August 2025

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World Breeding-News

for Sport Horses

Maja Bogren with Horsepartners Alison PS

BN #344

Breeder interviews | Stallion profiles | Bloodline analysis

STUDBOOK LA SILLA

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EDITORIAL

HORSE TRANSPORTATION? ANOTHER ARGUMENT! GIVE US YOUR IDEAS...

Last month in this column – which I have been writing since 1997 – I wondered about the influence that our sport horse activities, much like racing, could have on our environment. It was a question we've not asked ourselves previously, although there is an awareness, like most of the world, that we have to face.

There is an obvious reality alongside the legitimate criticisms generated about equestrian sport, like so many other agricultural sectors in a civilized society that is becoming increasingly attentive to such issues.

Last month I developed an unstoppable, dual argument: the horse is an herbivore, it is happy in the meadow and needs a lot of space (ideally one hectare per head).

Now, this space, which is typically categorized as 'permanent grassland', is an ecosystem that captures more carbon than it emits: it is a carbon sink that competes in complexity with those of forests. So let's develop our grasslands, and manage them for breeding, training, and riding as much as we can.

Naturally, this will require us to change our work habits but, once again, it is a positive step towards the well-being of our dearest concerns, and also for our detractors: a real win-win!

But there is another subject that concerns me just as much: the road and air traffic generated by the numerous and increasingly long geographical movements of horses due to the ongoing development of sport and racing around the world. An undeniable subject that is, at the very least, annoying!

To measure the extent of it and to seek solutions, for the first time in my career as a journalist, I turned to ChatGPT (open AI) and here is the answer it gave me:

1. Volume of travel:

• Each year, around 90,000 horses are transported within or to the European Union, of which nearly 60% are for reasons other than slaughter (competitions, sales, training).

• All FEI sports combined, more than 1,200 international competitions are held on all continents each year. In Europe alone, elite FEI events account for over 250,000 horse movements in this category alone, although the total travel for competitions is likely to be several million.

Nothing very specific, we admit; most likely underestimated, again only the source entitled 'sport horses', via the FEI has been taken into account. Nothing about similar movements for racing.

Subject to debate and controversy, we will agree. Especially if we move on to the following question, still via ChatGPT: what solutions do you see to remedy this infinite increase in horse transportation, which is correlated with the development of activities related to horses (racing and horseback riding) both at the national level of the countries where they are developing and internationally?

The answer here is very academic.

1. Transport and logistics

• *Carpooling and trip optimization: sharing the vehicle, or transporting several horses in the same van during competitions significantly reduces emissions*

• *Clean transportation for events: encourage the use of electric or hybrid vehicles for transporting equipment and riders.*

• *Local or train travel to events: organizing regional competitions avoids long trips, even favoring the train for short or medium distances.*

Certainly carpooling is a good idea, but is it not already a common practice, especially for international transportaton: horses located in the same geographical area and travelling to the same races or competitions?

On the other hand, this solution does not work for air transportation, which continues to develop, and which we already know is proportionally a major source of pollution.

The use of hybrid or electric vehicles is also to be encouraged, but for now the autonomy of trucks – currently, the time necessary for charging (for their comfort, horses must wait as little as possible) – does not make them attractive.

As for the idea that the development of local competitions versus international competitions could be encouraged... Even announcing itself as a solution... Here, we are in the field of utopia! The competitions and the races are becoming more internationalized. The world is a garden, isn't it?

Frankly, ChatGPT could not provide rich information on the subject. Not very creative. But you? It's a conversation we can again address next mont, but if you have ideas, please don't hesitate to connect with us. We're always interested.

Xavier Libbrecht

BRIEFS / 1

Eagle to Fly (Emerald van't Ruytershof) sold for €16,000 (Ph: Björn Schroeder)

Deutsches Sportpferd GmbH (DSP) recently hosted a foal auction in the Nature Sports Park of Aach im Hegau, the smallest town with the largest spring, which was a worthwhile trip for breeders of the German Sport Horse. Equestrian fans may still rememberthe major international tournaments held here at the Orschel family's Hirtenhof. After a break of several years, the Scherzinger family took over the Nature Sports Park and has since hosted a variety of events. In 2025, the South German Championships for U14 to U25 riders were scheduled to continue equestrian events in the large, beautifully situated grass arena. And the meeting of the best young South German riders and the DSP foals paid off. Together, they braved the high temperatures, and ultimately, the combination of sport and breeding was more than successful. In the auction ring on the Saturday evening, Eagle to Fly (Emerald van't Ruytershof - Call to Life x Cascari), bred by Frank Timmreck, generated the greatest interest, with auctioneer Hendrik Schulze Rückamp's gavel falling at €16,000 in favor of a local equestrian patron. This secures the sporting career of this son from the successful DSP line of Teichrose, which, along with numerous sports stars and licensed stallions, has produced DSP Cashmoaker. Roland Feige was delighted with the hammer price of €11,000 for his typey daughter of the Bundeschampion Arezzo Man; a hot topic at the show, as her sire, Birkhof's Arezzo Man FBW, won the qualifier for the Al Shira'aa Bundeschampionat with Richard Vogel the previous week. All but one of the 11 foals found new owners, with buyers paying an average of €8,727 at this classic auction. Further information on DSP auctions is available at www.dsp-auktion.de.

