

# **Test Results Summary**

## Owner: OTI Pty. Ltd

# 14<sup>th</sup> Oct 2016

Sample	Horse Name	Sire	Dam	Sex	Year	Year Speed of Gene Birth Test	Projected Height Test	Elite Performance Test v3.0		Distance Distance	Distance	Distance	Distance	Raced /	Dirt V	
ID					of Birth			Inbreeding Value	Racing Value	Breeding Value	(ANZ) v1.0	(EU) v1.0	(USA) v1.0	(SAF) v1.0	Unraced v1.0	Turf v1.0
-	Tom Melbourne	Dylan Thomas	Roshanak	Male	2011	СТ	AA	High	3	3	CT-Short	CT-Short	CT-Long	CT-Short	Low Potential	Turf Pro



## **Test Results**

Horse Details					14 <sup>th</sup> O	ct 2016
<b>Owner</b> OTI Pty. Ltd	Sample ID -		Country of	Birth Ireland		
Horse Name Tom Melbourne Sire Dylan Thomas		Dam Roshanak				
Sex Male	Month of Birth March Year of B		Year of Bir	irth 2011		
Elite Performance Test v3.(	)					
Genomic Racing Value This individual's chances of being elite ar	e 10% less than average	1*	1	2	3	4
Genomic Inbreeding Value This individual has a higher than typical r variants for a Thoroughbred	number of identical genetic	LOW		MEDIUM		HIGH
Genomic Breeding Value This individual has a slightly lower than a positive markers related to elite racing pe	verage potential of passing on erformance	1	2		3	4
Speed Gene Test						
Mid-distance type. See Tests Explained fo Breeding Potential: Can produce C:C, C:T stamina)	or best distance for your region. or T:T (sprint, mid-dist &	C:C		C:T		T:T

## **Distance Plus v1.0**

This individual is more likely to be a short-range C:T mid-distance type	Australasia					
	C:C SHORT	<b>C:C</b> LONG	C:T SHORT	C:T LONG	T:T T:T SHORT LONG	
	Europe					
This individual is more likely to be a short-range C:T mid-distance type	C:C SHORT	<b>C:C</b> LONG	C:T SHORT	C:T LONG	T:T T:T SHORT LONG	
	North America					
This individual is more likely to be a long-range C:T mid-distance type	<b>C:C</b> SHORT	<b>C:C</b> LONG	<b>C:T</b> SHORT	<b>C:T</b> LONG	T:T T:T SHORT LONG	
	South Af	rica		_		
This individual is more likely to be a short-range C:T mid-distance type	C:C SHORT	C:C LONG	<b>C:T</b> SHORT	C:T LONG	T:T T:T SHORT LONG	



# **Test Results**

Race/Unraced v1.0				
This individual is 60% less likely to have a racecourse start than a Higher Potential score.	LOW Potential	<b>MEDI</b> Poten	<b>UM</b> Itial	<b>HIGH</b> Potential
Dirt/Turf v1.0				
80% of these individuals are best suited to turf racing	TURF PRO	TURF	DIRT	DIRT PRO
Projected Height				
Mature height at withers 162.8cm +/-2.54cm (approx. 15.3hh). Can produce small or medium height horses	SMALL	MED	DIUM	TALL



# **Tests Explained**

#### Elite Performance Test v3.0

Genetics contributes up to 40% of the variation in performance ability. The Elite Performance Test v3.0 provides a Genomic Racing Value, Genomic Breeding Value and Genomic Inbreeding Value to inform management and training decisions.

### **Genomic Racing Value**

A Genomic Racing Value (GRV) of 1-4 is assigned to each horse. A Class 1 horse has the greatest potential to be an elite racehorse, while a Class 4 horse has the lowest potential. Class 1\* indicates Class 1 individuals that are at the top of the range.



### **Genomic Breeding Value**

The Genomic Breeding Value (GBV) represents the potential for a broodmare or stallion to produce offspring with a higher potential for elite success.

This is based on an assessment of the favorable genetic variants that can be passed on to the foal.

