hybrid poplar branches and bark worth?

The yield in value per hectare for hybrid poplars gives him much less than the revenue from his cows.

Mr. Carle is convinced there is a future for hybrid poplars across Canada. We need to see which sites can be allocated to poplars. We must not put all our eggs in the one basket, and make sure we have something to offer. A good job of popularization still needs to be done, slowly but surely.

### **Discussion following the presentations**

#### **Comments by Dr. J.G. (Jud) Isebrands, Environmental Forestry Consultants LLC**

Mr. Isebrands emphasized that he also is a farmer and involved in poplar growing. There are 4 farms in his family.

He emphasized that genetic improvement in Canada had developed to incredible levels and is recognized throughout the world.

He noted some problems in the United States:

- The greatest loss of agricultural carbon results from rivers washing sediments into the Gulf of Mexico.
- The climatic extremes which we are seeing more and more, combined with deforestation for agriculture, cause much flooding.
- The great concentrations of animals raised intensively contaminate the soil and water; most people have had enough of that.

The combination of agriculture and poplar cultivation seems like a good way to counter these types of environmental problems. Contrary to what happens in Africa, we are not talking about practising agrosilviculture on the same soils but establishing a mosaic of land to separate the use of trees and animals.

Manure can also be used to fertilize forest production. Moreover, the government gives grants for streambank reforestation.

The term “hybrid poplar” has certainly had a bad press with the general public, since poplars are seen as exotic species even though not all of them are. Also, they are not genetically modified organisms (GMOs).

Some States have decided that no hybrid poplar project will be financially supported, while others consider them as agriculture and support them.

According to Mr. Isebrands, hybrid poplars can play an interesting role and are particularly useful in agrosilviculture.

#### **Comments by Mr. Jim Carle, FAO Secretariat**

Mr. Carle found the discussion interesting, all the more since it was taking place throughout the world. He said he was surprised to see that society did not like plantations, which represent only 5% of the global forest area, with intensive plantations making up only a third of 0.7% of the global forest area, which is very little. On the other hand, intensive plantations presently provide 27-35% of global industrial wood production, increasing to 45% by 2010.

There are perhaps some negative aspects related to this type of cultivation, but it is very effective in producing fibre. Hybrid poplars give the best results of species used in intensive cultivation.

It is important to recognize the critical role that these plantations have in wood fibre production, but it is also important to see their role in environmental protection and saving the natural forest.

#### **Comments by Bob Rogers**

This conflict between agriculture and forestry is in fact an artificial problem. It would be simpler to talk about agroforestry. We should try to unite these two visions of agriculture and forestry so the land is used better. Economics cannot be ignored in the context of sustainable forestry. We should be careful with the terms we use: 'hybrid' is OK, but 'clones' may not be.

The term "marginal land" also is confusing: we can't put hybrid poplars on marginal land where they will not be profitable.

**Comments by Jean Menetrier, agricultural engineer, Forest Research Directorate**

Mr. Menetrier noted that Daniel Carle is not only a farmer, but also a successful businessman. He thought there were too many foresters here and too few agronomists. He said that poplar cultivation in Europe is done by agricultural engineers, not foresters.

To give a bit of history, Mr. Menetrier said that hybrid poplars was often marginal, with plantations used as a dowry to pay for the cost of a wedding feast. However, nowadays new clones are highly demanding and productive.

He suggested distinguishing between intensive and extensive poplar cultivation so as to optimize the results of agroforestry.

**Comments by Denis Gingras**

For his part, Mr. Gingras spoke of his status as a forester who was shocked because there was a problem in Quebec. He asked again the question he had been posing for 27 years:

- Why can a land owner cut trees in order to plant corn while someone else cannot plant trees on his farm?

**Comment by Daniel Carle**

To me it is a crime to deforest in order to spread manure or grow corn. Hybrid poplars can lead to an improvement in the situation with their short rotations while conifers tie up the land for 70 years.

**Comment by Ariane Plourde**

We must not forget the strong external pressures placed on Canada to protect the natural forest. Incidentally, the funding of organizations which are creating pressure often comes from our competitors.

Mrs. Plourde emphasized that in the federal "Forest 2020" program, the triad concept had been accepted by all administrative levels of society.

**Comment by Stéphane Gaussiran, support professional, UQAT**

Mr. Gaussiran said he also was a forester who was shocked by this general situation. He wondered if promoting mixed plantations might not help reduce the problem.

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