Vivant Vino (Vino Tinto) sold for €31,000 (Ph: Reckimedia)

Vivant Vino, a son of Vino Tinto, achieved the top price of €31,000 during the recent Westfalian online auction, which saw 77% of the 30 dressage-oriented foals sold for an average price of €7,739. It was Vino Tinto's first generation after he, himself, found his new home in the Netherlands last year at the Westfalian Spring Auction at a hammer price of €161,000. Some 14 parties competed for the knockdown of his son, who was bred by Noortje Radstake in the Netherlands, out of the Verb.Pr.St. Rubiera (Fontaine TN). The bids came from England, Switzerland, the Netherlands, and Germany., with the 40th offer claiming the prize. Vivalesco JD also cracked the €10,000 mark. Once again, it was the stallion Va Bene from the Wadenspanner stallion station, whose offspring have already impressed in earlier online auctions this year. This son of Va Bene x Escolar (breeder and exhibitor: Dieter Joachim, Delbrück) descends from the damline of Florenciano, who was successful in Grand Prix competitions under the saddle of Hubertus Schmidt. The young stallion was knocked down to a Luxembourg buyer at a hammer price of €16,000. A total of 23 of the 30 foals on offer changed hands, realizing a total turnover of €178,000. Six of the foals sold will grow up outside of Germany in the future.

Top-priced foal Molto bene (Morricone I x San Amour I (Ph: OLD Art)

The 4th Oldenburg Online Foal Auction saw a thrilling bidding duel between customers from the Netherlands and Germany for the top-priced dressage foal. Ultimately selling for €19,000, the expressive colt prospect Molto bene (Morricone I - Shanelle x San Amour I x Donnerhall), bred by Andrea Kauert from Bremen, was secured by a German buyer. His sire, the Oldenburg licensing champion and Nürnberger Burg-Pokal finalist Morricone I, is currently impressing under saddle with outstanding progeny, and has meanwhile celebrated victories at Grand Prix level himself. The dam Shanelle also enjoyed success up to medium level dressage before embarking on her breeding career. Granddam Duchesse is the full sister of Cartier, by Sir Donnerhall I, who was successful at Grand Prix level under Stephano Enrico Blasi. The top-priced showjumping foal was a particularly special colt: Doland GH, a son of Drummer 2000 TN Z – full brother to Don't Touch Tiji Hero, sire of Dourkhan Hero Z – who will remain in Germany after being sold for €11,500. His dam Eldograna is the sister of Chaccart PS (Chacco-Blue), who was successful up to 1m45 under Emanuele Gaudiano (ITA), and Chacgran PS (Chac Boy,) who competed up to 1m50 with Oleksandr Prodan (UKR). Granddam Quick Granny is the sister of nine internationally successful showjumpers at advanced level, including Markopoulo (1m60) with Ireland's Cian O'Connor, and Costa Quick PS (1m60) with Canadian Mario Deslauriers. Once again, this auction saw Oldenburg foals find new homes with international customers, including in the USA and Estonia.

SELLE FRANÇAIS SEASON 2025

DRESSAGE CHAMPIONSHIP

AUGUST 21 ▸ 24

LE MANS

INFO:
WWW.SELLE-FRANCAIS.FR

FEMALES CHAMPIONSHIP

SEPTEMBER 1 ▸ 2

FONTAINEBLEAU

ENTRY DEADLINE:
AUGUST 7

FOALS CHAMPIONSHIP

SEPTEMBER 19 ▸ 20

SAINT-LÔ

ENTRY DEADLINE:
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EVENTING CHAMPIONSHIP

OCTOBER 16 ▸ 17

LE LION D'ANGERS

ENTRY DEADLINE:
SEPTEMBER 25

3-YEAR-OLD JUMPING FINAL

OCTOBER 29 ▸ 30

LYON

ENTRY DEADLINE:
OCTOBER 9

MALES QUALIFYING TOUR

OCTOBER / NOVEMBER

FRANCE

INFO:
WWW.SELLE-FRANCAIS.FR

RISING STARS GATHERING

DECEMBER 11 ▸ 13

SAINT-LÔ

INFO: WWW.SELLE-FRANCAIS.FR

BRIEFS / 2

Crack HV (Cornet Obolensky x Candillo) under the saddle of Arne van Heel (Ph: Stefan Lafrentz)

