



~ BREED RESEARCH ~

# SIGNIFICANT MARES IN THE PEDIGREES OF FEI DRESSAGE MORGANS

**D**ressage competitions, especially at the FEI levels, are significant tests of a horse's overall athleticism and trainability. As this sport has grown in popularity in the United States, the number of Morgans competing in it has likewise increased. In response, more Morgans are being advertised as dressage prospects, and an increasing number of Morgan breeders have become interested in producing horses for the dressage market.

Pedigree information about the Morgans competing successfully in this sport has obvious value to breeders. An earlier study ("Significant Sires in the Pedigrees of Morgan FEI Dressage Horses," *The Morgan Horse*, September, 2016) examined the pedigrees of the Morgans that have reached the FEI levels of dressage to find sire or sire lines that stand out as producers of dressage talent. It identified and rated stallions having a presence in the three-generation pedigrees of multiple FEI competitors. It also showed that a large share of the FEI population has significant linebreeding to the sires behind the Government breeding program, most notably Bennington and Mansfield. Significant linebreeding

to Upwey Ben Don, Red Correll, Waseeka's Nocturne, and Flyhawk was also observed.

Although sires get most of the attention, the overall success of a breeding program is arguably determined by the quality of its broodmares. The relative importance of broodmares was demonstrated in a recent study of Australian Thoroughbred race horses.<sup>1</sup> Foals were divided into four groups based on whether the performance of each of their parents was elite or poor. As expected, the best performing foals were produced by a combination of elite sire and elite dam. However, the elite performing mares produced better runners whether they were crossed with elite or poor sires. Foals from elite sires crossed on poor mares were the worst performers, marginally below even those produced by the poor mare and poor sire combination.

This paper complements the earlier report on sires. It analyzes the pedigrees of the Morgans that have reached the FEI levels of dressage to determine whether there are Morgan mares and mare lines that stand out as producers of dressage talent.

**ABOVE (TOP ROW):** FEI dressage Morgans: Avatar's Jazzman & Lauren Chumley; Blueandwhite Raven & Jennifer Drescher; Coulee Bend Kahlua & Emily Gill; EMR Maximus & Lisa Johnson; Forsite Zephyr & Deb M'Gonigle; GKB Coal Magic & Lucy Tidd. **BOTTOM ROW:** Gladheart Linhawk & Kimberlee Barker; Greentree Ever Reddi & Sean Cunningham; HD Redford & Josephine Trott; Kennebec Ladyhawke & Margaret Bailey; West Mt Winston & David Macmillan; Flower Of Alliance and Sally Anderson. (Photos © Suzanne Fischer, Pics Of You, Erich Linder, Susan J. Stickle, Howard Schatzberg, Mattie Tucker Photography, Ree Photographics)



The two most significant mares with FEI descendants: Artemisia (Ethan Allan 3rd x Lady Laura) and Quietude (Troubadour Of Willowmoor x Ruth).

### DAMS PRESENT IN MULTIPLE FEI PEDIGREES

Through 2017, 62 Morgans had reached the FEI levels of dressage: 14 to Grand Prix (GP), six to Intermediate II (I-2), 20 to Intermediate I (I-1), and 22 to Prix St. Georges (PSG). They have been produced by 62 different mares. However, a deeper look into their pedigrees identifies 43 mares that are present in the three-generation pedigrees of two or more of these FEI horses. Almost 75 percent of the FEI Morgans have one or more of these 43 mares in their three-generation pedigrees. The mares are listed in Table 1 along with the highest levels reached by their FEI descendants and the generation in which the mare appears in their pedigrees.

A method developed for the 2016 sire study was used to quantify the overall significance of each mare as a source of dressage performance. A mare received 2.0, 1.75, 1.25, and 1.0 points respectively, for each Grand Prix, Intermediate II, Intermediate I, and Prix St. Georges descendant. These point values represent the relative difficulty of the four FEI levels. The points were reduced by half if she is the granddam (generation 2), and by half again if she is the great-granddam (generation 3) to reflect her diminishing genetic contribution. The points were summed across the four FEI levels to get a dressage source index (DSI) score, which is reported in the far-right column of Table 1.

A limitation of a pedigree analysis covering three generations is that it may miss a significant genetic contribution from more distant ancestors. With this shortcoming in mind, a nine-generation inbreeding analysis was conducted using the online All Breeds Pedigree Database ([www.allbreedpedigree.com](http://www.allbreedpedigree.com)) to determine if there are mares in the background of the FEI population whose genes have been concentrated through linebreeding. Only those mares duplicated in a pedigree through at least two different offspring were included. For the purposes of this study, a dam is considered a significant linebreeding source when she has contributed at least 10 percent blood to a descendant. To put this

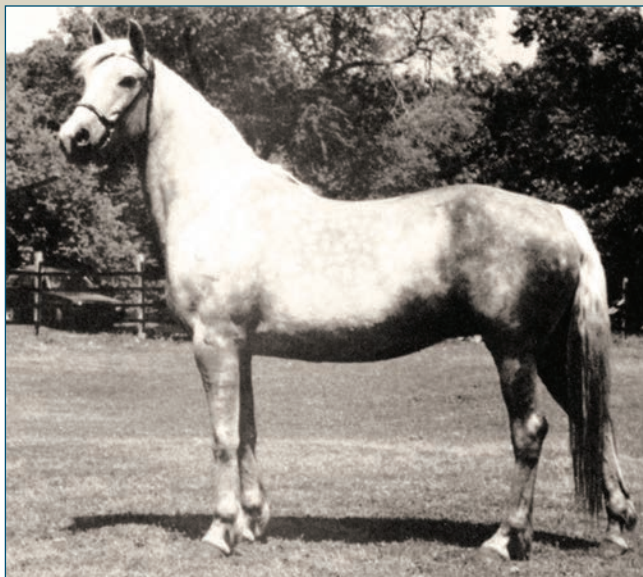
figure in perspective, a great grandparent would contribute 12.5 percent blood.

