EQUINOME

Racing GenePak

Result: Australia/New Zealand

Horse Details

Horse Name	Sire	Dam
	Dundeel	Rosie Rocket

Sample ID	Sex	Country of Birth
Dundeel x Rosie Rocket	Female	Australia

Year of Birth	Month of Birth
2024	August

SPEED GENE TEST

Speed Gene Test — C:T — Middle — Plusvital

DISTANCE PLUS TEST

Distance Plus Test — AUS — C:T — Short — Plusvital

DIRT VS TURF TEST

Dirt -v- Turf — TURF PRO — Plusvital

- ✓ C:T Short horses will likely achieve their optimal performance if trained and raced as a middle distances type with a particular preference for 1200-1800m races
- ✓ Recommend targeting 1200-1400m races as a two-year-old, and races of 1600-1800m races as an older horse
- ✓ Can breed sprint, middle distance or staying types depending on mare/sire
- ✓ Turf Pro horses show a strong preference for running on turf surfaces, being three times more likely to win on turf than dirt surfaces

Use this result for Horses in Training

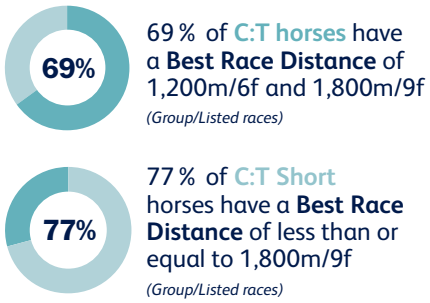
HORSES IN TRAINING

1000m 5f | 1200m 6f | 1400m 7f | 1800m 9f | 2200m 11f | 3200m 16f

SPEED GENE TEST
Likely **Best Race Distance** between 1,200m/6f and 1,800m/9f

DISTANCE PLUS TEST
Likely **Best Race Distance** of less than or equal to 1,800m/9f

DIRT VS TURF TEST Likely to **perform much better when running on turf surfaces**



The Distance Plus Test refines the Speed Gene Test distance range prediction ✓ Likely Miler Middle Distance ✓ Most Versatile Type

By comparison with T:T horses at the same age, two-year-old C:T horses develop:

2% More muscle mass

4.8% More Type IIB muscle (fast twitch) fibres

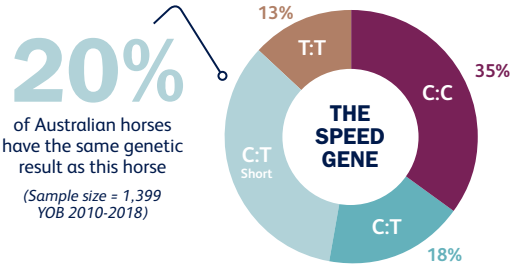
About the Speed Gene Test | Distance Plus Test | Dirt Vs Turf Test

About the Speed Gene Test

- The Speed Gene Test examines differences in the myostatin gene to make a prediction of a horse's best race distance
- The myostatin gene is a major determinant of race distance aptitude because it influences:
  - Skeletal muscle growth
  - The proportion of fast twitch (glycolytic, Type IIB) muscle fibre required for short bursts of power and the proportion of slow twitch (oxidative, Type I) muscle fibre types required or stamina
- Race distance aptitude is almost entirely determined by the genetic make-up of this gene
- Test result is based on the combination of "C" and "T" genetic variants, one inherited from each parent

There are three possible combinations of the Speed Gene variants, with one Distance Plus sub-variant:

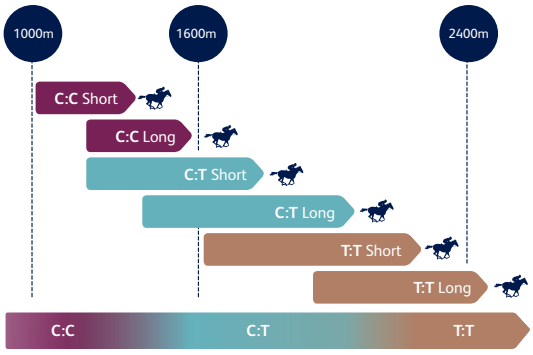




About the Distance Plus Test

- The Distance Plus Test looks at 50,000 genetic markers to provide an enhanced level of information when combined with the Speed Gene Test
- Refines the predicted optimum race distance, sub-categorising the Speed Gene Types into "Short" or Long" (e.g. C:T Short or C:T Long)

Average Best Race Distance
(179 Group/Listed Winning Horses - AUS/NZ Only)



As well as the most influential gene, m ostatin, many other genes with functions in anabolic processes, insulin signalling, the hypoxic response and fat metabolism, contribute in a small way to distance aptitude.

This test uses genes from the whole genome to more precisely predict likely best race distance in a particular race region.

