

From the Manitoba *Hippophaë* Cultivation, Harvesting, & Marketing Experience

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From the Manitoba *Hippophaë* Growers Experience

- Background Information
- Historical Development
- The Challenges: Planting material, Contracts etc..
- The Technology Mission to Russia & Germany
- Development of Harvesting Method
- The Harvester
- Pricing & Marketing
- Conclusion & Recommendation

Manitoba Seabuckthorn Grower's Association (MSGGA)

- Established in 2001 with 120 acres of land
- Over 40 members now
- 1997 1st short news paper article
- Health benefits & its ability to grow in marginal land attracted our attention
- 1997-1998 we pursued research on *Hippophaë*
- There was little information from provincial and federal agricultural offices and also on the internet.

MSGGA Major Objectives

- The main objective was to promote and educate its members the best *Hippophaë* management practices.
- 1998 with persistent research, more info became available from Prairie Farm Research Association (PFRA), Saskatchewan
- Through endless calls & questions, PFRA supplied *Hippophaë* trees for shelterbelts but not for farming purposes.
- Our supply of trees would need to come from elsewhere

Contract with a “Seller/Buyer Company”

- In 1999 a Canadian company offered *Hippophaë* plants for sell and contracted interested prospective growers to grow the plants and the company would buy berries & leaves.
- We purchased 9,000 *Hippophaë rhamnoides*, ssp ‘*seninsis*’ trees from the same company.



Contract...continued

- In 2000-2001, we planted 2000 more of the 'Indian Summer' *Hippophaë* trees.
- In 2001 "Manitoba Seabuckthorn Growers Association" was created after formal discussions



1998-2007 Good Work

- All these years many discussions and meetings went on as to where the industry would go as no one had any product yet to market
- However, we concentrated on best plantation practices, e.g. planting, mulching, irrigation, pruning, cultivation and speculated on harvesting methods



1998-2003 Information Gathering

- We participated in many nutraceutical and functional food conferences
- Requested Manitoba University to explore the health benefits of *Hippophaë*
- A good relationship developed with Eng. Alphonsus Utioh from the FDC, Manitoba. He took great interest in *Hippophaë* and he maintains this interest today.

2002 Tech Mission Russia & Germany

- In 2002 we took part in a technology mission to Russia & Germany.

- The objective of the trip was to research *Hippophaë* industry in those countries.



2002 Tech Mission... continued

- We visited plantations, processing facilities, saw and sampled retail ready *Hippophaë* products.
- We got exposed to harvesting techniques ranging from simple hand picking to sophisticated.
- The result of this mission gave us the golden opportunity to relay valuable information to our growers.



2003- Manitoba *Hippophaë* Bears Berries

- In 2003 our trees came to bear fruits.
- We proceeded to make a large scale harvest test.
- The intent was to establish that the cut, freeze and strip harvesting method would work.
- All this work was experimental and proved that it could be done.

2003 1st Harvest Test

1st Manitoba Grown *Hippophaë*

- Our orchard's first large scale harvest (1,100 lbs) of *Hippophaë* berries was conducted in the Fall of 2003.
- This was donated to the FDC to help in the process of developing *Hippophaë* based food products, such as jams, energy bars, juice and SFE oil.



The “Buyer Contract” Chasing the 1st Challenge

- A crushing blow to our venture was dealt when the company that held our contracts to purchase berries & leaves rescinded its contractual obligations.
- This left us and many growers to start to search for markets on our own.

The “Buyer Contract” – continued

- The company who had our contracts is still operating under a different name and they purchase their *Hippophaë* from China.



2004 – The 2nd Challenge

- In 2004 we noticed die back (*Cytospora* spp) fungus in our trees.
- We were told that *Cytospora* was not considered deadly to the plantation as a whole.
- Therefore, we continued with normal plantation practices. Unfortunately, with the season progressing, it got worse.
- A heart wrenching decision was made, up-root the trees and burn them.

2005-2007

Hippophaë is Still on Our Mind

- In 2005-7, we still have our 'Indian Summer' plantation producing fruits.
- So far no berry is being harvested.
- At this time there is no market.
- 2006-2007, although *Hippophaë* is still on our mind, the momentum seems to have wavered.

Summary

- The work involved in planting, maintaining, harvesting, and processing is beyond a doubt far more labour intensive than any one of us has been led to believe. However, we demonstrated that all work can be done by using existing local technology with slight modifications.
- Marketing a product that is almost unheard of in the western part of the globe with uncertain stability and yield presents a unique challenge to simple growers.
- After ten years of production efforts, Canadian farmers are still lagging behind *Hippophae* producing countries.
- Canada lost more than one billion dollars in lost business opportunities and expenses related to *Hippophae* introduction & research since 1997 to 2007!
- Institutional support with competent expertise will fasten *Hippophae* program to succeed as a new product.



- Refrigerated semi-trailer (Reefer)



- The reefer was divided by a tarp to make two rooms. This was done to hopefully reduce diesel fuel consumption by about 50%.