Five mares have been significant sources of linebreeding in the FEI population. They are listed in Table 2 along with the number of FEI descendants and the average percent blood of the descendants at each level. By far, the most significant of these mares is Artemisia (Ethan Allan 3<sup>rd</sup> x Lady Laura), one of the Government Farm's foundation mares. Thirteen of the FEI Morgans including four Grand Prix competitors, have significant inbreeding to her. Completing the list of mares are Quietude (Troubadour Of Willowmoor x Ruth), also a product of the Government Farm; her daughter, Upwey Benn Quietude (Upwey King Benn x Quietude); Allan's Fancy L (Tehachapi Allan x Maggy Linsley), a foundation mare of the Funquest breeding program; and Liza Jane (Knox Morgan x Double Daisy), a product of the JC Brunk breeding program.

### DAMS PRESENT THROUGH MULTIPLE LINES

The 43 mares listed in Table 1 can be divided into two groups. In one group are those present in the FEI dressage population through a single line. These mares either are the dams of one of the other mares listed in Table 1 or they are the dam or grand dam of a significant dressage sire. The second group of mares include those present in the FEI population through multiple lines. Presence through multiple lines is noteworthy because it is a stronger sign that a mare has been a primary source of dressage talent. This is especially so when the mare has produced the lines through different sires, as is the case for all but five of the multi-line mares. The evidence is even more compelling if the breeding of the sires involved in these lines is relatively dissimilar to that of the mare or to each other.

The 21 multi-line mares, the number of different lines in which they are present in the FEI population and identity of the



### LADY ROCKWOOD ASSOCIATION:

Triple S Soap Suds (Blackwood Correll x Triple S Goldusty); Whippoorwill Locket (Whippoorwill Duke x Whippoorwill Starling).

sires involved in these lines is listed in Table 3. Thirty-five of the 62 FEI Morgans include at least one line to one of these multi-line mares. Fourteen of them have lines to two of these mares. Even more noteworthy is the fact that nine of the 14 Grand Prix Morgans have a line to one of these mares, and four of them have lines to two. The remainder of this report focuses mostly on these multi-line mares.

### MARE ASSOCIATIONS

Most of the multi-line mares listed in Table 3 can be grouped in associations based on a relationship to a key mare or to a specific Morgan family. Three of the associations are also connected to notable sires. As might be expected, the members of an association tend to come from the same geographic region. In addition, they were generally selected as broodmares by individuals having the same breeding objective in mind.

#### LADY ROCKWOOD ASSOCIATION

The Lady Rockwood association includes Lady Brigadier, Triple S Goldusty, Triple S Soap Suds, and Whippoorwill Locket. All except Whippoorwill Locket came from northwest Nebraska or southwest South Dakota and were used to produce working ranch horses. Red Correll, a sire who is a prominent source of linebreeding in the FEI population, is passed down primarily through these mares. Lady Rockwood (Shenandoah Red x May Rockwood) was a 1951 foal bred by the Oglala Community High School of the Pine Ridge Agency in South Dakota. She is a Red Correll granddaughter. Lady Rockwood was owned by Wallace Mills of Hay Spring, Nebraska, for whom she produced 12 registered foals. She carries significant linebreeding to Bennington (15.63 percent), Dude Hudson (13.28 percent), and General Gates (10.94 percent), and is present in the three-generation pedigrees of four FEI horses, including two that reached GP. Three of her FEI descendants come through

Blackwood Correll, her son by Red Correll. Blackwood Correll sired one Grand Prix horse and is the grandsire of an I-1 horse. Several of the other mares in this association are connected to Lady Rockwood through Blackwood Correll.

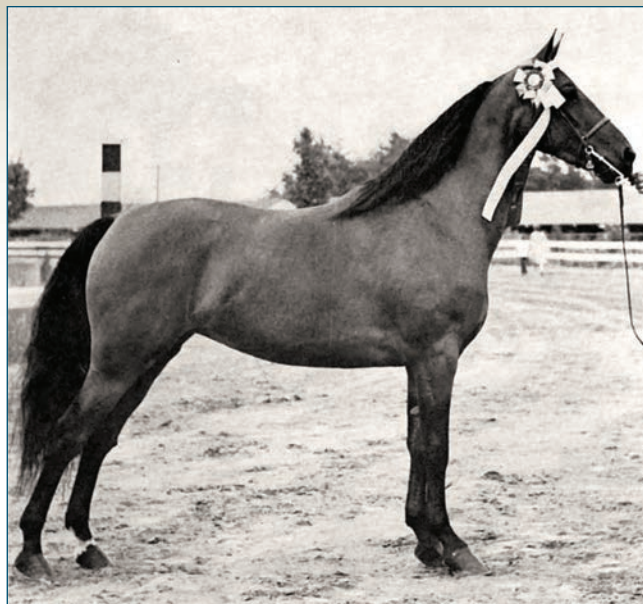
Additional FEI descendants of Lady Rockwood come through Lady Brigadier, who was her 1962 foal by Broadwall Brigadier. Lady Brigadier was leased by the Greentree Ranch in Colorado where she produced the dam of a GP Morgan and the sire of an I-1 horse.