The Holsteiner Verband stallion Crack HV (Cornet Obolensky x Candillo) has a new owner and will join Egor Shchibrik's team in the future. The grey stallion was bred by the Campos Cria de Caballos de Deporte from Spain and began his breeding and sporting career under the ownership of the Holsteiner Verband Hengsthaltungs GmbH. Ridden by Maximilian Gräfe, he jumped to the title of State Champion of six-year-olds, became Federal Champion with Richard Vogel that same year, and subsequently placed with the German Olympic rider in classes up to 1m55. The pair won in Stuttgart and Donaueschingen, among other places and, most recently, the 10-year-old placed in his first 1m60 show jumping competition with Arne van Heel in Hohen Wieschendorf. Due to his sporting successes, Crack HV has attracted considerable interest and will soon move to the stable of Egor Shchibrik, who competes for Palestine. The 25-year-old trains in the Netherlands, is an alumnus of the renowned Young Riders Academy, and has already successfully participated in several European Junior Championships. "We wish his new rider all the best with Crack HV," said Managing Director Felix Flinzer. "He will certainly enjoy this athlete. And there's also good news from a breeding perspective: After his sporting career, we have the opportunity to use him again in Elmshorn for fresh semen," Flinzer concluded. Frozen semen from Crack HV is also still available through Hengsthaltungs GmbH.

Hannoveraner Verband Breed Orientation Course – November 16-22, 2025, offering an English-language course for friends and breeders of Hanoverian horses. The course content includes in-depth insights into Hanoverian breeding. Where do Hanoverians come from? What is the breeding program, and how is selection done? These questions will be answered during the course, which lasts several days and visits both breeders and stallion owners. The course ends with the main licensing and auction of dressage stallions. If you have any questions about the course, please do not hesitate to contact Juliana Küspert (jkuespert@hannoveraner.com, +49 (0)4231 673765).

The Verden Auction Online in July got off to a successful start. The top-priced horse, Solana, carried head number three and found a new owner for €49,000. This was followed by a lively round of bidding for the 37 young hopefuls, which cost an average of €16.811. It took around 30 minutes before it became clear that Vet+ Solana (Bon Coeur x Quaterback; bred and exhibited by Wulf Rohlf, Lütjensee) would top the price statistics. Ten bidders placed a total of 50 bids, driving up the price of the dark bay mare, who bears the name of a cryptocurrency, continuously. The final virtual bid was accepted at €49,000, a price increase of around 600% compared to the starting bid. Solana is already the second top price that Wulf Rohlf has achieved at the Verden showcase. In October 2020, it was St. Felice FRH (St. Schufro x Fürstenball; bred by Patrick Seefeld, Neustadt) that was the most expensive horse at the elite auction. The first horse in the collection, Fürst Franz-Wilhelm (Fürst Toto x Lauries Crusador xx; bred and exhibited by Franz-Wilhelm Pagendarm, Beverungen), was a harbinger of a satisfactory auction with a hammer price of €35,000. The five-year-old dark bay will join the stable of a long-standing Verden auction customer. The highest-priced showjumping horse was Hann.Pr.A. Capri (Caressini x Diacontinus; bred and exhibited by Heike Köhne-Wolfert, Großefehn). A buyer – a sponsor of a German Nations Cup rider – paid €44,000 for the elegant grey mare. Two years ago, she was awarded the Ib prize at the Herwart von der Decken-Show and has since demonstrated her outstanding qualities in the mare performance test – receiving a straight "very good" for scope and jumping intelligence – as well as in suitability and young horse showjumping classes.

Westfalian candidates for the dressage World Breeding Championships for Young Horses taking place in Verden, August 4-10, have been selected, with Westfalian horses securing their tickets in all three age categories: five-, six-, and seven-year-old contenders. In each age group, 16 German-bred horses participated in the selection trials: five-year-old dressage horse Estelle PS, (Westf/m Escalito x Wynton), bred by Peter Spelsberg, rider: Lena Haßmann; six-year-old dressage horse WinHorses Eleven (Westf/st Escamillo x Den Haag), bred by Roukaz Soufiah, rider: Flore De Winne; reserve 6yo: Glamdale WP NRW (Westf/st Glamourdale x Millennium), bred by Werner and Heike Pleines, rider: Stefanie Ahlert; seven-year-old dressage horses: Elliot the Dancer (Westf/st Escolar x Vitalis), bred by Leo Hermanns, rider: Stefan Wolff; Rocketeer (Westf/st Rock Forever I x Franziskus), bred by Thomas Holling, rider: Laurin Hofmann; Zulu GV (Westf/st Zarathustra MT x Sorento), bred by Gestüt Vorwerk, owned by Elisabeth Max-Theurer, rider: Laura Strobel. The Westfalian studbook warmly congratulates all the nominees and now look forward with great anticipation to the upcoming championships in Verden.

