

# Demonstrating the Value of Selecting for Hygienic Behaviour in Saskatchewan's Honey Bees



**Growing Forward 2**  
A federal-provincial-territorial initiative

The project was supported by the Agricultural Demonstration of Practices and Technologies (ADOPT) initiative under the Canada-Saskatchewan Growing Forward 2 bi-lateral agreement.

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SBA Annual Convention

5 December 2015

All photos courtesy GSParsons unless otherwise noted

# Field Day Demo

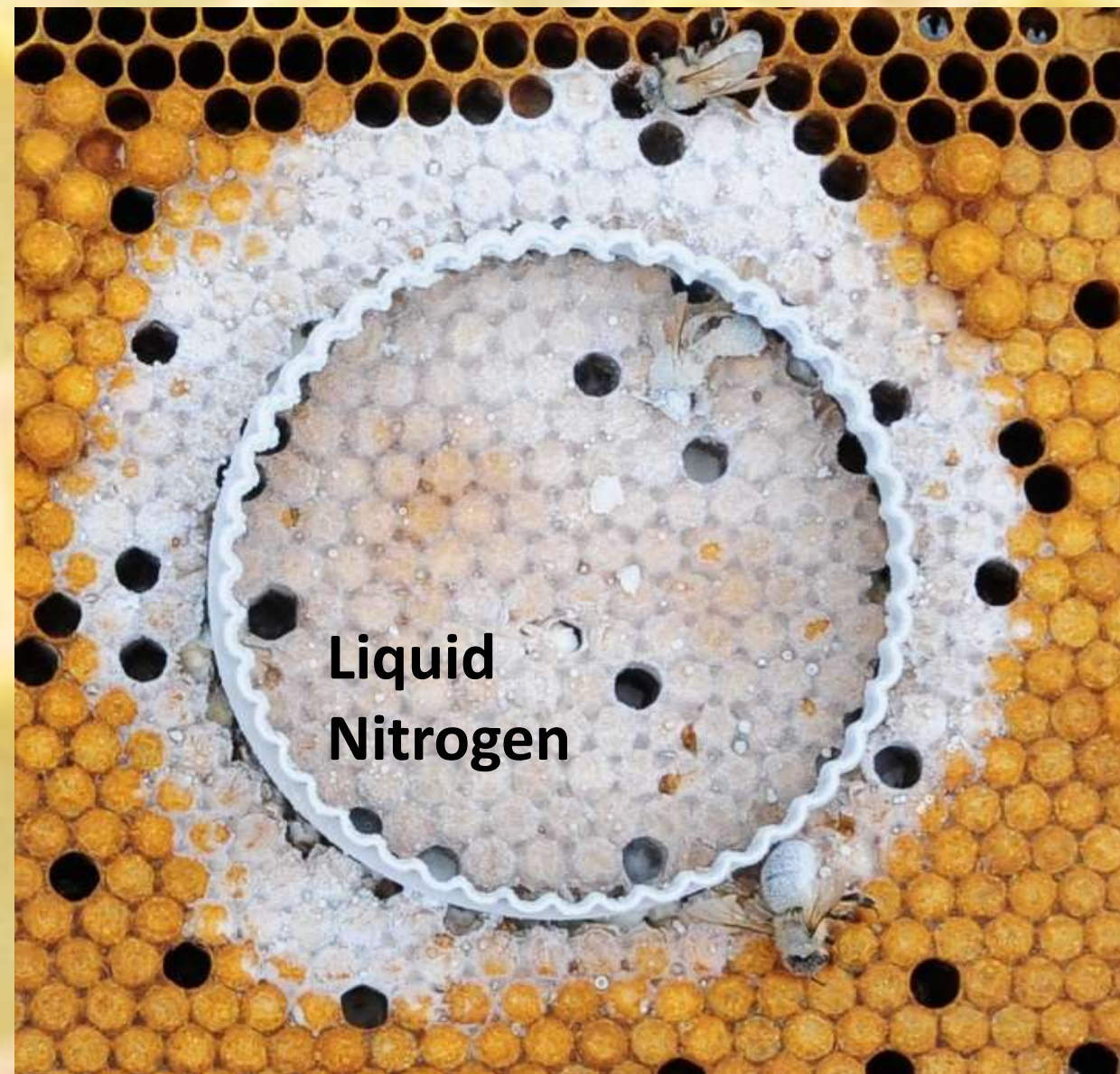
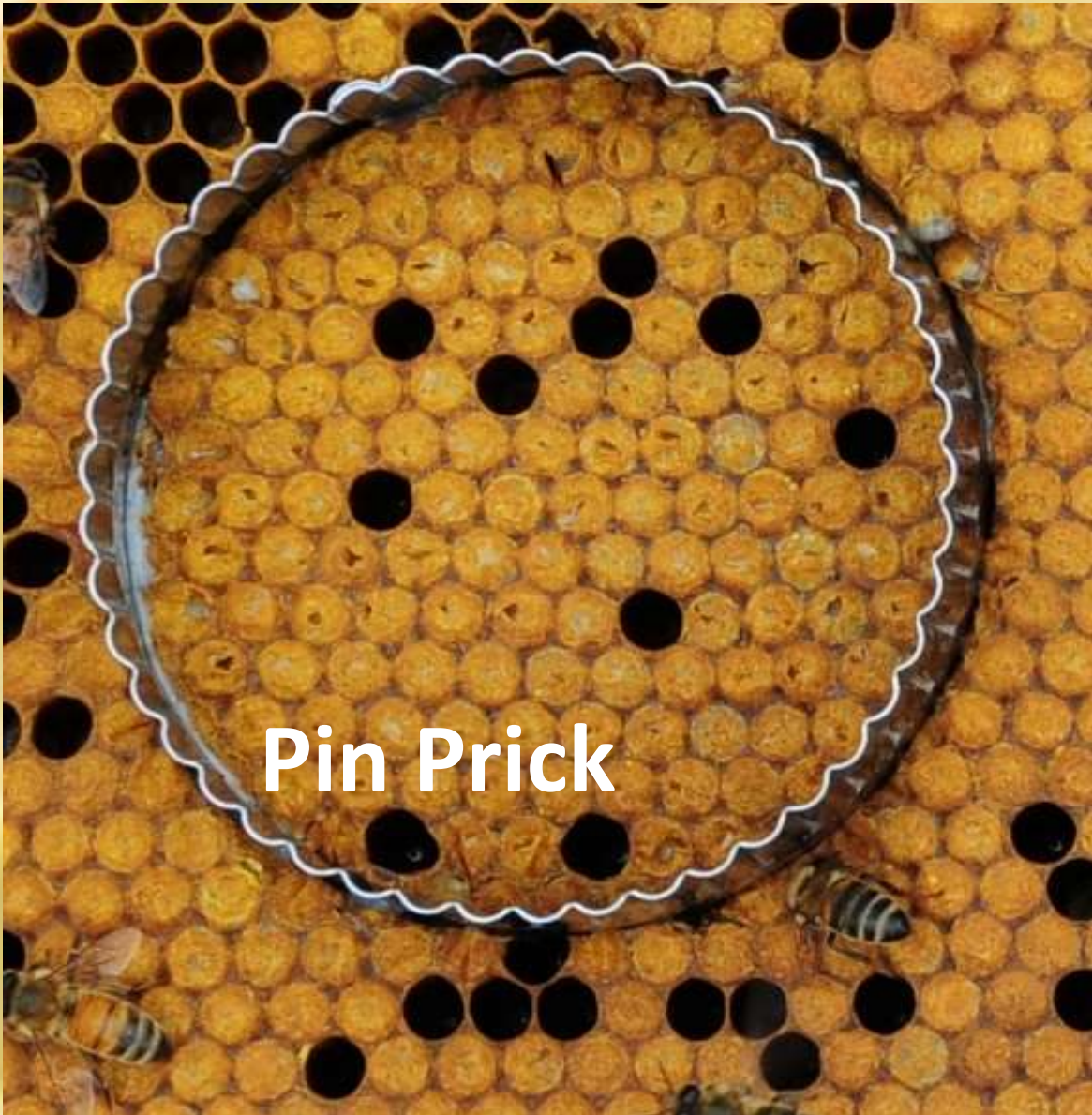
Thanks Joe  
Edwards