Triple S Goldusty (Mar-Los Hamtramck x Lucie) was a 1967 foal bred by Robert and Jan Painter of Triple S Ranch in Nebraska. She has significant linebreeding to the mare Iyoksica (37.5 percent blood) and to General Gates (18.16 percent). Goldusty, who produced a total of 17 registered foals for the Painters, is present in the three-generation pedigrees of three FEI Morgans through three different lines. One of these FEI lines is through Triple S Soap Suds, Goldusty's 1971 foal by Blackwood Correll. Soap Suds, who is the dam of ten Triple S foals, produced an I-1 horse and is the paternal great-granddam of a GP Morgan. Triple S Goldusty is also a paternal great-granddam of a GP and a PSG Morgan through crosses involving a Blackwood Correll great-grandson.

Whippoorwill Locket (Whippoorwill Duke x Whippoorwill Starling) was a 1975 foal bred by Mary Jean Vasiloff of McCulloch Farm in Connecticut. She has significant linebreeding to Squire Burger (37.5 percent) and Mansfield (19.53 percent). Locket produced a GP competitor by Blackwood Correll. She also produced the dam of a GP Morgan through a cross to a Blackwood Correll son. Overall, Locket produced 13 registered foals for McCulloch Farm.

#### QUIETUDE ASSOCIATION

Six of the mares listed in Table 3 are included in an association based on the Government mare, Quietude. There is also a strong connection to the Artemisia son, Mansfield, who is one of the



#### QUIETUDE ASSOCIATION:

**CLOCKWISE FROM TOP LEFT:** Upwey Benn Quietude (Upwey King Benn x Quietude); Waseeka's Theme Song (Waseeka's Nocturne x Mannequin); Donna June (Miller's Admiral x Blanch S Sentney); Green Meadows Dawn (Wind-Crest Ben Davis x Donna June).

principal sources of linebreeding in the FEI dressage population. Three of the mares are either daughters or granddaughters of Waseeka's Nocturne, who is out of Upwey Benn Quietude, a Quietude daughter. Two are granddaughters of Upwey Ben Don, a Quietude son. A sixth mare was included in this association by virtue of producing multiple FEI lines through crosses to Upwey Ben Don. Interbreeding between Nocturne and Ben Don lines has been common, and as a result many of the FEI Morgans that descend from this association have more than one of these mares in their pedigrees. Most of the farms that used these mares are (or were) located in New England and generally recognized for producing Morgan show horses.

Waseeka's Theme Song (Waseeka's Nocturne x Mannequin) is noteworthy for being present in the three-generation pedigrees of

five FEI horses through four different lines. She was a 1959 foal bred by Waseeka Farm in Ashland, Massachusetts, and has significant linebreeding to Mansfield, having three lines and 32.81 percent blood of this influential Government stallion. Over the course of her life, Theme Song produced 11 foals, three for Waseeka Farm and eight for Orrin and Phyllis Beattie of East of Equinox Farm in Vermont. Bred to Waseeka's Here Tiz, who is likewise by Waseeka's Nocturne and out of an Upwey Benn Quietude granddaughter, she produced Waseeka's Thunderbolt. Thunderbolt is the paternal grandsire of a GP Morgan, and the maternal grandsire of a PSG competitor. The Waseeka's Theme Song x Waseeka's Here Tiz cross also produced the paternal grandsire of an I-2 competitor.

Equinox Love Song was Waseeka's Theme Song's 1972 foal by Bald Mt Ebony Knight, a stallion of Government and Lippitt



#### LIPPITT ASSOCIATION:

**TOP TO BOTTOM:** Lippitt Georgia (Lippitt Sam x Lippitt Gladys Moro); Equinox Georgiana (Don Again Of Hanover x Lippitt Ethan Georgia) & Mrs. Herb Kohler; Irish Velvet (Mr Breezy Cobra x Patty Pratt); Lippitt Ethan Georgia (Lippitt Ethan Don x Lippitt Georgia).

breeding. Love Song went on to produce 16 foals for East of Equinox Farm. She is the dam of one PSG horse and the great-granddam of two others. The Waseeka's Theme Song x Bald Mt Ebony Knight cross also produced Equinox Bell Song who is the maternal granddam dam of a PSG competitor.

Waseeka Cajun Queen (Waseeka's Nocturne x Corrine) was a 1962 foal. She has more Brunk and less Government breeding than Waseeka's Theme Song, her paternal half-sister. Cajun Queen produced 12 registered foals overall, most of them for Tedwin Farm. She is the great-granddam of three FEI horses through lines involving crosses to predominantly Government sires. Cajun Queen's most notable offspring is Tedwin's Topic, the grandsire of an I-1 and a PSG horse and the great-grandsire of another PSG competitor. She is also a great-granddam of a PSG horse through a cross to an Upwey Ben Don son.

Green Meads Dawn (Wind-Crest Ben Davis x Donna June) was a 1962 foal bred by Darwin Morse of Green Meads Farm in Richmond, Massachusetts. She is linebred to Upwey Ben Don (37.5 percent blood) being by an Upwey Ben Don son out of an Upwey Ben Don granddaughter. Green Meads Dawn produced a total of nine foals. One of them, from a cross to a son of Waseeka's Theme Song, became the sire of an I-2 Morgan. In addition, Green Meads Dawn produced the dam of a PSG competitor through a cross to a Waseeka's Nocturne grandson.

