

High Performance Manuka Plantations

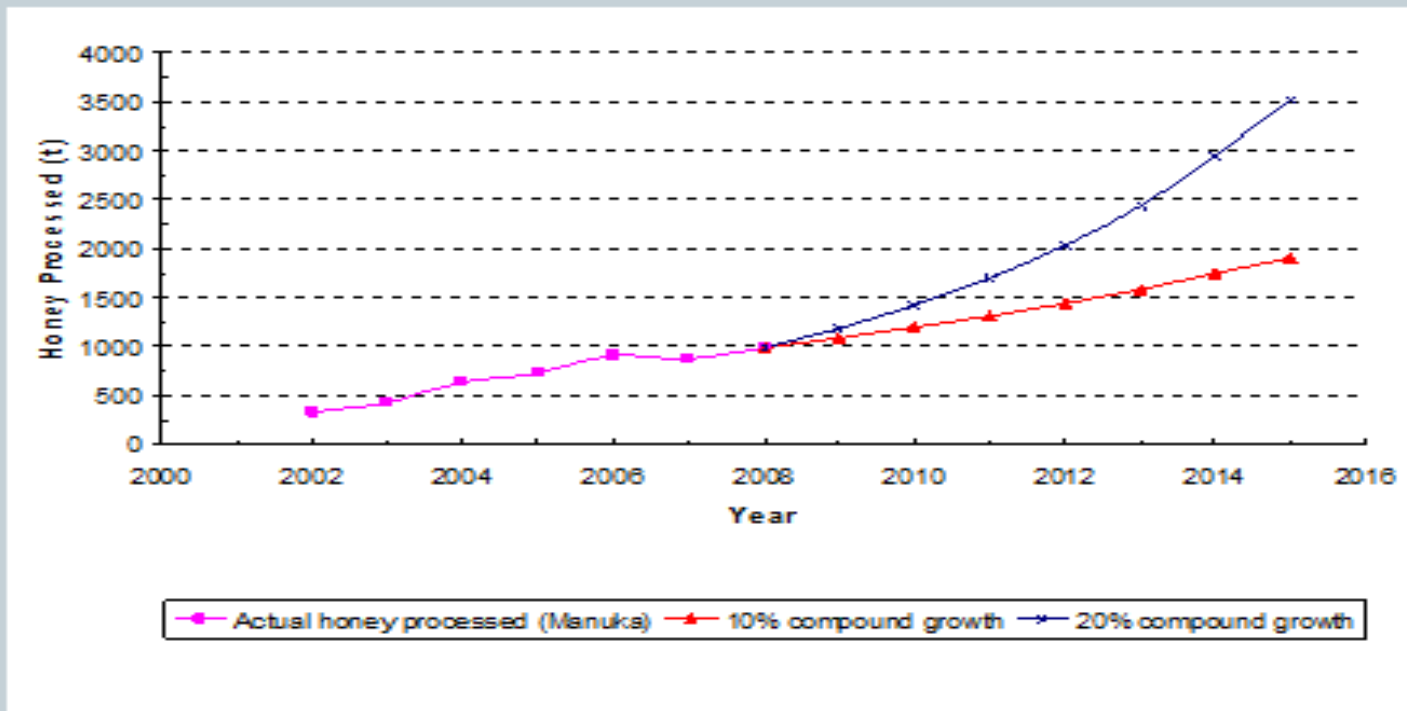
John Burke



The Opportunity



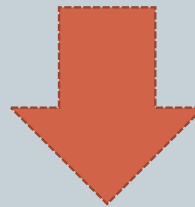
Growing/insatiable demand for Manuka honey for culinary but also high UMF grade for medical & healthcare purposes



The Opportunity (continued)



- Estimated 1.14 Million ha of erosion prone hill country pasture land (70% located in North Island)
- Negative stumpage values on some Tree Forest Plantations
- Riparian Planting required to protect water quality



The need to provide an alternate economic land use on marginal land and riparian areas (Land & Environmental Plans)

Initiatives



- **Opportunity recognised by Comvita:**
 - Commenced Manuka Breeding Program in 2008
 - First Manuka trial plantations planted in 2009