Large entry of horses and foals for NZ Warmblood classification

By Sally Reid
Photography: Cheleken Equestrian; personal collections

The 2025 New Zealand Warmblood (NZWA) classification tour saw a large entry of horses and foals from all parts of the country. They were inspected by two assessors from Germany, both of whom have been champion breeders themselves...

Vanessa Feuerstein, the 2015 WBFSH Young Breeder World Champion, and Lukas Weber, who finished third that same year and also won the German Young Breeders' Championship in 2019.

Lukas, whose background is an academic one, having studied animal and agricultural sciences, serves as youth coordinator for the Trakehner Association and as a judge for the Young Breeder Championships.

Vanessa is a board member of the Hesse Hanoverian Breeding District. She manages a successful Hanoverian and German Riding Pony stud, and has more than 20 years of involvement in the Young Breeders programme. She is also a successful dressage rider.

The foals

This year, the tour's overall champion colt and champion filly were both bred to jump, and both come from Register 2, which is explained below.

The overall champion colt – Global PH Colmani (Colman - Bia/aka Casallita x Casall) – is a very impressive boy with an equally impressive lineage. He was bred by Jenny McIntyre of Nelson, and scored a wonderful 83.5% (excellence).

Bred by Clarke Johnstone, Caribbean Blue (Contendro I -Dolly Blue x Diarado) alongside her dam

His dam Bia (Casall - Vanessa XVIII x Contender) is an imported Staatsprämie mare from Holsteiner Stamm 18A1; she was bred in Germany by Günter Lüth. Through Colman, she has the blood of Carthago, Capital I, Lord, Marlon xx, and the fabulous Ladykiller xx. Her dam Vanessa XVIII (Contender x Calvin x Landgraf I) also has Staatsprämie status, and jumped at 1m35 in Europe. Bia herself, under the name Casallita, jumped at the same level in New Zealand, ridden by Briar Burnett-Grant, whose mother imported her.

According to Jenny; "I acquired Bia from Karen Burnett. She was a high-scoring state premium mare, purchased by Karen after winning at the Holsteiner Landeschampionate show. She was imported to New Zealand in foal to Colman. I had suggested this cross and the offspring, Chesall, is now jumping in Europe at 1m45. He and Kasalla (Kannan), another Bia foal, are both based in Germany with Briar Burnett-Grant.

"Bia has a two-year-old Colman filly, Camilla, bred and owned by Karen Burnett; she is also a NZWA tour winner, and I repeated the cross," says Jenny.

Camilla was the NZWA's Champion Jumping Bred Filly of 2023 with an 'excellence' score of 81.75%, under German assessor Gerd Küst. "Bia stamps her offspring with her own beautiful, modern, athletic looks; the Kannan mare, Kasalla, also looks very much like her," Jenny continued, and points out that the Colman x Casall cross has also proved very successful with the NZ-bred LT Holst Freda I (New Zealand's current showjumper of the year). When he comes of age, she adds, young Global PH Colmani will be aimed for a career in sport.

Overall champion filly – Caribbean Blue (Contendro I -Dolly Blue x Diarado) – was the very last foal of the tour to be judged, "... and what a foal she is!" remarked NZWA President Jody Hartstone at the time. The exquisite Caribbean Blue was bred by Clarke Johnstone, and is from his imported Hanoverian mare Dolly Blue (Diarado - Chance For Ever x Chacco Blue), who was the top older mare of the NZ Hanoverian Society's 2019 classifications. Dolly is a very exciting import from Paul Schockemöhle's Gestut Lewitz: she is pure quality, and a horse we're lucky to have in New Zealand. Clarke has jumped her successfully here at 1m40; he is also a member of New

Champion Studbook Mare, Danzar WSH (Dancier – Aloha x Aljano) bred by C. and A. McKay

Zealand's eventing team and is competing in Europe at present.

Dolly Blue is from Hannover Stutenstamm 2193904, Schridde 1148. She was cared for during her pregnancy, and foaled down by Ana and Tors Rattray at Cheleken Equestrian. Her superb daughter, Caribbean Blue, has unmistakable potential and class, having sailed effortlessly through her testing with an 8.0 or 8.5 in every category

NZWA Register 1 foals

These foals must be at least 25% Warmblood, and no more than 7% non-Warmblood, Thoroughbred, or Arab. They must be sired by an NZWA Studbook stallion or one licensed for breeding by a WBFSH studbook that meets NZWA pedigree criteria. The dam must be in the NZWA Mare Stud Book or Pre-Stud Book.