BeeMaid  
Tisdale

John  
Sochaski



# Demonstration of Two Techniques



# Liquid Nitrogen Application

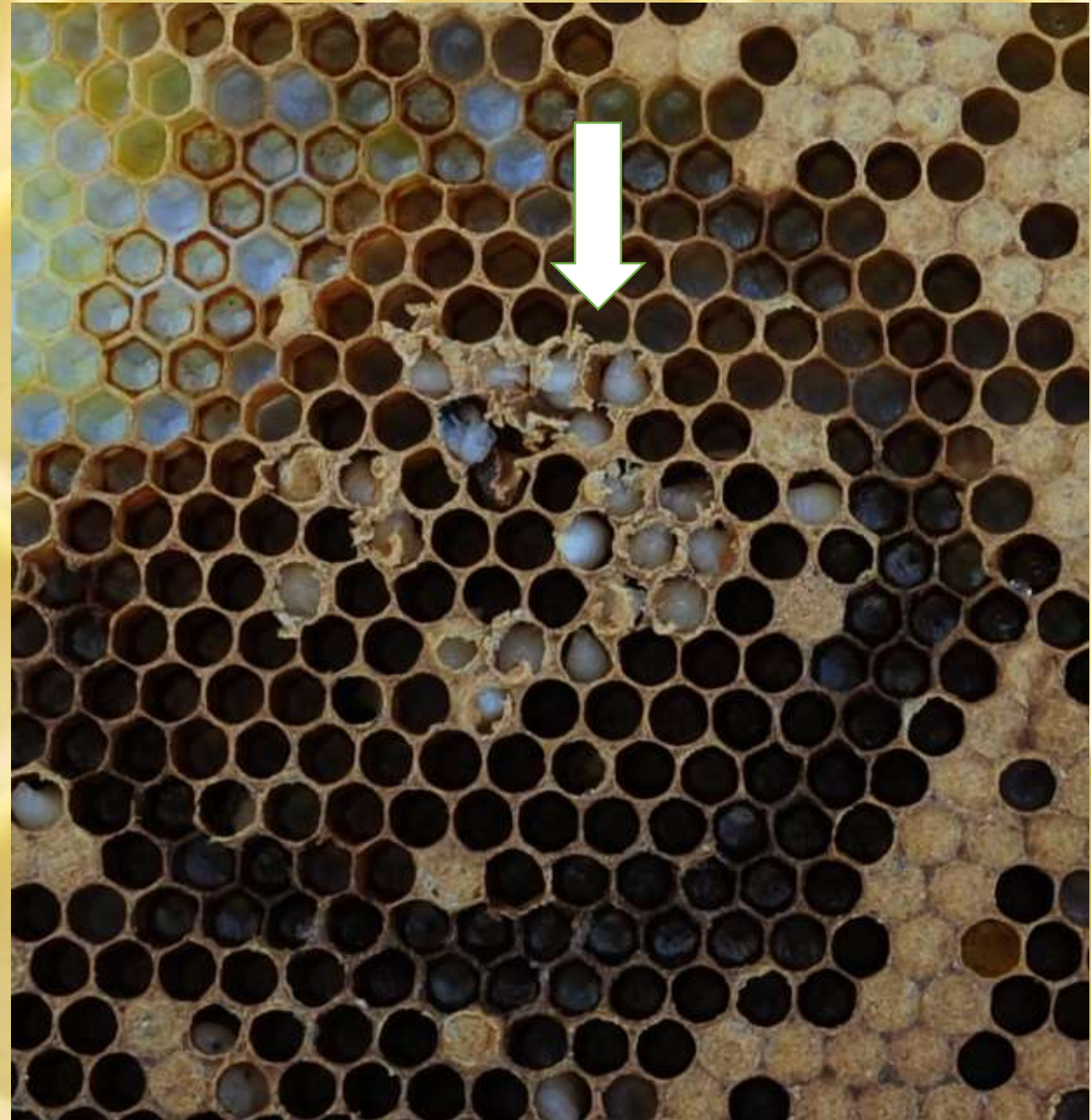