- **Manuka Research Partnership Ltd formed in 2011**

Manuka Research Partnership Ltd – PGP Project



- \$2.9 M Manuka Plantation PGP Research Project with Ministry of Primary Industries
- 8 Year Timeline - 2011 to 2018
- Massey University – Research Provider
- Comvita providing Manuka Plants to the Project from its Plant Breeding Program

The MRPL Co-investors



- Comvita New Zealand Ltd
- D and C Tweeddale
- Nukuhau Carbon Ltd
- Arborex Industries – Te Awaiti station, Wairarapa
- Landcorp
- Hawkes Bay Regional Council
- Te Tumu Paeroa (previously Maori Trustee)

Program Objectives



To develop the necessary Manuka Plantation husbandry knowledge to enable productivity gains resulting in a 16-fold increase in market returns from Manuka honey by doubling each of:

- Hives per ha
- Manuka honey yield per hive
- Manuka honey that meets medical grade
- Land area in Manuka economically accessible to beekeepers

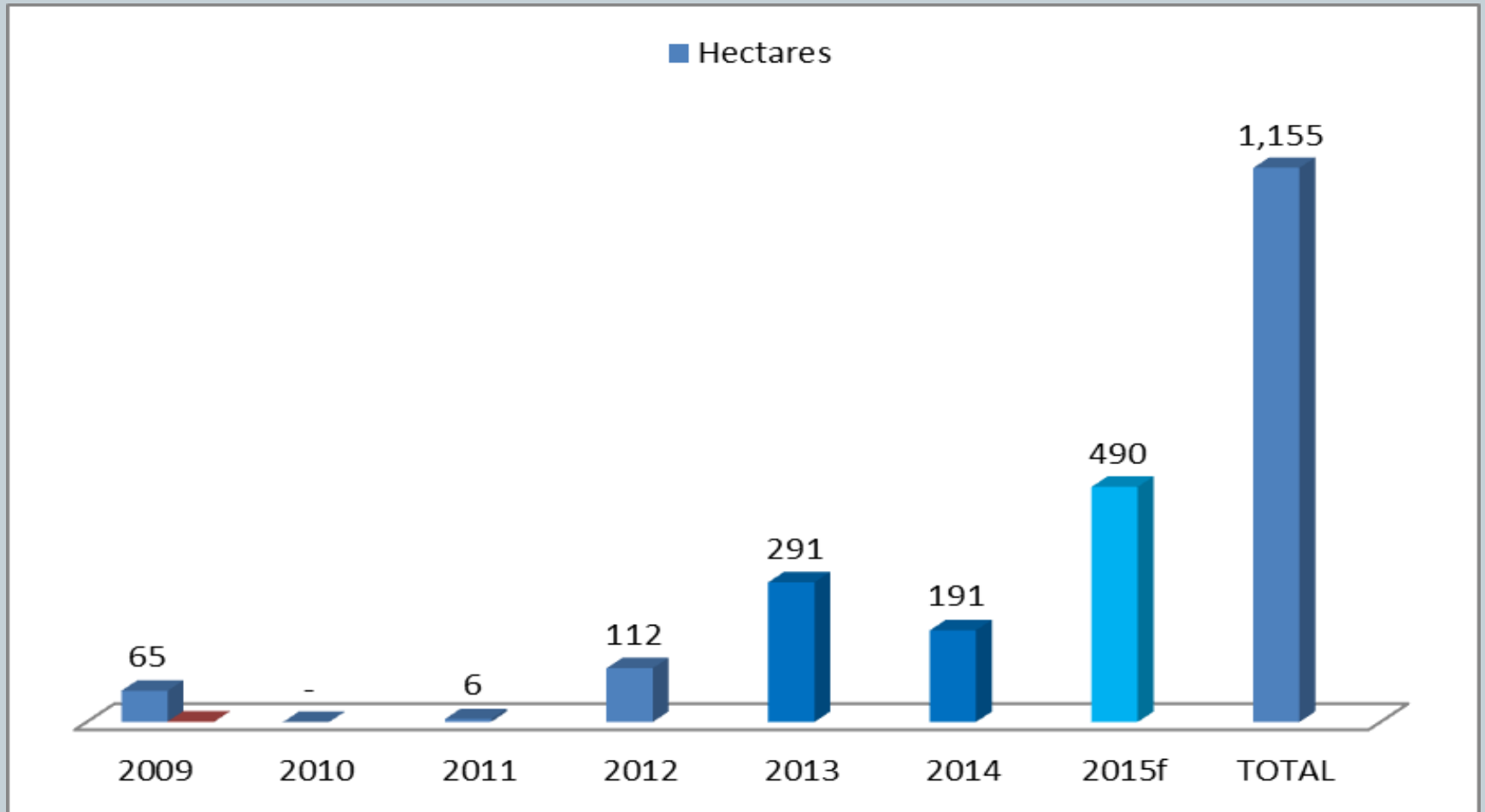
Growth Target → \$1b Exports

Project Deliverables for Land Owners



- Prove financial Business Case for ***Manuka Plantation*** as a viable alternate land use on Marginal Land
- Services and Tools to assist Landowners with Manuka Plantation Establishment such as:
 - Financial modelling and decision support tools
 - Supply of High performance Manuka Seedlings from Comvita's breeding program
 - Best Practice Plantation establishment & management advice

Comvita Manuka Plantations



Commercial Manuka Plantation Trials



- 1,155ha planted from 2009 to 2015 including 25 commercial sized trials (approx. 20ha or greater)
- Includes 11 commercial trial sites totalling 469ha which are closely monitored by **Manuka Research Partnership Ltd**
- Sites have been chosen to provide a regional and environmental spread for collection of field data for the project
- 3 Commercial sized plantations are located in the BOP