Each horse is given a Genomic Breeding Value (GBV) of 1-4, where a value of 1 indicates the highest probability of producing elite racehorses.

## **Genomic Inbreeding Value**

The Genomic Inbreeding Value evaluates the actual level of inbreeding in a Thoroughbred horse, which can be used to inform future mating decisions. Each horse is given a value of Low, Medium or High for Genomic Inbreeding.

A high value means that the individual has inherited a significantly greater proportion of identical genetic information from sire and dam.



# **Tests Explained**

#### **Speed Gene Test**

Best race distance and precocity potential can be predicted through the analysis of a specific marker within the myostatin (MSTN) gene, where the code contains either the DNA marker C or T.

Each individual has two copies of the gene, one inherited from each parent, so there are three possible combinations of the genetic markers, C:C, C:T and T:T.

Speed Gene Type	Europe	ANZ	USA	Precocity	
C:C	90% had best race distance of 1 mile or less 2% had best race distance of 10f or more	91% had best race distance of 1600m or less 62% had best race distance of 1300m or less	82% had best race distance of 1 mile 1/8 or less 51% had best race distance of 7.5f or less	Average age at first win: 32 months	
C:T	78% had best race distance of 7-12f	60% had best race distance of 1500m+	67% had best race distance of 7-9f	Average age at first win:	
	53% had best race distance of 10f or more	22% had best race distance of 1300m or less	20% had best race distance of 7.5f or less	35 months	
T:T	8% had best race distance of less than 1 mile	80% had best race distance of 1500m+	67% had best race distance of 1 mile 1/8 or more	Average age at first win:	
	81% had best race distance of 10f or more	52% had best race distance of 2000m+	38% had best race distance of 10f+	40 months	

#### Distance Plus v1.0

Distance Plus v1.0 refines the best race distance predicted by the Speed Gene, through the analysis of thousands of additional genetic markers, separating horses into short or long C:C, C:T or T:T.

Different genetic arrangements are analysed for four of the major global racing regions to increase accuracy in prediction. The same horse could potentially be a "C:C-short" in North America but a "C:C-long" in Europe due to different suitability for different regions.

	Average Best Race Distance (Global)
C:C-short	1339m
C:C-long	1500m
C:T-short	1720m
C:T-long	1865m
T:T-short	2042m
T:T-long	2306m

### Raced/Unraced v1.0

It is understood that there are multiple reasons as to why an individual might never make it to the racetrack. Raced/Unraced v1.0 analyses the genetic contributions that may underpin these traits. Horses are ranked as Higher Potential, Medium Potential or Lower Potential for a racetrack start. Higher Potential males have a 1.6x (60%) greater chance of having a start in their two or three-year-old season than Lower Potential.

Higher Potential females have a 1.2x (20%) greater chance of having a start in their two or three-year-old season than Lower Potential



# **Tests Explained**

### Dirt vs. Turf v1.0

Dirt vs. Turf v1.0 indicates genetic affinity of an individual for achieving their best win on dirt or turf surface.

Horses are categorised as:

- Turf Pro 80 % suited to turf racing
- $\bullet$  Turf 50  $\%\,$  suited to turf racing
- Dirt 64% suited to dirt racing
- $\bullet$  Dirt Pro 75 % suited to dirt racing

### **Projected Height**

Mature height at withers can be predicted from birth within 2.54cm (1 inch), with a 70% success rate, based on DNA analysis of the LCORL/ NCAPG gene region and the sex of the horse.

Genetic Type	Physical Type	Projected Height	Breeding Potential	
A:A	Small	Female 161.08cm (approx. 15.3hh) Male 162.80cm (approx. 16hh)	Can only produce small or medium horses	
G:A	Medium	Female 163.44cm(approx. 16hh) Male 165.14cm (approx. 16.1hh)	Can produce small, medium or tall horses	
G:G	Tall	Female 168.28cm (approx. 16.2hh) Males 168.28cm (approx. 16.2hh)	Can only produce medium or tall horses	