Casland Debutante (Kingston x Caps Duchess) was a 1973 foal bred by William Cashman of Delaware, Ohio. Her sire is an Upwey Ben Don son and she has significant linebreeding to Captor (25 percent blood), a Mansfield son. Debutante produced 11 registered foals, most carrying the Casland prefix. She is the paternal granddam of an I-2 horse through a cross to a Waseeka's Nocturne grandson, and a paternal great-granddam of an I-1 Morgan through a cross to a paternal half-brother.

Ingrid (Mansfield x Urnice) was a 1938 foal bred by Richard Hill but owned by FO Davis for whom she produced 14 foals. She is a highly inbred product of the Government program (50 percent blood of Bennington). Ingrid is the great-granddam of three FEI competitors (GP, I-1, and PSG) through three different sons of Upwey Ben Don.

#### LIPPITT ASSOCIATION

Two of the multi-line mares are products of Robert Knight's Lippitt breeding program; however, their FEI descendants come through outcrosses to non-Lippitt sires.

Lippitt Georgia (Lippitt Sam x Lippitt Gladys Moro) a 1944 foal, was a highly inbred product of Knight's program. She has 37.5 percent blood of Ashbrook. Lippitt Georgia produced seven foals, all but one carrying the Lippitt prefix. The one that didn't was sired by Parade, and this son went on to sire the dam of a GP Morgan. Lippitt Georgia's greater contribution to FEI dressage is through Lippitt Ethan Georgia, her 1959 daughter by Lippitt Ethan Don.

Lippitt Ethan Georgia, who carries 31.25 percent blood of Croydon Mary, is found in the three generation pedigrees of five FEI Morgans. She produced 14 foals over her lifetime, two of whom are significant sources of FEI horses. East of Equinox Farm bred her to Don Again of Hanover, an Upwey Ben Don son, and

produced Equinox Georgianna. Georgianna is the dam of HVK Santana, who sired an I-1 Morgan, and is the grandsire of one Grand Prix competitor and the great-grandsire of a second. Years later, and now owned by John and Marjorie Hagan of Rapidan Farm, Lippitt Ethan Georgia was bred to Windy Hill Maestro, who is by Waseeka's Nocturne out of the Brunk mare, Irish Velvet. This cross produced Rapidan Imperial. In addition to reaching PSG himself, Rapidan Imperial sired one I-1 horse and is the grandsire of a second. In both cases he was bred to Clonmel Goldn Trophy, a mare that will be discussed later. Lippitt Ethan Georgia is notable for producing FEI lines through sires having breeding that not only differs from hers but also from each other.

#### ALLAN'S FANCY L ASSOCIATION

Four of the multi-line dams are associated directly or indirectly with the Funquest breeding program. The key mare in this association, Allan's Fancy L, is one of Funquest Morgans' foundation mares. This association also has a strong connection to Flyhawk, a sire who is an important source of linebreeding in the FEI population. Allan's Fancy L (Tehachapi Allan x Maggy Linsley) was a 1947 foal bred by PE Hiebert of Hillsdale, Kansas, but owned her entire life by Stuart Hazard. She is linebred to General Gates (18.75 percent) and Headlight Morgan (15.63 percent), having lines to these two sires on both sides of her pedigree. Overall, she produced eight registered foals. She is a significant source of FEI competitors through a daughter, Flyhawk's Fancy, and through a son, The Brown Falcon. Both were sired by Flyhawk. The Brown Falcon is the grandsire of a PSG Morgan, and the great-grandsire of an I-1 and a PSG horse.

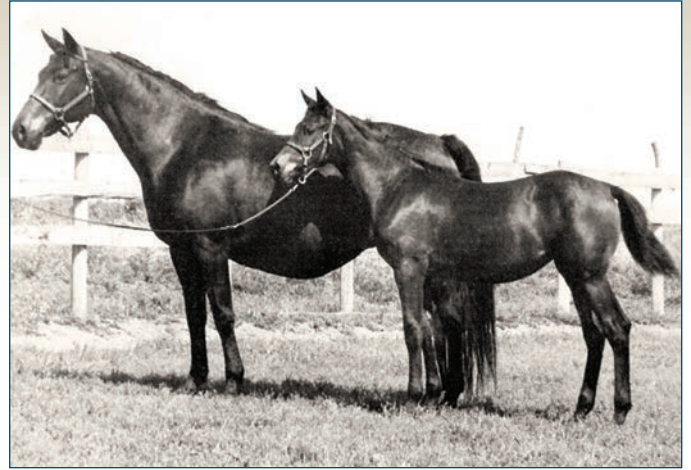
Flyhawk's Fancy, Allan's Fancy L's 1953 foal by Flyhawk, went on to produce 11 registered foals for the Funquest program. She is the dam of Funquest Monarch, the sire of a PSG horse, as well as the grandsire of one I-1 competitor and the great-grandsire of a second I-1 horse. Flyhawk's Fancy is also the great-granddam of a GP and an I-1 horse through lines that do not involve Funquest Monarch.

Star Of Cornwall (Flyhawk's Black Star x Cornwallis Pat) was a 1958 foal whose breeding is similar to that of Allan's Fancy L. She produced 13 registered foals for the Funquest program. Star Of Cornwall is the great-granddam of two PSG horses both through crosses to a son of The Brown Falcon. Star Of Cornwall is the paternal granddam of Flyhawk's Fancy's son, Funquest Monarch.

Rogue Flight Miss (Flight Commander x Rogue's Misty Pooh) was a 1977 foal produced by Jean Sauer of Sheridan, Oregon. Her sire, Flight Commander, is by Stetson who is a Flyhawk son. Flight Miss produced eight registered foals. Bred to Funquest Monarch, Flight Miss produced the sire of an I-1 competitor. She is the maternal great-granddam of another I-1 Morgan also through a cross to Funquest Monarch.

