EXAMINING BREEDING BY DESIGN
by Mark Latham

AUTHOR’S THEORY puts dams in the spotlight

A MID the standard fare of socks and DVDs under the Christmas tree, I found a genuine treasure in 2013: Floyd Oliver’s new book, Breeding by Design, published by Andrew Reichard and his Bluebloods team. Oliver, an experienced pedigree analyst based in the United States, has developed a grand theory for upgrading modest stock into Group-level success.

Having studied the bloodlines of greats such as CHEMISTRY, Penny Folly, THE TETOU, DANCEHALL DASH and the Marcel Bouasse breeding program (yielding Apollonia, Helldama, etc.), he concludes that, “Thoroughbred horses tend to nick through their own female line... a dam inbred to her own female family through both sire and dam produces a classic winner.”

Oliver presents 120 case studies of successful dam-line reinforcement, breeding back into the female family. In some cases, the classic winner itself has a female duplication, the equivalent of the well known Rasmussen Factor (RF). In other examples, the broodmare is the key influence, carrying pedigree duplication through the female tail line of both her sire and dam (a structure Leon Rasmussen and Tommy Faversham have labelled the Formula One Pattern).

Oliver regards these dams as outstanding producers, often excelling when mated into outcrossed blood. If the first dam is not the reason for classic success, the second or even third dam will be. As a young man, Oliver studied H.E. Keylock’s book Thoroughbred Pedigree Clarity, recalling how, “I would browse through the book, page by page, until I came upon a concentration of classic winners. I would look at the matings to which these classic winners traced to try to determine what brought about this sudden emergence of classic ability. invariably it was crossing a male line descendant of a matriline to a female from the same line. With that acting as a catalyst, the classic ability soon emerged.”

Breeding by Design recommends the accumulation of quality female ancestors, up to the generation at which the strategy no longer works. Out-crossing is then required, followed by matings which stack more of the female family back into the pedigree. At different parts of the book, Oliver repeats the advice of the veteran pedigrees expert Ken McLean: “Genetic influence from superior ancestors becomes diluted after one or two generations, yet when the same superior ancestors are reincluded in a single pedigree, it allows for the reappearance of the original source of classic speed. You must first duplicate the ancestor then breed away from it, and then make sure it is reinforced again.”

There is much to like about Oliver’s book. It reflects a lifetime of research and a love of pedigreed inquiry. Certainly, in most parts of the Australian breeding industry, the importance of the dam line has been neglected. sire lines stick to central to the majority of the form, but genetic theory states that the sire line to be regarded as superior. Indeed, with the exception of mitochondrial DNA (supplying the body’s energy) through direct female descent, there are reasons to believe dam lines matter more than sire lines.

Breeding by Design is a useful reminder of the value of the detail side. However like most grand theories, it suffers from a lack of statistical proportion. While Oliver’s 120 case studies are highly impressive, they are not assessed relative to opportunity, the overall number of runners who carry this particular pedigree structure. In the long history of thoroughbred racing, it is possible to use raw numbers to promote a range of theories: finding dozens of outstanding performers bred according to a certain pedigree pattern then declaring this strategy to be the ‘miracle weaper’ for classic success. For breeders though, relative access is the key indicator. Perhaps Oliver is on to something, but greater rigour is required to know this with any confidence. Fortuitously, in a separate piece of research in his book, a control group of horses are presented from which an objective judgement can be made about the usefulness of his recommendations. As Oliver explains, “Every month I examine the winners of all Graded stakes run in North America. I do a racing index on the winner and the winner’s dam.”

In an important finding, he notes, “Of the 82 superior runners on (Ma) list, only 16 were produced by broodmares with racing indices of 400 or higher (that is, runners with average earnings of at least $40,000 per start)”.

Why is this so significant? It represents every small breeder’s dream, the possibility of producing top-liners from relatively modest stock. This is the group of racehorses Oliver’s strategy is supposed to generate. So what can be said about the pedigree structure of the cohort?

I haven’t been able to look at all 82, but I have picked out the top 50 ranked runners for detailed analysis. They include champions such as Zenyatta, Goldikova and Big Brown, and consistent Gr1 performer like Wise Dan, Shackleford and St Nicholas Abbey.

Each of the 50 has a racing index of 830 or higher (according to Oliver, “with a theoretical racing index a horse would average $200,000 per start”). Among their broodmares, 37 had indices in the 0.100 range (a 100 index yields $200,000 per start). Of the 37, nine were untraced. Among the 13 higher rated broodmares, only one, Golden Salad, the dam of Dresselhem, had an index greater than 150. Thus this group of 50 represents racing class well in excess of their dams, a huge upgrade. Are there any common pedigree patterns that explain this remarkable success?

Eight have out-crossed pedigrees within five generations. Of the 42 line bred runners, none are crossed more than 3x. The dominant strains for duplication (within five generations) are Northern Dancer 23 (20 all male, three sex-balanced), Raise A Native 12 (seven all male, five sex-balanced) and his son Mr Prospector seven (five sex-balanced, two all male). The only other line-breed strains featuring more than once are Nashua (four), Neristine (three), Bold Ruler (two), Secretariat (two), Native Dancer (two). Round Table (two) and Halcyon (two).

Interestingly, four of the 20 pedigrees, Blame (2006), I’ll Have Another (2009), Miram (2006) and Zenyatta (2004), are built around the proven Mr. Prospector/Roberto cross (both their dams, Gold Digger and Brahama respectively, are bred on the same Nashua/Bulldog/Blue Lagoon cross).