Champion: Donnernova WP (Donnerubin DC - SF J'Adore x GT Jake) – This stunner of a colt is the son of the tour's champion mare, SF J'Adore (see separate entry). He was bred by Alice Cochran and her mother-in-law Isabel Cochran, and scored a very healthy 83.25%; just 0.25% behind the overall top foal. His dam, SF J'Adore, was bred by Nikita Osborne of Seaforth Farm: more information about her in the 'mare' section below.

Donnerubin DC (Donnatraum - Delilah x De Niro) was bred in Australia and has three-star rating with the NZWA. He stands at Jacinda Younger's Chevaux Dansants in Feilding, and is himself a Grand Prix dressage performer. His bloodlines are pure European Oldenburg and Hanoverian, combining the genes of Donnerhall (on both sides) and Rubinstein. He has many winning progeny here, including a number of national champions.

Reserve Champion: Wallingford Conrado (Conthargos - Wallingford Dorado x Diorado) – This colt is a full brother to last year's Reserve Champion Register 1 foal and top-scoring filly, Wallingford Cornetta, and, like her, was bred to jump. Their dam, Wallingford Dorado, has 'excellence' status with the NZWA and is a full-sister of the NZ World Cup representative mare Cassina Dior, who finished 30th at the Omaha final. Cassina Dior and Wallingford Dorado are out of the imported Prinzess VI/aka Cassina van de Helle (Cassini I - Borana x Lord) who was bred in Germany by Dörte Thiedemann and is from Holsteiner Stamm 2543. Her offspring include the BWP stallion Emir van de Helle and the Bezirksprämie mare Alexa III, whose own daughter Saratoga (Chin Champ) is also jumping at 1m60 in the USA.

Studbook Mare of the Tour: SF J'Adore (GT Jake - Jaybee Aloha x Jaybee Alabaster) with her foal Donnernova WP (Donnerubin) alongside breeder/owner Alice Cochran

Register 2 foals

Register 2 is for horses with no more than 7% ineligible bloodlines, or who are not DNA-tested to both sire and dam, or who have a sire or dam that isn't approved for breeding. Register 2 horses may be upgraded to Register 1 at a later stage if they are DNA parent verified to both sire and dam, and if both sire and dam appear in the NZWA Stud Book. This year, the two top Register 2 foals were also the overall tour champions:

Champion: Global PH Colmani (Colman - Bia/Casallita x Casall)

Reserve Champion: Caribbean Blue (Contendro I - Dolly Blue x Diarado)

The disciplines

Dressage: It's interesting to note that both the top dressage-bred foals are by Donnerubin DC. They are:

Camaro HL (Cadillac HL - Skyhi Amaretto x Mira Crown Royal) with leading breeder of the tour Paula Riepen of High Line Stud

Champion Colt: Donnernova WP (Donnerubin DC - SF J'Adore x GT Jake) – the Register 1 champion, see above.

Champion Filly: Dolce Dior (Donnerubin DC - Lox Demi Moore x Dante Weltino). Bred by dressage rider Leia Maxwell.

Both the top dressage foals this year are by Donnerubin. Her dam, Lox Demi Moore/Lox Dolce Weltino, was bred by Sarah Flitcroft in Taranaki, and was a nominee in the NZWA Dressage Horses of Distinction awards of 2022 – Sarah's first year as a breeder.

Jumping:

Champion Colt: Global PH Colmani

Champion Filly: Caribbean Blue

These two topped the tour's overall foal rankings – see above.

Eventing: Champion colt: Flashdance CWE (Fidertanz - A Bit Flash xx x Falkirk xx) This elegant boy was bred by Danielle Innes of Auckland and is a son of the powerful Schockemöhle stallion Fidertanz (Fidermark), who was champion of his NRW licensing in Münster in 2004. Flashdance's dam, A Bit Flash xx, is in the NZWA Foundation Studbook. She is an unraced 14-year-old, who was bred by C P Howells.

Champion Filly: Huntaway Delphinium (Apollo VWNZ - Smarty Pants xx x Charm Spirit xx) – H. Delphinium was bred by Simone Hunter and Julianne Reufeim. Her dam, Smarty Pants, had a racing career with two wins – both on heavy tracks, which bodes well for her progeny's eventing careers – plus a number of high placings. She is a beautiful mare, bred by B J D Hutchinson and the Little Avondale Trust. Huntaway Delphinium's sire is Vicki Wilson's super homebred Apollo VWNZ (Arlento ST - Quiz Me VWMZ x Euro Sport Centavos) who passed his NZWA licensing during the tour. He is already successful in sport and has had many prizewinning foals in previous classification tours.