Understanding variability of manuka

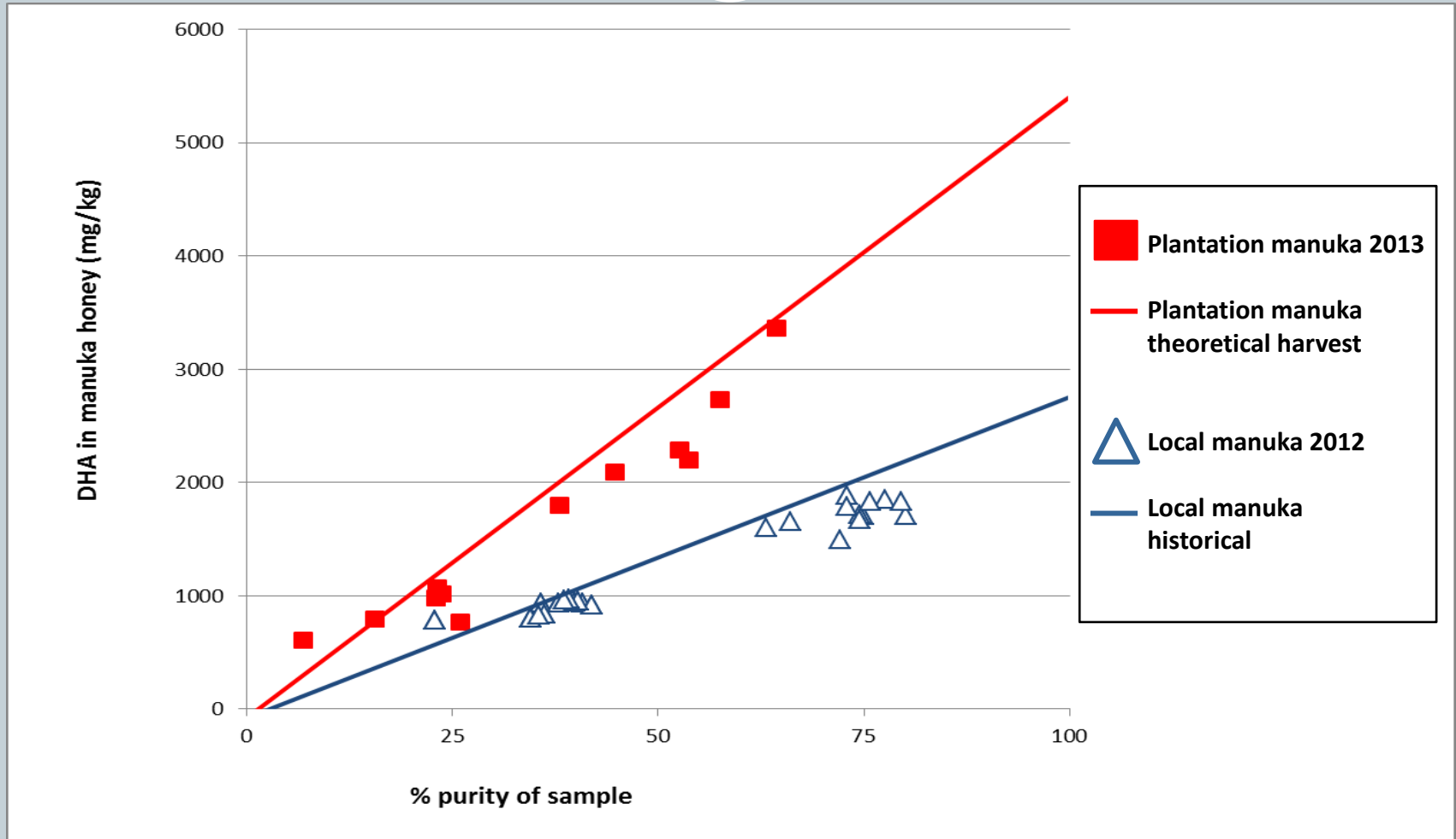


Assess:

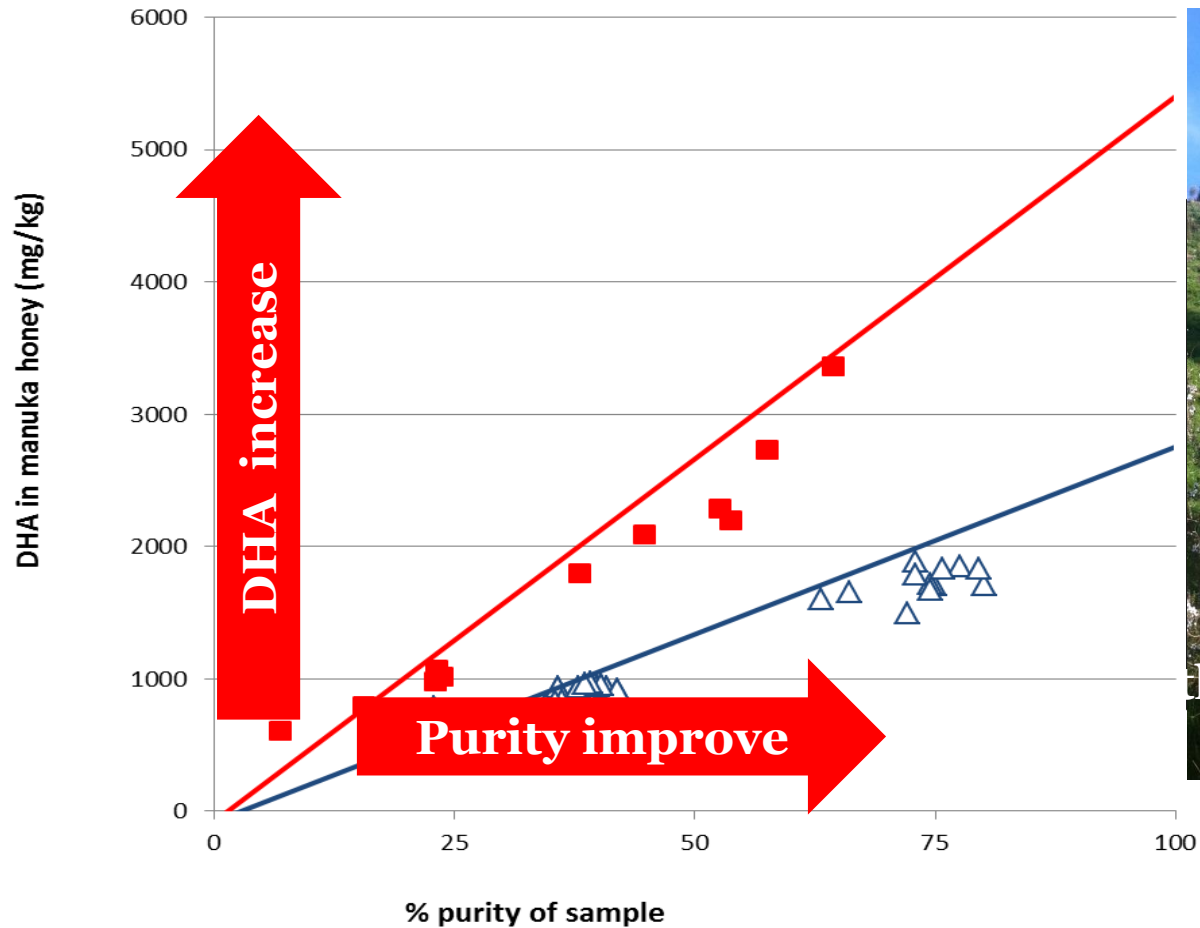
- growth rates
- disease resistance
- floral density
- bee attractiveness
- flowering period
- DHA in nectar
- and hardiness