About the Dirt Vs Turf Test

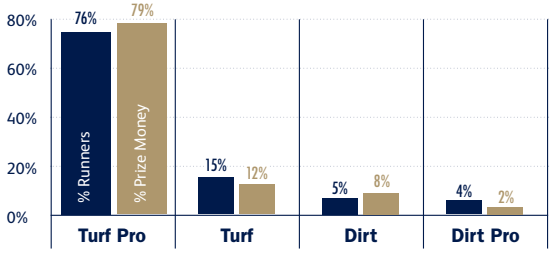
- Identifies a horse's genetic pre erence for a turf or dirt race surface
- Result categorises horses into one of four categories:
  - **Dirt Pro** (Strongly prefer dirt surfaces)
  - **Dirt** (Prefer dirt surfaces)
  - **Turf** (Prefer turf surfaces)
  - **Turf Pro** (Strongly prefer turf surfaces)

Many consider surface preference to be indicated by pedigree and physical type since sires are often ranked according to the success of their progeny on different surfaces. However, it is often unclear until a horse has raced a number of times as to which surface it is best suited to.

Similarly, some stallions can produce progeny with different surface preferences and with the global movement of stallions, pedigree may not always be the best indicator of a horse's surface preference type.

THREE-YEAR-OLDS & OLDER: DIRT VS TURF TEST

% of Runners vs Prize Money



Turf Flat races, Australia & New Zealand, 2010-2018 (Sample size = 1,696)

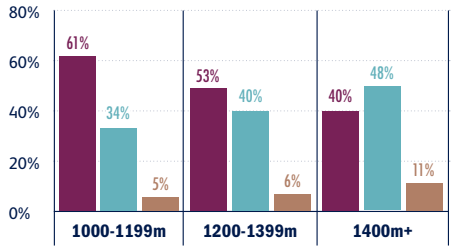
The vast majority of Australian runners are Turf Pro. Turf Pro horses greatly over-perform on Australian Turf surfaces.

Observations of this result for Horses In Training

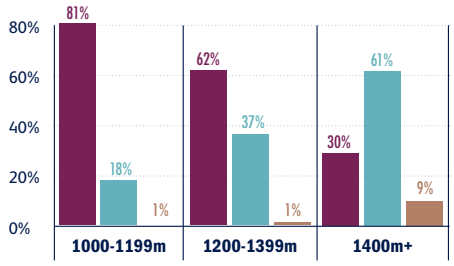
Observations of this result for Horses In Training

TWO-YEAR-OLDS

% of Runners by distance by Speed Gene type



% of Prize Money by distance by Speed Gene type



C:C
C:T
T:T

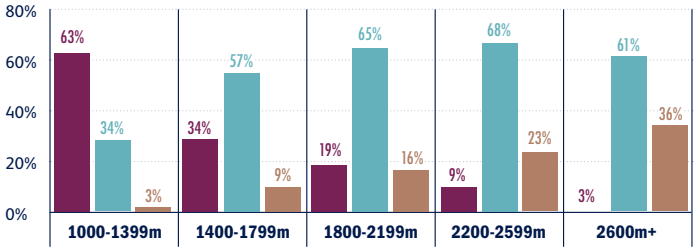
Flat races, Australia & New Zealand, 2010-2018 (Sample size = 715)

Two-year-old C:T horses perform best at 1400m+

- **At 1000-1199m, C:T horses under-performed,** winning 18 % of the prize money available, despite providing 34 % of the runners at this distance
- **At 1200-1399m, C:T horses under-performed,** winning 37 % of the prize money available, despite providing 40 % of the runners at this distance
- **At 1400m+, C:T horses over-performed,** winning 61 % of the prize money available, providing 48 % of the runners at this distance

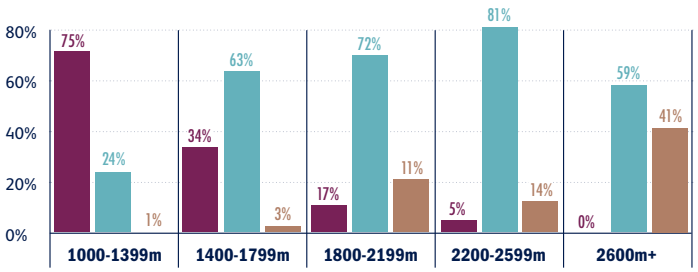
THREE-YEAR-OLDS

% of Runners by distance by Speed Gene type



C:C
C:T
T:T

% of Prize Money by distance by Speed Gene type



Flat races, Australia & New Zealand, 2010-2018 (Sample size = 1,740)

Three-year-old and older C:T horses perform best at 1400m-2599m

- **At 1000-1399m, C:T horses under-performed,** winning 24 % of the prize money available, despite providing 34 % of the runners at this distance
- **At 1400-2599m, C:T horses over-performed,** winning 68 % of the prize money available, despite providing 60 % of the runners at this distance
- **At 2600m+, C:T horses under-performed,** winning 59 % of the prize money available, despite providing 61 % of the runners at this distance