The mares

Chestnut mares from different breeders and regions stole the show in the Mare Studbook classifications this year, with two taking top honours in their respective classes, and a third finishing in reserve. In a strange twist of fate, both top mares are out of dams with the name Aloha – entirely unrelated.

Studbook Mare of the Tour: SF J'Adore (GT Jake - Jaybee Aloha x Jaybee Alabaster) – This is one of the biggest prizes of the NZWA classifications and is awarded to the mare (newly or previously entered in the Stud Book) with the highest scoring single progeny of the tour. It was won by the absolutely gorgeous SF J'Adore, who was bred by Nikita Osborne of Seaforth Farm and is owned by Alice Cochran. She also took the title Pre Studbook Mare of the Tour, with an 'excellence' score of 81.5%.

Her colt foal, Donnernova WP (Donnerubin DC), greatly impressed the assessors and scored a huge 83.25%. He was bred and is owned by Alice Cochran, in partnership with her mother-in-law, Isabel Cochran.

Both SF J'Adore and Donnernova WP were bred for dressage. SF J'Adore's sire, GT Jake, is an Australian Warmblood who was imported to New Zealand in 2010 by Tracy Smith of Royston Equine. He was granted 'principal' status with the NZWA in 2024. "GT Jake achieved these incredible results through the performance results of his progeny and for a stallion that has a small book, these results are an incredible achievement," says Jody Hartstone.

The very beautiful Jaybee Aloha (Jaybee Alabaster x Aachimedes), SF J'Adore's dam, was imported from Australia by Nikita Osborne in 2012, as Seaforth Farm's foundation mare. She died several years ago but left four super offspring: SF Artisan (Jaybee Alto) who was imported in utero and went on to become NZ's six-year-old Supreme Dressage Champion in 2019; SF Austin (Anamour) who had

Tattooed Dancer WSH (Traumprinz GF - Danzar WSH x Dancier), an impressive Tobiano yearling bred by Gloriann Mullen of Wembleybrook Sport Horses

young horse wins here and was sold to Australia where he is now competing at CDI1*; Jaybee Cinderella (Carbine); and, of course, her last foal, SF J'Adore.

Jaybee Aloha's sire, Jaybee Alabaster, was an Australian dressage superstar, who represented his country at the World Equestrian Games. He was actually bred in Germany, and imported to Australia in utero with his dam Gloria (Glorieux).

Not only does SF J'Adore have top honours with the NZWA, but she was also the NZ Hanoverian Society's top Rhineland mare in the 2020 tour. She is a special girl indeed, and her colt foal, Donnernova WP is outstanding (see Register 1 Foals above).

Champion Studbook Mare: Danzar WSH (Dancier – Aloha x Aljano) – This mare really wowed the onlookers at her inspection, scoring 82.25%, with 83.5% for movement, and 81% for conformation. She was bred by C. and A. McKay and is owned by Gloriann Mullen of Wembleybrook Sport Horses, who says, "We feel extremely grateful to the assessors, travelling from Germany, giving their time, and sharing their wealth of knowledge. The feedback and critique are truly valuable to us and the future of our breeding programme."

The stud is based in South Canterbury, and Danzar was purchased as an important member of their broodmare band a few years ago. She is a rich chestnut with a distinctive – perhaps unique – 'garter' on one hind leg, and three white socks. Her Verbandsprämie dam, Aloha/ex Ragtime (Aljano – Macarena x Contender) was born in Germany in 2001. She was bred by Reinhold Bauerfeld, and is from Holsteiner Stamm 6582.

Reserve: Vollrath Leila (Vollrath Lessing - Kiteroa Gwynnavere x Anamour) – "This year we had many exceptional broodmares put forward for approval, and the retired Grand Prix dressage mare Vollrath Leila is one of them," says Jody Hartstone. "She is now embarking on her journey as a broodmare, and and will qualify for Elite Broodmare Status with the NZWA once her first foal is registered, due to her performances in top sport."

Vollrath Leila was bred by Sharlene Storey in the Waikato. She was bought as a four-year-old and competed for 12 years by Carole Christensen, who retains her for her future breeding career. Leila, who completes the 2025 trio of chestnut mares, scored 'excellence', with 80.25%.

Pre-Studbook Champion Mare: SF J'Adore (see above)

Reserve Mare: Stiletto C (Cohinoor VDL - SoFee x Powerfee) – This glamorous and beautifully bred grey has been at the top of her game since she first appeared on the scene. She was bred by Vicki Prendergast, who also owns and rides her, and is out of an uncompeted mare who has, in just a few years, emerged as one of this country's best sport horse dams: the super brilliant SoFee. SoFee was also bred by Vicki, and is a daughter of an Olympic eventing mare, Sanderston (San Mellay xx - At Easer x Winnebago), who was leased to Brazil for the Sydney 2000 Olympic Games (the team finished sixth), and returned to Vicki afterwards to take up the role of broodmare.