**Saskatchewan Bees are Winter Hardy...**

**Use lots of Liquid Nitrogen**

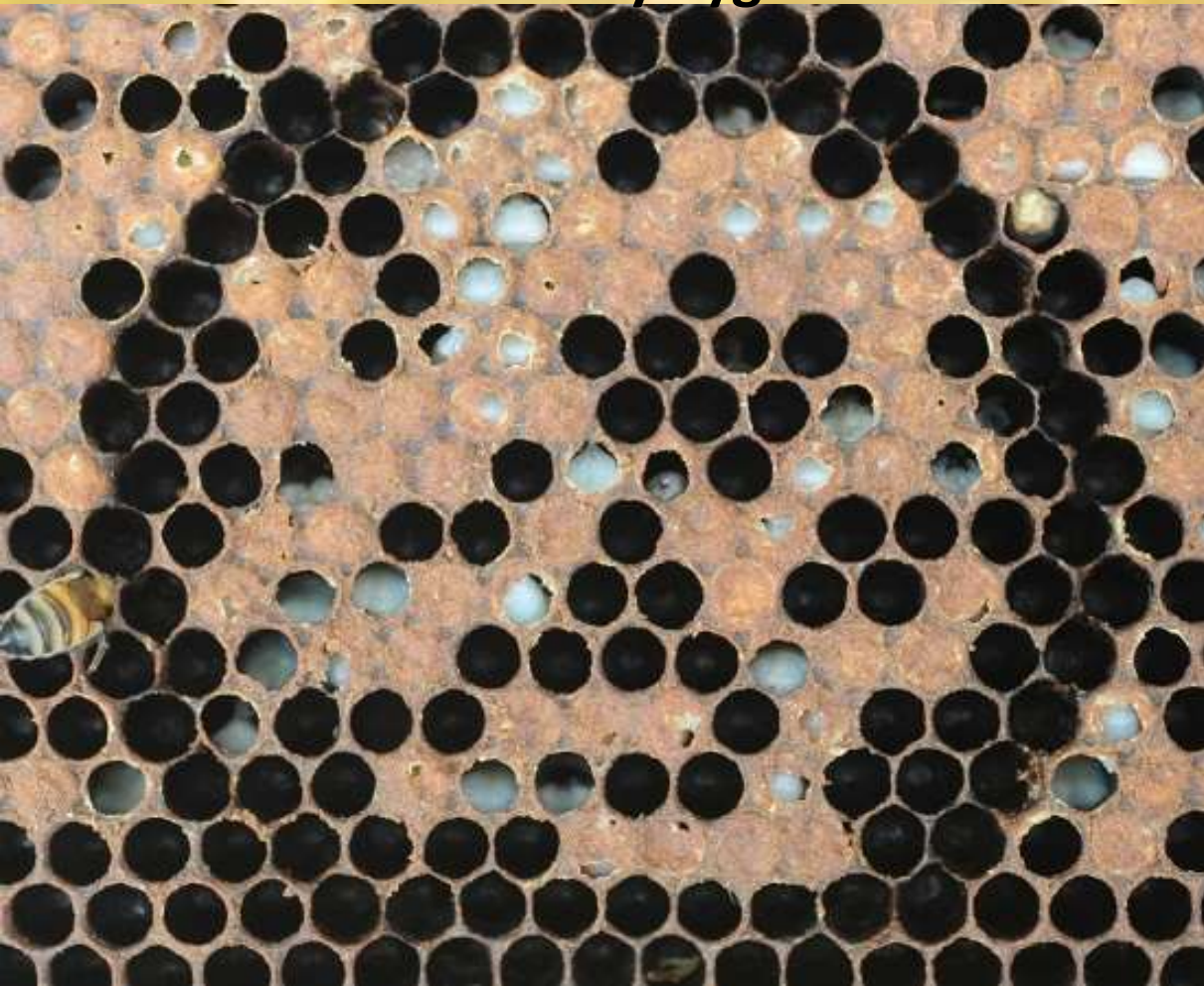
**8 scoops of ~40ml of Liquid Nitrogen**