#### ADDITIONAL MULTI-LINE DAMS

Four of the 21 multi-line mares do not fit neatly into any of the associations described above, although two of the four produced FEI horses through crosses to descendants of Lippitt Ethan Georgia, and one produced an FEI line when crossed to Sonfield, a Quietude son.



#### ALLAN'S FANCY L ASSOCIATION:

TOP TO BOTTOM: Flyhawk's Fancy (Flyhawk x Allan's Fancy L) & Funquest Bobolink; Star Of Cornwall (Flyhawk's Black Star x Cornwallis Pat); Rogue's Flight Miss (Flight Commander x Rogue's Misty Pooh).



**TOP TO BOTTOM:** Adonna Carter (Black Bart x Prima Donna C); Schiaparelli (Wham Bam Command x Townshend Donachime) & Glenn Bourvier; Nobelle (Noble Command x Waseeka Valiant Lady) & Judy Whitney. (Photos © Howard Schatzberg, Jack Schatzberg)

Fleur-De-Lis (Tas-Tee's Firefly x Gaylsa) was a 1964 foal bred by EH Erb of Milford Center, Ohio. She is primarily Brunk (18.75 percent Senator Graham) and Government (17.97 percent Mansfield) breeding. She was a foundation mare for Lynne Shpak's Statesman breeding program, one explicitly focused on the production of Morgans for sport. Bred to The Statesman, Fleur-De-Lis produced Chief Of State, the sire of Statesman Silhouette. Silhouette sired one I-1 and two PSG horses. The Statesman x Fleur-De-Lis cross also produced Statesman Mansanita, the dam of a PSG competitor.

Santana Breeze (Bar T Invader x Adonna Carter) was a 1970 foal of predominantly Government breeding (17.97 percent Bennington). She was used as a broodmare in Karin and Larry Weight's sport-focused breeding program, eventually producing 11 foals, ten of which carried their West Mt prefix. Santana Breeze produced the dam of a GP horse through a cross to HVK Santana, the Lippitt Ethan Georgia grandson mentioned previously. She also produced the dam of a PSG competitor through a sire having significant Upwey Ben Don breeding. She is noteworthy for producing FEI lines through sires of dissimilar breeding.

Eco Sonita (Silver CA x Sheik F's Sunoaka) was a 1955 foal bred by Mrs. HP Boyd of San Rafael, California. She is predominantly Government breeding (28.13 percent Querido), and the breeding of her sire is like that of Allan's Fancy L and Star Of Cornwall. Eco Sonita produced a total of 12 foals and is in the three generation pedigrees of two GP Morgans. Bred to Sonfield, a Quietude son, she produced the sire of a GP Morgan. Bred to another sire of mostly Government breeding, she produced the dam of a GP sire.

Clonmel Goldn Trophy (Hans Cobra x Dolly Ann Davis) is a 1986 foal bred by Jack and Karen Sheehan of Park Ridge, Illinois. She is linebred to Flyhawk (17.58 percent blood) and Sentola (14.06 percent). She went on to produce seven foals, all carrying the Forsite prefix of Debra and Douglas M'Gonigle. Clonmel Goldn Trophy is the dam of one I-1 horse and the granddam of a second, both through crosses to Rapidan Imperial, the previously noted son of Lippitt Ethan Georgia. Clonmel Goldn Trophy's Brunk bloodlines are very similar to those of Windy Hill Maestro, Rapidan Imperial's sire.

### EVIDENCE OF SIGNIFICANT FEMALE LINES

Thoroughbred breeders have long considered the mare family, which they base on the tail-female line, to be an important factor when planning their breeding strategies. Interest in tail-female lines, and maternal inheritance in general, increased following the discovery of mitochondrial DNA (mtDNA). Unlike a foal's nuclear DNA, which comes in equal parts from both the sire and the dam, the mitochondrial DNA comes solely from the dam. Thus, all horses sharing the same tail-female line also share the same mtDNA.

Although the subject of mare families receives less attention among Morgan breeders, the current study provides some evidence of significant female lines within the Morgan FEI dressage population. The Quietude and Upwey Benn Quietude line is a notable example. Also, six of the multi-line mares listed in Table 3 have daughters that have produced multiple FEI descendants, the

most noteworthy of these being Lady Rockwood. She is connected to three FEI competitors through two different female lines, one running through her daughter Lady Brigadier, and the second through her maternal granddaughter Redrock Queen. The latter female line extends to Greentree Ever Reddi, an I-1 horse, and to her daughter, Graybarronmidniteserana, who reached PSG. Lippitt Georgia is also noteworthy, being part of a tail-female line that runs through her daughter Lippitt Ethan Georgia and then to Ethan Georgia's daughter, Equinox Georgianna. Three other multi-line mares have daughters that have produced FEI descendants through multiple lines including Waseeka's Theme Song, the dam of Equinox Love Song; Triple S Goldusty, the dam of Triple S Soap Suds; and Allan's Fancy L, the dam of Flyhawk's Fancy. Another potentially significant female line runs through Whippoorwill Locket who produced a Grand Prix horse as well as the dam of a Grand Prix horse.