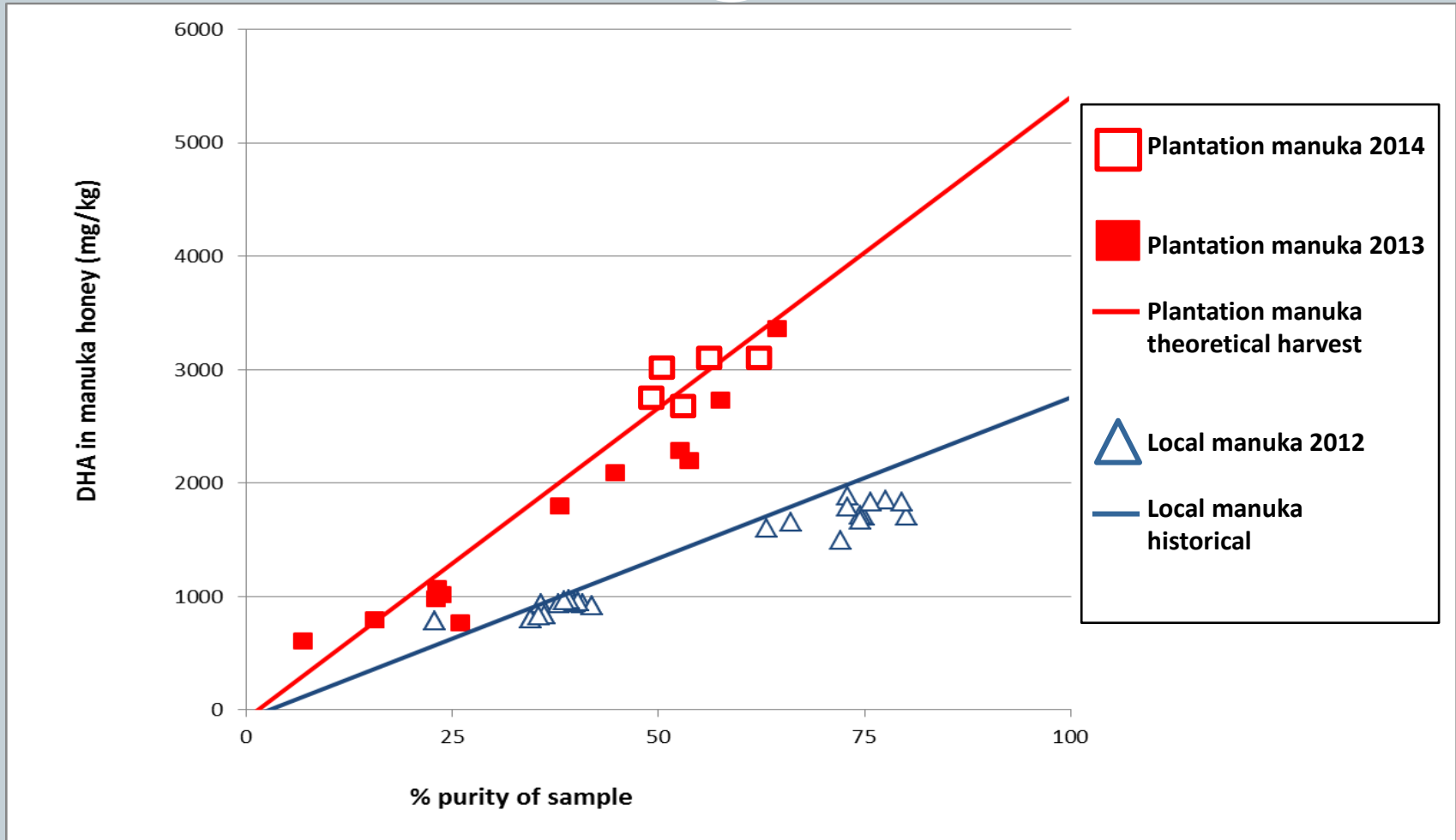
Early field trial, 2013 harvest



2013 harvest, predictions last year



Early field trial, 2014 harvest



2015 Arrangement with Landowners



- Comvita Manuka seedlings at 45 cents per plant
- Planting and establishment advice
- 10 year Agreement to harvest honey and collect site data
- 30% share of apiary revenue from the plantation paid to the Landowner

Proving the Business Case is When *“The Rubber Hits the Road”*

KEY VARIABLES (at Maturity)	Natural	COMVITA CULTIVARS		
	Reversion	LOW	MEDIUM	HIGH
HIVES PER HA	1.0	1.0	1.0	1.0
PRODUCTION PER HIVE (KG)	20	30	35	40
UMF RATING	5+	10+	15+	18+
HONEY VALUE PER KG	\$16.00	\$26.40	\$42.40	\$56.00
LAND OWNER REVENUE SHARE	15%	30%	30%	30%
CARBON INCOME \$ PER TONNE		\$ 6.00	\$ 6.00	\$ 6.00
MANUKA ESTABLISHMENT PER HA		\$ 2,500	\$ 2,500	\$ 2,500
MATURE SURPLUS PER HA	\$ 48	\$ 286	\$ 493	\$ 720
LANDOWNER IRR	NA	7.7%	13.8%	19.0%

Economics of Farming Marginal Land



Beef & Lamb website Economic Farm Surplus for NI
Eastcoast Class 3 Hard Hill country:

Last 5 years average **\$162 EFS per ha**

2014/15 Forecast **\$177 EFS per ha**

Note: Based a **complete farm** with a stocking rate of
7.6 stock units per ha

Economics of Farming Marginal Land



EXAMPLE FARM	TOTAL FARM	RETIREMENT	RESIDUAL FARM
EFFECTIVE AREA HA	1,000	100	900
STOCK UNITS	10,000	400	9,600
SU/HA	10.0	4.0	10.7
GROSS REVENUE	1,274,000	36,160	1,237,840
PER HA	\$ 1,274	\$ 362	\$ 1,375