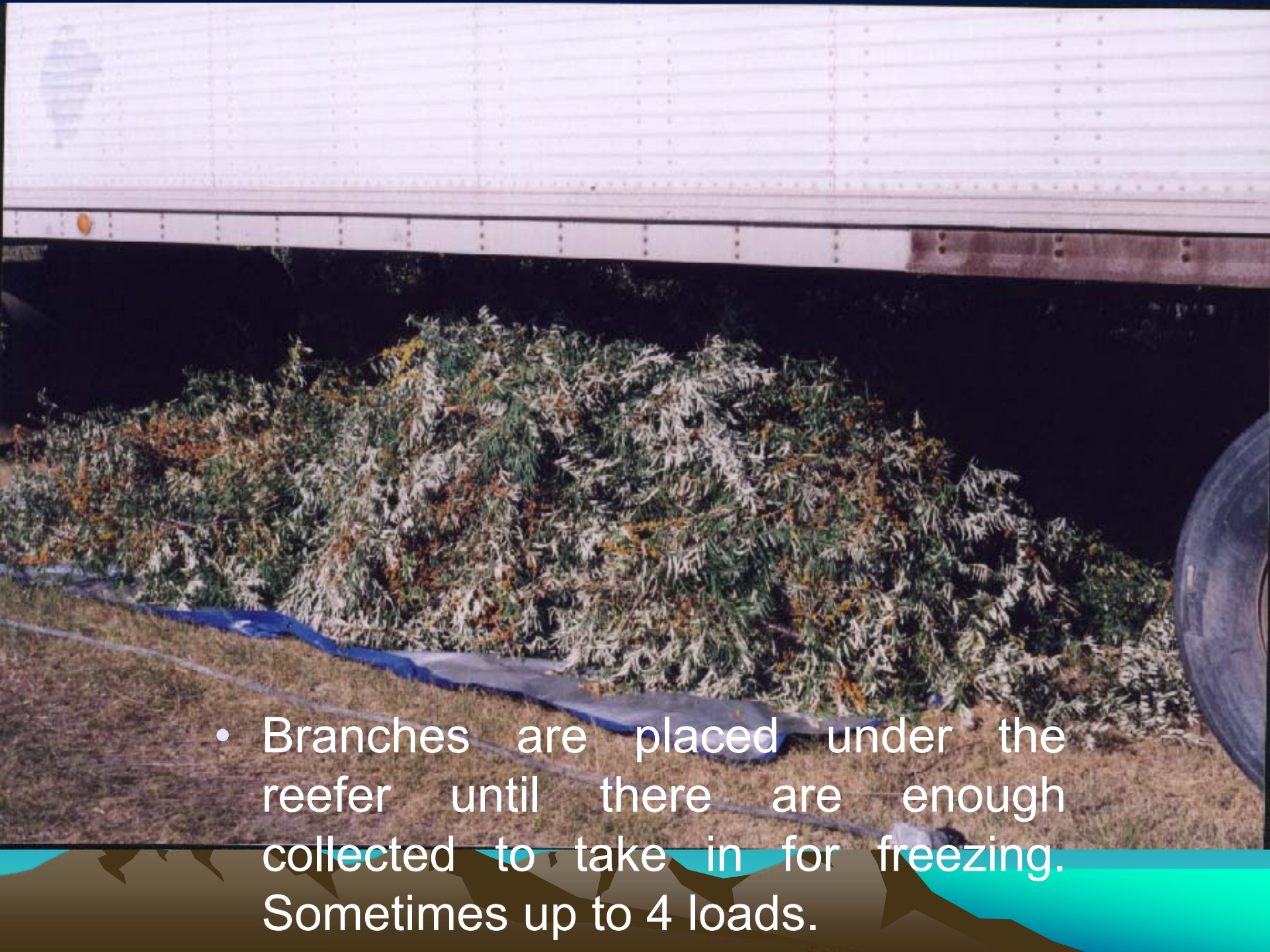
- Lee Robins harvester is being placed in the reefer.
- Thanks to Lee for making his harvester available.
- Skidsteer courtesy of Paul's Build & Renovate



- Branches from selected trees are pruned.
- The pruner is battery operated back pack system.



- Trailer loaded with branches heading for the freezer.
- Branches were piled as high as possible on this 4'x 6' trailer.



- Branches are placed under the reefer until there are enough collected to take in for freezing. Sometimes up to 4 loads.



- Branches carried into the reefer for freezing.
- It will take over night to freeze the loads.