**Must be pink eyed pupa**



# Nitrogen Results

Low to moderately hygienic

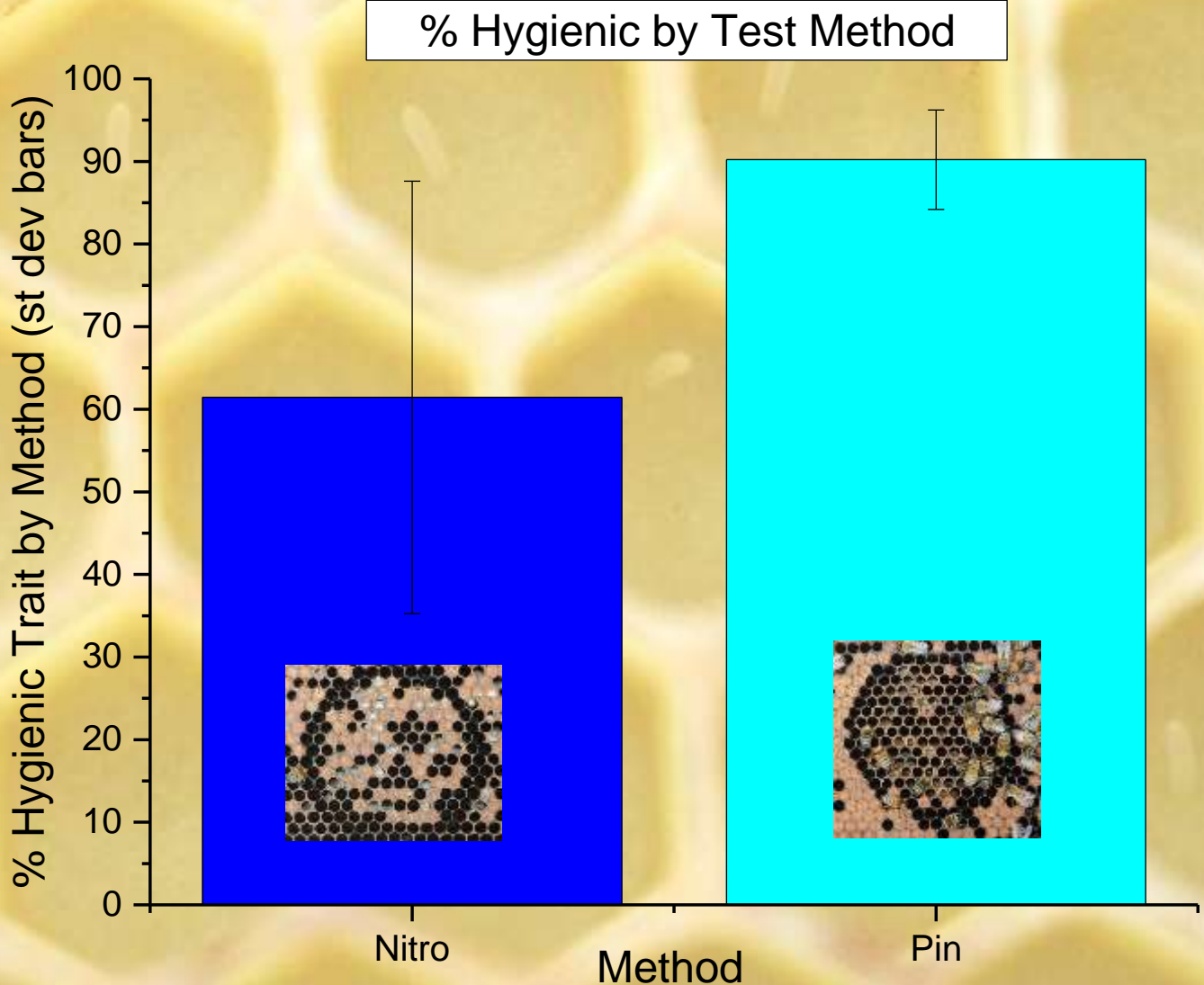


Highly hygienic

# Real Data from the Demonstration

Colony	Frame	Method	Day 1 empty/d amaged	Day 1 Cappedd	Day 2 Cappe uncapped but not touched	Day 2 uncapped but not touched	% Hygienic	Absolute Diff BW Methods
1	2	Nitro	38	108	8	31	63.89	27.62
	2	Pin	33	106	9	0	91.51	
2	3	Nitro	45	108	7	15	79.63	3.86
	3	Pin	35	109	10	8	83.49	
3	12	Nitro	40	109	98	6	4.59	81.13
	15	Pin	43	91	12	1	85.71	
4	4	Nitro	34	104	71	10	22.12	65.96
	4	Pin	34	109	13	0	88.07	

# Which Method Might be Best as a Selection Tool?



# Cost Estimate

Item	Cost High	Cost Low
Dewar \$1000, lasts 5 years (\$200/yr, divide by 5 uses/yr =\$40)	\$50	\$40
Liquid Nitrogen	\$100	\$100
Labour 2 staff for 2 days	\$1000	\$800
Meals 2 Days (\$50/day X 2 days X 2 Staff)	\$200	\$0
Hotel (maybe) (2 Rooms for 1 night X \$150)	\$300	\$0
Vehicle expense ( ###km from Prince Albert X \$0.44/km)	\$300	\$60
Total (up to 30 colonies in 1 location)	\$1950	\$1000

**Who would use the service at this price?**

# Acknowledgments

- **Joe Edwards**
- **BeeMaid Honey**
- **John Sochaski**
- **Calvin Parsons**
- **Dani Glennie**
- **Jess Morris**
- **Geoff Wilson and Sask Agriculture**

#AgFPT15



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Positioning Canada's Agriculture and Agri-Food Sector for Growth and Prosperity

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