Strike Rate and % Winners

- A higher percentage of C:T horses won at 1400-2399m races relative to C:C and T:T horses
- C:T horses recorded a higher strike rate than C:C and T:T horses in races at 1400-2399m, outperforming T:T horses at shorter distances

Use this result for Young Stock | Breeding

EQUINOME

Racing GenePak

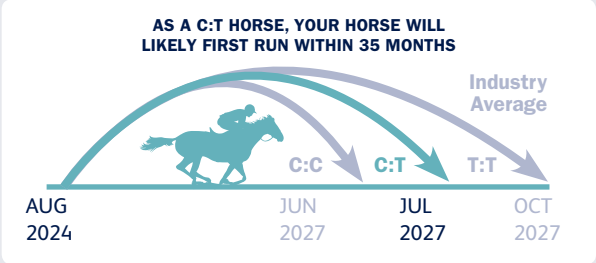
Result: Australia/NewZealand

Use this result for Young Stock

YOUNG STOCK

C:T horses precocity in line with the industry average

- 50 % of C:T horses had their first run within 35 months of their date of birth, which is a month longer than C:C horses, and four months shorter than T:T horses, but mirrors the average for the general population

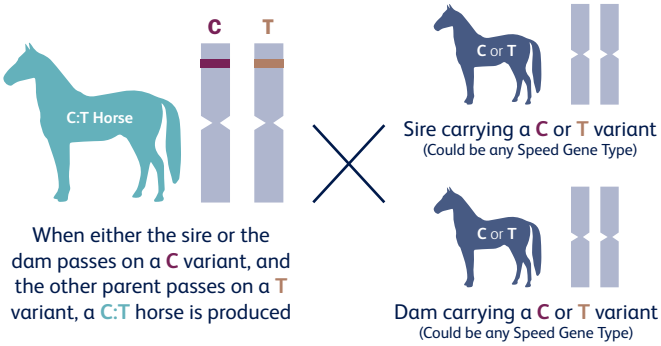


Use this result for Breeding

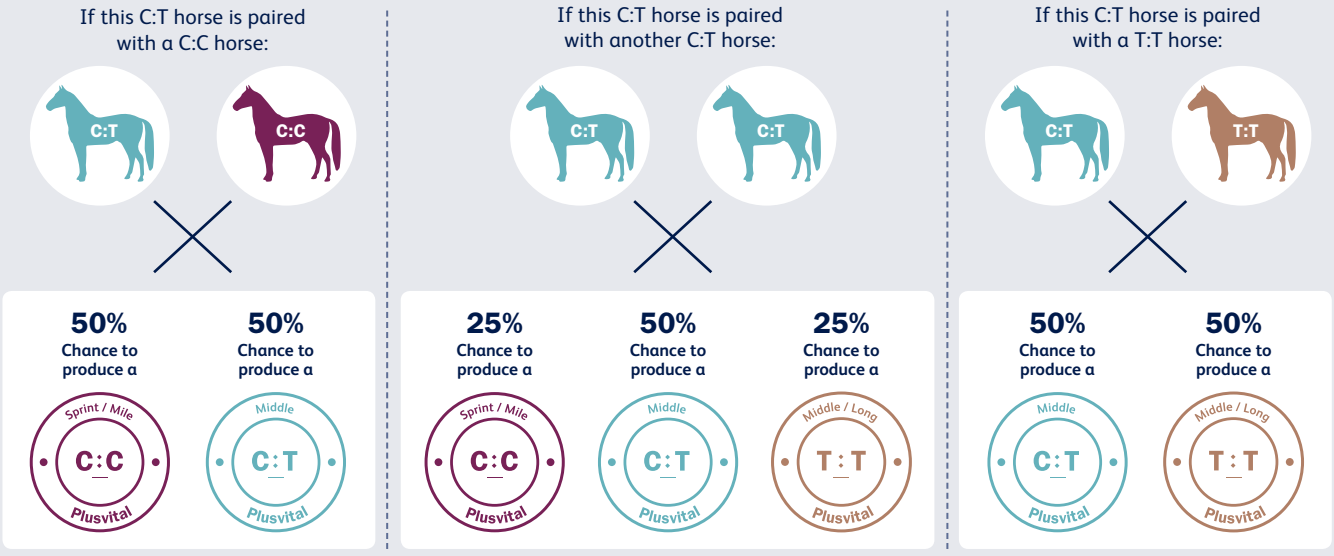
BREEDING

- Horses inherit one copy of the myostatin gene, containing either a “C” or “T” variant, from both the sire and the dam
- Different combinations can arise from the same mating depending on the variant that is passed on
- A C:T horse has inherited a C variant from either the sire and the dam, and a T variant from their other parent

This explains why full siblings can be completely different types of horse, and why race distance or precocity cannot be reliably predicted from pedigree alone.



Possible mating outcomes for this horse



To learn more about the research behind the Speed Gene Test, please visit the following link:

https://www.equinomelabs.com/equine-research