Champion Foundation Mare: 7yo Sweet Karma xx (Sweet Orange xx - Just Like A Prayer xx x My Halo xx) bred by A.W. Jones and Mrs. E.W. Morris

SoFee, by the five-star jumper Powerfee (Fedor - Toverfee x Erdball xx), was Sanderston's third foal. An early injury meant she could not compete, but she has an extraordinarily successful dam, notably of jumpers. As well as Stiletto C and her gelding half-brother Six Sixty SP (Cassiano), her offspring include the 1m60 jumper Selena C (Cardento) who competed at World Cup level and has now been sold to Australia; Selena's full-brother Sangster, who was also sold to Australia; the mare Shawnee ECPH (Pacific VDL), the gelding Schecter (Hector van d'Abdijhoeve), and Salvador C (Carrera VDL), who is a three-quarter brother to Selena C. SoFee's last foal is Salvador C's full brother, a three-year-old known at present as Chev.

Stiletto C has had many important jumping wins and placings, and was the 2024 seven-year-old National Champion – a title won by her half-brother Six Sixty in 2022. Vicki describes her champion as "a very special homebred mare; a bit smaller than I'm used to, but she has the heart of a lion." She has a 2025 colt by Carrera VDL: one to keep an eye on.

Foundation mares

These are registered Thoroughbred/Arabian or Anglo-Arabian mares, inspected and approved for breeding by the NZWA. Once the mare has undergone a successful inspection and breeding approval, then foals by Warmblood Stud Book stallions will be eligible for registration as Warmbloods.

Champion: Sweet Karma xx (Sweet Orange xx - Just Like A Prayer xx x My Halo xx).

The seven-year-old Sweet Karma was bred by A.W. Jones and Mrs. E.W. Morris, and had a reasonably successful but short racing career. She was presented for inspection by

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Mary Peterson for Bargrove Stud and scored a very healthy 76.75%. Sweet Karma xx will be used to produce eventers: Bargrove describes her as "the most beautiful Thoroughbred – athletic, 'typey', with movement to match".

Incidentally, last year's Champion Foundation Mare was another from this stud: the lovely Miss Protocol xx (Bernardini xx - Rosie's Cause xx x Giant's Causeway xx / Danehill xx).

Reserve: Silver Spur xx (Rusty Spur xx x Dale Arden xx x Kreisler xx), a 15-year-old grey, bred by C.C.E. and J.W. Thompson, and owned by Carissa Flavell. She is currently competing at Level 5 dressage.

Elite Studbook Mare: Matai Zarité (Euro Sport Centavos - Matai Perigee Moon x Corofino II) bred by C.G.M. de Groot.

The well-performed jumping mare Matai Zarité was assessed for the Mare Studbook for the Thomas family of Rerewhakaaitu. She was bred by Carin de Groot of Matai Warmbloods and is showjumping at Grand Prix level with Tristan Thomas. She was the 2023 seven-year-old National Jumping Champion.

She has the blood of two of New Zealand's most influential jumping stallions, both imported from Germany. Her sire, the Hanoverian ES Centavos (Escudo I x Argentinus x Bariton), is exceptional. He has won numerous competition and breeding titles here, and been consistently at the top of the sire rankings. The same can be said of her damsire, the Holsteiner Corofino II (Corrado I - St.Pr.St. Valeska IV x Fernando I), who died in 2022: he won the ESNZ leading stallion title several times. Corofino II was bred in Germany by Hobe Bernhard. His St.Pr.St. dam, Valeska IV (Fernando - St.Pr.St. Option x Lord), is from the renowned Stamm 318d2 with its many licensed stallions.

Carin de Groot also bred Zarité's dam, Matai Perigee Moon, who is out of the stud's foundation mare Fleur de Lis (Wondaree - Lindy x Like a Stag). Matai Zarité has a foal registered with the NZWA, Zamirah, by Euro Sport Diamant B.

Leading breeder

Paula Riepen, High Line Stud – This award goes to the breeder of the three highest scoring horses inspected on the tour. Jody Hartstone said; "It was a closely fought battle again this year with Vicki Wilson finishing on 238 points, Jenny McIntyre on 238.25 and the overall winner, Paula Riepen on 238.5." Paula's winning trio were the Pre Studbook Mare Chardonnay HL (Carpaccio BDV Z x Paradise NZPH x Barbarian), who scored 78% (Merit), and the foals Quintet HL (Quality Gold HL - Chicha VWNZ x Captivate VWNZ) and Camaro HL (Cadillac HL - Skyhi Amaretto x Mira Crown Royal).

Chardonnay was inspected as a foal in 2020, and gained an 'excellence' award with flattering comments from German Assessor Matthias Werner: "Three active, supple gaits with a ground-covering canter – a very sportive foal."