PER SU	\$ 127.40	\$ 90.40	\$ 128.94
FARM EXPENDITURE			
FIXED PER SU	158,000	6,320	151,680
\$/SU	\$ 15.80	\$ 15.80	\$ 15.80
FIXED PER HA	394,000	39,400	354,600
\$/HA	\$ 394	\$ 394	\$ 394
TOTAL FARM EXPENDITURE	552,000	45,720	506,280
PER HA	\$ 552	\$ 457	\$ 563
ECONOMIC FARM SURPLUS	722,000	(9,560)	731,560
PER HA	\$ 722	(96)	\$ 813

Pastoral vrs Manuka Landuse Comparison

<u>MARGINAL LAND INVESTMENT COMPARISON</u>	PASTORAL USE	PLANTATION MANUKA	
AREA HA	100	100	
CAPITAL OUTLAY (EXCL LAND)	\$ 40,000	\$ 250,000	
ECONOMIC FARM SURPLUS/(DEFICIT) PER HA	(9,560) (96)	49,300 \$ 493.00	** AT MATURITY
MARGINAL INVESTMENT RETURN (IRR)	NEGATIVE	7.7% - 19.0%??	

Take Home Messages



- MRPL project is work in progress – 2018 completion date
- Initial results are very encouraging
- New generation of Manuka hybrids in the pipeline
- Comvita looking to expand its Plantation program and are keen to talk to Owners wishing to retire land
- Consider “Trees for Bees” integration into planting

Plantation Manuka - Benefits to Rural NZ



- Potential
- alternative land use for marginal land in NZ
- Macro environmental & economic benefit – Pure NZ Story
- Flow-on benefits of wealth creation through honey industry
- Capability development – new beekeepers & cadets



ROTORUA

Daily Post

Honey hope in nutrient battle

A Ground-breaking trial could give landowners in the Lake Rotorua catchment a new and profitable way to meet proposed nutrient limits.... Mar 27, 2014