Three of the pedigrees display the Rasmussen Factor.
Sarah Lynn (2007, line-bred 4m5m3m5F Natuna), Proudf Spell (2005, 35cm3m5m Natuna) and Square Eddie (2006, 4m4m Smartaire).

In testing Oliver’s thesis, five of the sample group meet his criteria, a strike rate of 10%. Let’s look at the special nature of their dam:

1) Goldkova (2005, Anahit-Born Gold; a broad mare with a racing index of 27) is one of the best mares we have seen in recent decades, a winner of more than 57m. She was born three consecutive runnings of the Breeders’ Cup Mile-G1 2008-10. Her dam Born Gold (C1909) has a Formula One pattern, crossed 5xIo to the sister’s Eclair (1930), Elsharikh, Black Ray and Intra Red (1936). Eclair is the fourth dam of Goldkova’s dam sire Blushing Green, while Intra Red is Goldkova’s eighth dam. This is also the family of Mill Red.

2) Ginger Punch (2003, Awesome Again-Napoleon; racing index 85) was a six-time G1 winner in the United States, starting 22 times for 12 wins and eight placings. Her seventh dam is Dulce (1932) from the Agnes No.10 family. A female duplication is achieved in Ginger Punch’s third dam Serenissima (1965, Rambunctious-Angelina’s Choice). Rambunctious is by Rayper, whose second dam is Dulce, leaving Serenissima 4x4 to Dulce.

3) Cocoa Beach (2004, Donerale Court-Vistiora; an unranked broodmare) was Chilly’s 2008 Horse of the Year before winning the UAE Daks, UAE 1000 Guineas and two G1 races in the United States. Her ninth dam is the tremendous martarch Feida (1933). Cocoa Beach’s third dam Mem Sahib (1965, Mosko-Una-Konstantin) is crossed 6xofl Feida through the introduction of Round Table (1954 ex Knight’s Daughter, ex Feida), the second dam sire of Musketier. Matings to Ray (1985, Cocoa Beach’s second dam sire) and Edge Diplomat (1986, Cocoa Beach’s dam sire) were devoid of this family line. Then Donerale Court (by Seattle Slew, dam sire Poker, b Round Table) reintroduced Round Table and Feida, leaving Cocoa Beach crossed 3x3m Round Table and 7f0f, 8f Feida.

4) Zagaon (2007, Green Tone-Zammet, unranked broodmare), an eight-time Group winner in France and the United States, is from the family of Ampola (1949), her seventh dam. Green Tone is by Green Dancer, with Ampola as his third dam. This gives Zagaon a 5xIo cross of Ampola.

5) Big Brown (2005, Boundary-Mien; racing index 135) is well known to Australian breeders, having stumbled to Vintry Stud in 2010, 2011 and 2013, serving a total of 156 mares. In 2006 he was a dominant winner of the Kentucky Derby and Preakness Stakes before controversially falling in the Belmont Stakes. His pedigree is a prototype for Oliver’s strategy. Big Brown comes from the sire-making family of Simons Shoes (1914), his ninth dam. The 5h family has produced, among others, Saddler’s Wells, Fairy King, Nureyev and Northern Meneer. Big Brown’s dam Mien (1999, Nureyev-Musimah by Lear Fan) is crossed 6xIo, 8f to Simons Shoes, including a Formula One Pattern 6f8x via her sire Nureyev. The other strain comes through Lear Fan’s dam sire Li Stevens (1961, Nantallah-Rough Shod), a brother to Thong (1964), Nureyev’s second dam. Adding to the uniqueness of Big Brown’s pedigree, his sire’s dam Edge (1978) is bred on the Damascus/Round Table cross as Mien’s second dam Syrian Circle (79), leaving Big Brown 3x5f Damascus and 4xIo Round Table (plus a 3m3m cross of Northern Dancer via Nureyev and Boundary’s sire Danzig).

While not strictly meeting Oliver’s formula, a sixth pedigree is of interest: Rachel Alexandra (2006, Medaglia d’Oro-Lotta Kim), the 2009 US Horse of the Year. Her dam line is loaded with 8f Lotta Kim (2001, Roan-Kin’s Blue) is 3m5m to Preaknessian (1955), while Kin’s Blue (1993, Care The Blues Early Decision) is 4x4f Imperatrice (1938), the second dam of Secretariat and Sir Gaylord. Rachel Alexandra’s seventh dam is Elleris Best (1932), a daughter of War Relic (1936), while her third dam is Speed Boat (1930), a sister to War Relic, producing close inbreeding in the Formula One Pattern. Intriguingly, Medaglia d’Oro’s second dam is Duhbed (1973), an RF Formula One. 3f4f Sunday Evening (1947), Sunday Evening is by Eight Thirty (1936), a genetic relative of War Relic and Speed Boat.

How does a strike rate of 10% stack up in terms of relative opportunity? Rasmussen and Faversham have calculated that, for the modern thoroughbred, “between three and six per cent of the population have the RF”. It is, therefore, unlikely that more than three per cent of horses would carry the Oliver criteria (a female family duplication) in their immediate dam-line. It appears that, in the group of 50, Oliver’s breeding strategy has performed at a level three times in excess of opportunity.

From this limited (but high profile) sample we can conclude that his recommendations, while not a miracle weapon, represents a strategy rich in potential. Breeders wanting to try something different should think about the matchings by which it can be included in their annual program.

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