Additional interesting relationships are revealed when the tail-female lines are traced further back in the pedigrees. Allan's Fancy L and Lady Rockwood both go back to May Hudson. Whippoorwill Locket and Waseeka's Theme Song share tail-female lines to Ellen. Both Clonmel Goldn Trophy and Fleur-De-Lis trace to Sox. Tail-female relationships also are found between some of the multi- and single-line dams. Casland Debutante and Schiaparelli both go back to Ulwina; Green Meads Dawn and Dark Debonette to Lemax; and Nobelle's tail-female line goes back to Ingrid.

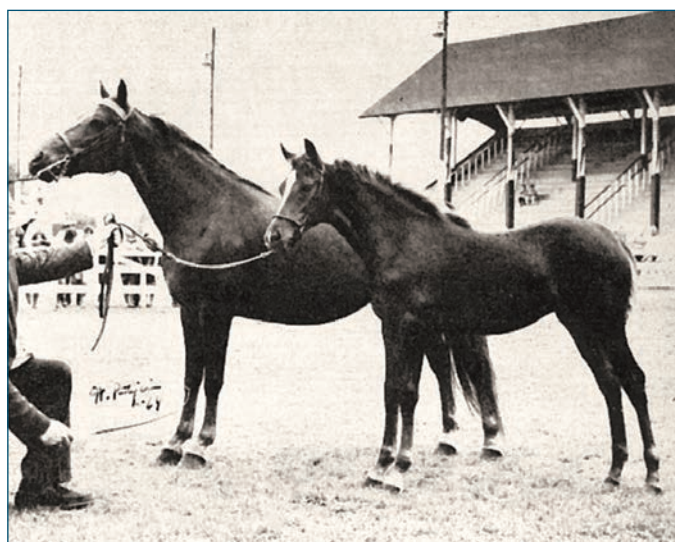
## CONCLUSIONS

This study has identified mares whose prominence in the pedigrees of the FEI dressage Morgans strongly suggests they have been significant sources of upper level dressage talent. The most notable mares are those that appear through two or more lines in the three-generation pedigrees of multiple FEI level Morgans.

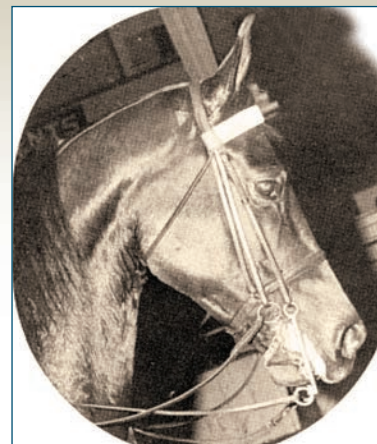
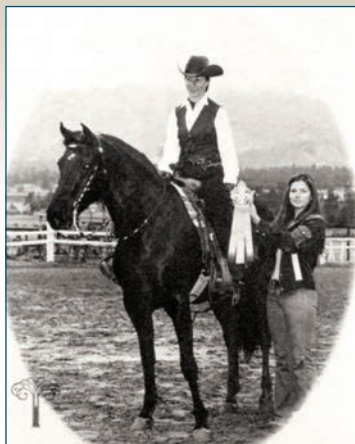
Three mares merit particular attention: Lady Rockwood, Waseeka's Theme Song, and Lippitt Ethan Georgia. Their DSI scores are among the highest. Each has produced FEI descendants through at least two different lines. Each has produced a FEI line by a sire of relatively dissimilar breeding. Finally, each has produced both a son and a daughter that likewise have multiple FEI descendants.

Perhaps the most significant finding is the overall importance of mares *vis-a-vis* sires. For example, when the DSI scores in Table 1 are compared to those from a parallel study of the three-generation sires of the same FEI population (see appendix), the top ten mares have scores within the range of the top 20 sires. This result is striking because the mares produced far fewer foals on average than the sires. The DSI score of the top dam, Whippoorwill Locket, who produced 13 registered foals, is exceeded only by that of three sires, Greentree Bonniejohn, Blackwood Correll, and Statesman Silhouette, who produced 193, 60, and 91 foals, respectively. Also noteworthy is the record of Waseeka's Theme Song and Lippitt Ethan Georgia, who appear in the three-generation pedigrees of five FEI Morgans. This number is exceeded only by two sires, Upwey Ben Don and Broadwall Brigadier, who are present in six.

The importance of the mares is further exemplified by the key role specific mares have played in the production of FEI competitors



TOP TO BOTTOM: Anna Darling (John A Darling x Royalton Bobbin Morgan) & Cynthia Cornell; Anna Darling & Orcland Ann Darling (photo © Warren Patriquin); Katy Bennfield (Bennfield x Cathy Serenity).



Bonita Graham (Stetson x Antlers Bonnie) & Cece Douglass; Bambi Moon (L U Colonel x Quanta); Waseeka Cajun Queen (Waseeka's Nocturne x Corrine).

by some of the more significant Morgan breeding programs and dressage sires. For example, Mary Jean Vasiloff's Whippoorwill program produced two Grand Prix horses. Although her program included several mare lines, both Grand Prix horses came from just one of those lines, Whippoorwill Locket and a daughter. It is also notable that the sire of one of the Grand Prix horses was a Lady Rockwood son, Blackwood Correll, and the maternal grandsire of the other Grand Prix competitor was a Blackwood Correll son. The Greentree breeding program offers a second example. Both FEI horses carrying the Greentree prefix, and all four of the FEI Morgans having Greentree Bonniejohn in their three generation pedigrees, have a Lady Rockwood mare line. Similarly, an analysis of Courage Of Equinox's production record shows that four of his five FEI descendants come through lines in which he, or in one case a son, was bred to daughters of Waseeka's Theme Song. To further indicate the importance of the mares, it should be noted that whereas the breeding successes of Greentree Bonniejohn and Courage Of Equinox appear highly dependent on these specific mare lines, the reverse is not true; Lady Rockwood is in the

three-generation pedigrees of two FEI horses that do not include Greentree Bonniejohn, and Waseeka's Theme Song is in the three-generation pedigree of two through lines not involving Courage Of Equinox.

