

Conception and Misconceptions

A light hearted look at breeding theories of the past

Since man and horse became a regular item, we have attempted to influence nature in a multitude of ways under the guise of ‘breeding methods’. Whether it be to facilitate conception, breed a particular gender, or come up with a ‘wonder horse’, man has been unflinching in his attempts to hit upon a magic formula.

Many theories have been disproved by technological advances or the mere passage of time. Although the Thoroughbred is only a couple of centuries old and is certainly the breed into which the most time, money and manpower is invested today, in bygone eras horses warranted this status by being an indispensable mode of transport as well as a principal leisure object.

In Roman times, when chariot racing was a big crowd pleaser, theories on horse breeding were naturally the target of much serious consideration. Gaius Plinius Secundus (known to his associates as Pliny the Elder) made some interesting observations on the subject around 50 AD, which he recorded in his tome entitled ‘Natural History’. Here’s part of the advice he committed to parchment for the benefit of future horse breeders...

“Breeding takes place as a rule in the spring equinox when both animals are two year olds, but the progeny are stronger if breeding begins at three....Mares in heat are cooled down by having their manes shorn....A love poison called horse-frenzy (hippomane) is found in the forehead of horses at birth, the size and colour of a dried fig, which a broodmare eats as soon as she has dropped her foal, or else she refuses to suckle the foal. If any man takes it before she gets it, and keeps it, the scent drives him into a madness....It is known in Lusitania that when a west wind is blowing, mares stand facing towards it and conceive the breath of life and that this produces a foal. This is the way to produce a very swift colt, but it does not live beyond three years...”

With the benefit of hindsight, some of the early theories look blatantly preposterous, but it is not only the methods extolled by horse masters over a thousand years ago that

warrant a good chuckle.

Such controversial topics such as, “Does a sudden fright, or any peculiarity of association in a pregnant animal, have any effect upon the colour or markings of the progeny?” and, “Will the development of the foetus in the right side (horn) of the womb secure a male, and in the left side a female?”, were discussed in books before the turn of the century. The latter theory still has its supporters today.

The differences between full brothers and sisters was suggested to be due to the physical condition of the parents at the time of conception.

Getting a mare to conceive is an area in which breeders have attempted to defy all but gravity. Practices of the late 19th century included throwing cold water over the mare while being served; jabbing an awl into her ear at the moment of ejaculation or (more humanely) using the moon’s cycles to influence conception.

It was commonly thought that inheritable characteristics were present in the blood of the animal. Blood was regarded with great reverence and probably accounts for the term ‘bloodlines’ to describe a horse’s ancestry. The principle, which went by the grand title of the ‘telegonic theory’ (also known as saturation and infection), was that a pregnant mare’s blood was infused with the blood of the covering stallion through the developing foetus. Even after foaling, traces of the blood, and hence the characteristics of the stallion, were believed to be present in her veins and could be passed on to the next foal, even though the mare may be covered by a different stallion. Her blood was seen to be the vehicle for the accumulation of characteristics of all stallions to whom she fell pregnant. Therefore, the more foals she had, the more prepotent her blood.

The theory of telegony, explained rather vaguely as being ‘through channels as yet unknown to science’, was disproved by a Professor Ewart, who experimented with a zebra stallion and a miscellaneous group of mares. Not surprisingly, in no case did subsequent matings to horses produce offspring with zebra characteristics.

It wasn’t until 1900 that the work of Austrian botanist, Gregor Mendel solved most of the mystery surrounding inheritance. He came up with the discovery that the physical characteristics of living things were inherited via genes rather than the blood and introduced mathematical probability into breeding.

The findings of Ewart and Mendel however, took a while to infiltrate the Thoroughbred industry. Bruce Lowe (who developed the family number system which is still in use today) used the telegonic theory to account for the difference in

ability of full relations earlier this century. He asserted that if a mating produced a good result it should not be repeated, as the subsequent foals would then have too much of the sire's blood, and thus upset the optimum balance.

And despite the wide acceptance of Mendel's work on genetics, many 'misconceptions' of horse breeding have made it through to the latter part of this century.

A belief still carrying support in the 1950's is that of 'mental impression'. An example used to explain this theory is that of a whole coloured mare who suddenly produces a foal with white markings very similar to the markings of a mare currently running with the dam. Another example is that of a wall-eyed foal being produced in a paddock shared by its dam with another wall-eyed horse.

The obvious line of thought is that the mare has gained a visual impression of a horse in its surroundings and has passed those characteristics on to her offspring. Recessive or latent genetic characteristics obviously weren't considered as the cause by these theorists. The practice of walking a stallion around a mare before service originated from this idea, the belief being that if she gets a good look at her athletic, handsome mate, she will produce a foal just like him.

Relatively recent theories tend to steer away from external factors influencing inheritance, but include those involving the age of the parents.

A common opinion is that as a mare ages, her offspring decline in quality. This can be valid with mares whose uterine function is affected (and thus the nutrition of the foetus), however if it were true of all mares, horses such as Bois Roussel (dam aged 22), Klairon (dam 21), Damascus (dam 20), Galopin (dam 19), Nearco, Native Dancer, (dams 18) and St. Simon (dam 17) to name a few, would not have contributed to the development of the breed. Bernborough, Comic Court, Surround, Redcraze, Baguette and Tontonan, whose dams were all 14 years or over, would not have enhanced Antipodean racing history. Current sires in Australia whose dams were near pensioners are Geiger Counter, Piccolo, Kenvain and Royal Academy (dams all 18 years). Hennessy (dam 17), Hula Chief (dam 17), Monde Bleu (dam 17), Mister C (dam 17), Distinctly North (dam 16), Brief Truce (dam 16), Bellotto (dam 16), St. Jude (dam 14) and Lion Hunter (dam 14).

Considering there are less older mares at stud, and that they have fewer foals, their strike rate is a lot better than some may think.

Cycle breeding, a system devised by U.S. breeder Jack Walmsley, operates on the

theory that stallions and mares have a four year breeding cycle. From analysis of performance records, he suggested that a mare's best foals are born when she is 6, 10, 14, 18, 22 and 26 years old. A stallions best foals are said to be produced when he is 7, 11, 15, 19, 23 and 27 years old. Foals born when one of the parents is on a peak are 'cycle bred'. Those born when both parents are on a peak year are termed 'double cycle bred'.

American veterinarian Ernest Finochio submitted in 1985 that a mare's third foal, if born when the mare is seven years old, is the most likely to be a successful racehorse.

Of course, there are many current theories utilised by Thoroughbred breeders and researchers using number systems, nicking patterns, line breeding, inbreeding, pattern breeding and outcrossing, to name a few. With the benefit of two hundred years' worth of case studies available to the present day Thoroughbred enthusiast, and with genetic breakthroughs such as DNA analysis set to make an impact on the industry, the mysteries of inheritance and all its influences are becoming fewer.

In fifty years' time the breeders of the day may be looking back with a smile at some of the 'outrageous theories' we currently follow in our endeavour to produce the perfect horse.