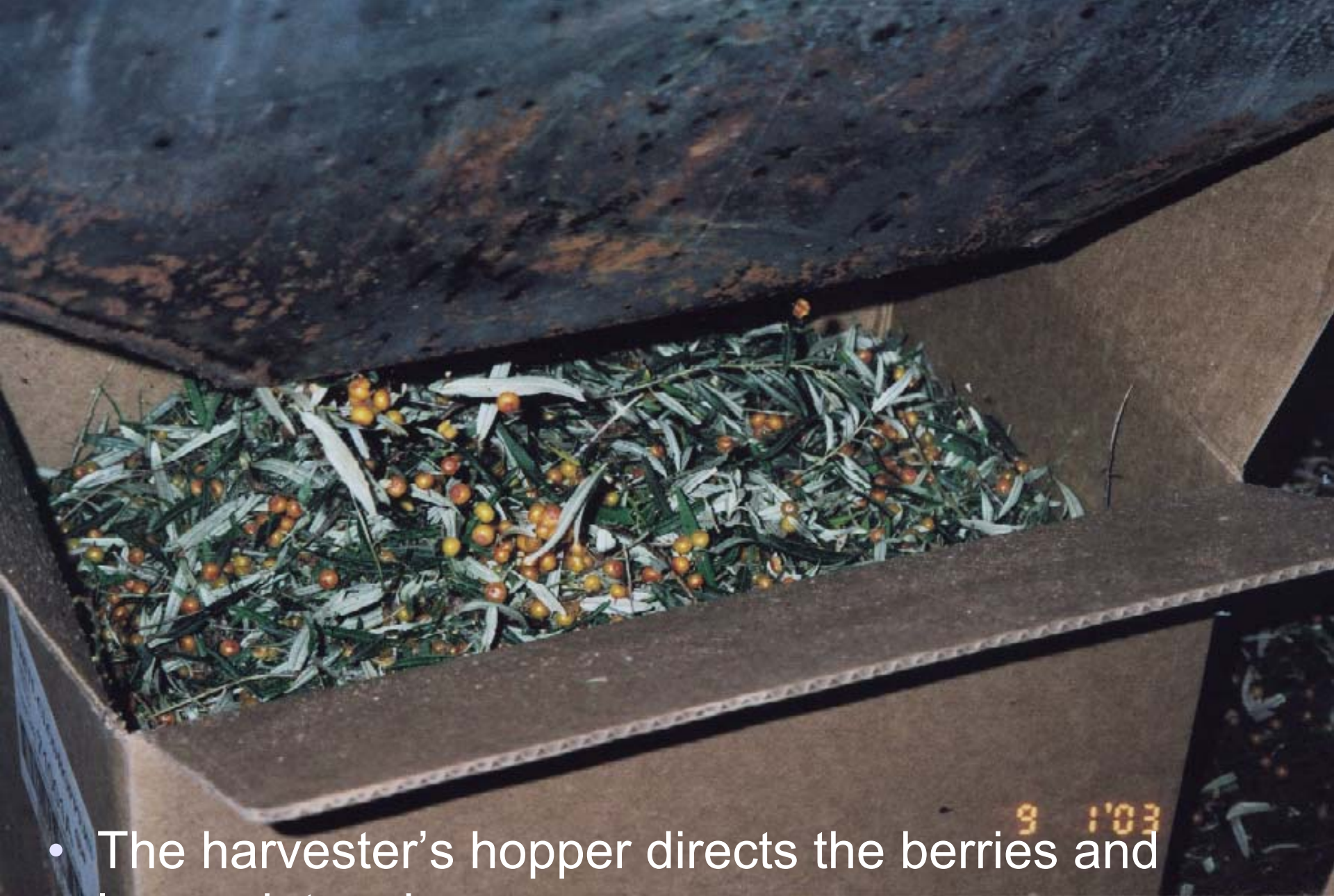
- Part of the harvesting crew in the reefer.
- All workers are dressed in full winter gear. Due to limitations of the reefer's freezing capacity we were often limited to under 1½ hours of working time.



- Sample of a branch loaded with berries before it goes into the harvester.



- Feeding branches into harvester.



- The harvester's hopper directs the berries and leaves into a box.



- Branches stripped of berries leave the back of Lee's harvester.



- Sample from the harvester being screened to be ready to go into the blower.



- Everything from the harvester's hopper is then passed through a blower to remove leaves, twigs, broken berries, grasshoppers, etc...



- Discharge from blower.



- Berries cleaned by the blower are now ready to be bagged, boxed and stored.



- Boxed berries ready to be sent to cold storage.



◀ Before



◀ After

Harvest from September 1st – 9th.

- Costs related to harvesting.
- Reefer rental @ \$50.00 day x 9 days \$ 450.00
- Hauling reefer to and from farm \$ 50.00
- Harvester courtesy Lee Robins N/C
- Generator & Welding extension cords
courtesy of Paul's Build and Renovate N/C
- Fuel Reefer 450 L @ \$ 0.60 \$ 270.00
- Fuel Generator \$ 40.00
- Fuel Truck \$ 80.00
- Bags 122 x \$ 0.09 \$ 11.00
- Boxes 30 X \$ 0.50 \$ 15.00
- **Sub Total** **\$916.00**
- Labour 6workersx6hrsx\$10.00x9days \$3,240.00
- **Total harvesting costs** **\$4,156.00**

Conclusion

- Harvested 1,110 lbs. berries.
- Cost per pound harvested supplies only.
- $\$916.00 \div 1,110 = \$0.83/\text{lb}$
- Cost per pound harvested supplies and labour:
- $\$4,156.00 \div 1,110 = \$3.74/\text{lb}$



Acknowledgements