It is relatively easy for Morgan breeders who aspire to produce horses capable of reaching the FEI levels of dressage to access quality stallions who have a strong performance record in the sport. However, the results of the current study suggest the selection of quality broodmares should take priority. Breeders could start by looking for candidates rich in lines highlighted in this study. It is noteworthy that these lines come from diverse Morgan families and bloodlines. On the other hand, there is no reason to limit one's search to these specific lines. Undoubtedly, there are other mares and mare lines that are potentially outstanding genetic sources of dressage performance. They will be discovered as more breeding programs select for dressage performance and more Morgans are campaigned to the FEI levels. In any case, those hoping to breed for dressage performance should concentrate on finding exceptional mares. ■

<sup>1</sup> Xiang Lin, et al. 2016. Potential Role of Maternal Lineage in the Thoroughbred Breeding Strategy. Reproduction, Fertility and Development. 28: 1704-171

## IF IT'S ABOUT THE MORGAN BREED



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# TABLE 1

Table 1. Rankings of Morgan mares appearing within the first, second, or third generations of FEI dressage Morgans based on the review of USDF/USEF approved competitions through the end of 2017. Ranking is based on a formula that assigns a value for each Grand Prix, Intermediate II, Intermediate I, and Prix St Georges horse produced (2.00, 1.75, 1.25, and 1.00, respectively) and the points adjusted to reflect the genetic contribution.

MARE	GRAND PRIX			INTERMEDIATE II			INTERMEDIATE I			PRIX ST GEORGES			DSI SCORE
	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	
Whippoorwill Locket	1	1											3.000
Lippitt Ethan Georgia								1	2	1	1		2.749
Bonita Graham		1						1	1			1	2.187
Lady Rockwood		1	1						2				2.124
Waseeka's Theme Song			1			1					1	2	1.938
Clonmel Goldn Trophy							1	1					1.875
Reddy Ann Eager							1				1		1.750
Triple S Soap Suds			1				1						1.750
Lady Brigadier		1						1					1.625
Meadowrock Melanie								1			2		1.625
Lippitt Georgia			1						1		1	1	1.562
Eco Sonita		1	1										1.500
Equinox Love Song										1		2	1.500
Santana Breeze		1									1		1.500
Whippoorwill Starling		1	1										1.500
Green Meads Dawn					1						1		1.375
Triple S Goldusty			1					1				1	1.375
Flyhawks Fancy			1						1		1		1.312
Cambridge Suzy QT		1										1	1.250
Bambi Moon								1	2				1.249
Casland Debutante					1				1				1.187
Equinox Georgianna			1					1					1.125
Schiaparelli								1			1		1.125
Ingrid			1						1			1	1.062
Irish Velvet								1			1	1	1.062
Fleur-De-Lis											1	2	1.000
Quietude			2										1.000
Dark Debonette						1					1		0.938
Dolly Ann Davis								1	1				0.937
Rogue Flight Miss								1	1				0.937
Nobelle						2							0.876
Red Rock Queen								1				1	0.875
Anna Darling			1						1				0.812
Antlers Bonnie			1						1				0.812
Waseeka Cajun Queen									1			2	0.812
Adonna Carter			1									1	0.750
Katy Bennfield												3	0.750
Lily Black											1	1	0.750
Donna June						1						1	0.688
Allan's Fancy L												2	0.500
Belmuirita												2	0.500
Star Of Cornwall												2	0.500
Windcrests Delight												2	0.500

## TABLE 2

Mares to which multiple FEI dressage Morgans have been linebred ( $\geq 10$  percent blood).  
No Morgans competing at Intermediate II were linebred to this group of mares.

MARE	FEI LEVEL	# OF DESCENDANTS AT EACH LEVEL	AVERAGE % BLOOD
ARTEMISIA	Grand Prix	4	15.04
	Intermediate I	5	14.53
	Prix St. Georges	4	13.38
QUIETUDE	Grand Prix	3	12.76
	Intermediate I	2	12.11
	Prix St. Georges	0	—
UPWEY BENN QUIETUDE	Grand Prix	1	10.94
	Intermediate I	1	10.16
	Prix St. Georges	2	15.24
ALLAN'S FANCY L	Grand Prix	1	10.94
	Intermediate I	1	17.97
	Prix St. Georges	1	25.00
LIZA JANE	Grand Prix	1	10.16
	Intermediate I	0	—
	Prix St. Georges	1	10.94

## TABLE 3

Mares present in the Morgan FEI population through multiple lines.

MARE	# OF FEI LINES	SIRES OF FEI LINES
WHIPPOORWILL LOCKET	2	Blackwood Correll, Whippoorwill Newmoon
LIPPITT ETHAN GEORGIA	2	Windy Hill Maestro, Don Again Of Hanover
LADY ROCKWOOD	2	Red Correll, Broadwall Brigadier
WASEEKA'S THEME SONG	4	Bald Mt. Ebony Knight, Waseeka's Here Tiz
CLONMEL GOLDN TROPHY	2	Rapidan Imperial (x2)
TRIPLE S SOAP SUDS	2	Topside Raven, Topside Eager Beaver
LADY BRIGADIER	2	Applevale Encore, Greentree Bonniejohn
LIPPITT GEORGIA	2	Parade, Lippitt Ethan Don
ECO SONITA	2	Sonfield, Dapper Dan
SANTANA BREEZE	2	West Mt Undertaker, HVK Santana
EQUINOX LOVE SONG	3	Courage Of Equinox, Equinox Reflection
TRIPLE S GOLDUSTY	3	Blackwood Correll, Triple S Red Wind
GREEN MEADS DAWN	2	Waseeka's Vivo, Fiddler's New Yorker
FLYHAWK'S FANCY	3	Funquest Agizon, Funquest Talstar
CASLAND DEBUTANTE	2	Casland Anguish, Casland Ben Don
INGRID	3	Upwey Ben Don (x3)
ROGUE FLIGHT MISS	2	Funquest Monarch, Shiloh Brass Falcon
ALLAN'S FANCY L	2	Flyhawk (x2)
FLEUR-DE-LIS	2	The Statesman (x2)
STAR OF CORNWALL	2	Funquest Falcon (x2)
WASEEKA CAJUN QUEEN	2	Fiddler's Contender, UVM Flash

## APPENDIX

(continued on the following page)

Rankings of Morgan stallions appearing within the first, second, or third generations of FEI dressage Morgans based on the review of USDF/USEF approved competitions through the end of 2017. Ranking is based on a formula that assigns a value for each Grand Prix, Intermediate II, Intermediate I, and Prix St Georges horse produced (2.00, 1.75, 1.25, and 1.00, respectively) and the points adjusted to reflect the genetic contribution.

SIRE	GRAND PRIX			INTERMEDIATE II			INTERMEDIATE I			PRIX ST GEORGES			SCORE
	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	
Greentree Bonniejohn	1						1	1			1		4.375
Blackwood Correll	1		2					1					3.625
Statesman Silhouette							1			2			3.250
Topside Eager Beaver							1	2				2	3.000
Rapidan Imperial							1	1		1			2.875
HVK Santana		1	1				1						2.750
Broadwall Brigadier			2					1	3				2.561
Windy Hill Maestro								1	1	1	1		2.437
Iron Forge Be Blue	1											1	2.250
Mizrahi							1			1			2.250
Dobson				1		1							2.188
Orcland John Darling		1						1	1			1	2.187
Upwey Ben Don			2						3			1	2.186
Courage Of Equinox											3	2	2.000
Sonfield		2											2.000
Beamington			1					1	2			1	1.999
Red Correll		1							3				1.936
Edelweiss Magic Man					1					1			1.875
Futurity French Command					2								1.750
Wyoming Flyhawk										1	1	1	1.750
Mr Breezy Cobra					1				2			1	1.749
Chief Of State								1			2		1.625
Funquest Monarch									2	1			1.624
Windcrest Music Man									1		2	1	1.562
Carlyle Command						2		1					1.501
Waseekas Thunderbolt		1									1		1.500
Whippoorwill Duke		1	1										1.500
Windcrest Ben Davis		1				1							1.438
Noble Flaire								1	1			2	1.437
Waseekas In Command			1					1	1				1.437
Tedwin Topic								1			1	1	1.375
Stetson			1						2			1	1.374
Casland Ben Don			2						1				1.312
Orcland Vigildon		1							1				1.312
Ulendon			2						1				1.312
Applevale Encore		1										1	1.250
Kingston			1			1			1				1.250
Sealect Of Windcrest		1										1	1.250
Senator Barr			2									1	1.250
Waseekas Here Tiz			1			1						1	1.188
HVK Bell Flaire								1			1		1.125
Patchett Hill								1			1		1.125
Easter Vermont									1		1	1	1.062

## APPENDIX

(continued from the previous page)

Rankings of Morgan stallions appearing within the first, second, or third generations of FEI dressage Morgans based on the review of USDF/USEF approved competitions through the end of 2017. Ranking is based on a formula that assigns a value for each Grand Prix, Intermediate II, Intermediate I, and Prix St Georges horse produced (2.00, 1.75, 1.25, and 1.00, respectively) and the points adjusted to reflect the genetic contribution.

SIRE	GRAND PRIX			INTERMEDIATE II			INTERMEDIATE I			PRIX ST GEORGES			SCORE
	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	1ST GEN.	2ND GEN.	3RD GEN.	
Lippitt Ethan Don									1		1	1	1.062
Pecos			1						1			1	1.062
The Brown Falcon									1		1	1	1.062
Waseekas Nocturne									1			3	1.062
Chasley Superman												4	1.000
Domino Joe											1	2	1.000
Equinox Benn Adam											1	2	1.000
Mansfield			2										1.000
The Statesman											1	2	1.000
Suetors Lendon						1					1		0.938
Whispering High Beam						1						2	0.938
Flight Commander								1	1				0.937
Hans Cobra								1	1				0.937
Westcrest Silver								1	1				0.937
UVM Highlight									3				0.936
Lippitt Moro Ash						2							0.876
Oldwick Crusader								1				1	0.875
Funquest Talstar									1		1		0.812
Gipseys Major									1			2	0.812
Parade			1						1				0.812
Royal Oaks Annton									1		1		0.812
Bar-T Invader			1									1	0.750
Red Vermont			1									1	0.750
Triple S Redwind			1									1	0.750
Trophy						1			1				0.750
Waseekas Skylark						1						1	0.688
Bay State Flintlock									2				0.624
Fiddlers Contender									1			1	0.562
Payday									1			1	0.562
Warhawk									1			1	0.562
Wham Bam Command									1			1	0.562
Flyhawk												2	0.500
Funquest Falcon												2	0.500



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