Paula's charming filly Quintet HL was given an 'excellence' rating of 80%. Her sire, the handsome palomino Quality Gold HL (Quasi Gold MD x Ikarus GF x Corofino II) received his NZWA Stallion Studbook licensing during the tour. He was the Reserve Youngstock Champion last year. The colt, Camaro HL received an 'excellence' mark of 80.5%. He is an eye-catching perlino, out of a palomino.

Paula founded High Line Stud in 2019, with a focus on breeding quality coloured Warmbloods. She stands two super stallions: the buckskin Cadillac HL (Captivate VWNZ) and the tobiano Casino HL (Carpaccio BVD Z), offering "a point of difference to the Warmblood market". Both these boys are exciting prospects by VWNZ sires; Paula worked for Vicki for eight years, including time as her breeding manager.

Champion youngstock

Yearlings and two-year-olds are judged in this section, with the titles going to a pair of unrelated Tobiano colts, both of whom are real show-stoppers.

Champion: Tattooed Dancer WSH (Traumprinz GF - Danzar WSH x Dancier). This impressive Tobiano yearling was bred by Gloriann Mullen of Wembleybrook Sport Horses in Ashburton (South Island). He has the added distinction of being the son of the tour's Champion Studbook Mare, Danzar WSH – see above. His colour comes through his Tobiano sire, Traumprinz GF (Talisman GF x Sempatico M x Silclair B), who was bred in Germany by Gestüt Falkenhorst, and has AES and NZWA registration. He stands at Wembleybrook Sport Horses, where he arrived as a yearling in 2015.

Reserve: Checkers HL (Columbus VWNZ – Vision OL x Vivid OL) – This boy was bred by the tour's leading breeder, Paula Riepen, and was born in 2022. Like Tattooed Dancer he is a head-turning Tobiano, and was sired by Vicki Wilson's Columbus VWNZ: a superb athletic type with bloodlines that include Clinton I, Indoctro, and Cassini II. Checkers' colour comes through his NZWA dam, Vision OL (Vivid OL x Voltaire II x Witzbold), who was bred by Martin and Maureen Parrish at OL Pintos. ■

The Bernoski family: “Looking to the future, we keep thinking big!”

By Bettine van Harselaar / *KWPN*
Photography: Leanjo de Koster

For over 30 years, Bernoski Dressage has been located in Bleiswijk, where a very complete range of activities is carried out: sport at the highest level, breeding, trade, and training. Recently, Hans, Natascha, and their son Robin Bernoski had two stallions from their own breeding selected for the performance test.

With their breeding, they mainly focus on sport, preferring generously built horses that suit Robin well. Bernoski Dressage was named Breeder of the Year in South Holland and is having a strong inspection season.

The breeding at Bernoski Dressage is relatively small, but progressive: they breed with mares that also compete in sport, and stallion choices are carefully considered and evaluated. The Bernoskis also like to continue with a younger generation of mares. This vision has already produced several successful sport horses.

At the last KWPN Stallion Show, the two stallions they presented, bred from half-sisters Jamaica and Havanna, were selected: Stromae (Las Vegas - Havanna elite sport-dressage PROK x Sir Donnerhall I), and Spectre (Hermès - Jamaica elite sport-dressage IBOP-dressage PROK x Vivaldi). Stromae was sold via the KWPN Select Sale, and a share in Spectre was sold to Gertjan van Olst, where the stallion is now also based.

Foundation mare So What

At the base is the mare So What (elite pref prest sport-dressage PROK by Ferro), the full sister of Natascha’s Grand Prix horse Mythilus. “Mythilus had an exceptional talent for piaffe and passage”, says Hans. “That was a great horse, but after a few Grand Prix performances, the phone was ringing off the hook.” Eventually, Mythilus was sold to the American Courtney King, who competed with him at the Olympic Games in Hong Kong (2008).

The Bernoski family had the opportunity to purchase So What from her breeder P.H. Sinke in Yerseke. The purchase of this mare, which the Bernoski family co-owned with Richard van Heuvelen, turned out to be a golden move. She produced the successful Grand Prix horse Electra (Jazz), which Bernoski sold as a foal to Lynne Maas. Jamaica, Robin Bernoski’s current Grand Prix horse, also comes from So What, who has already produced several successful offspring. The Light Tour mare Havanna (Sir Donnerhall I) has since been sold. From this mare, the Bernoski family still has a three-year-old Vitalis mare who will go to the mare inspection this year.

According to Hans, the line of Mythilus passes on the qualities for Grand Prix. “That’s what we want to breed for. That’s why we also chose stallions like Hermès. We want to preserve those special qualities for passage and piaffe.”

Generously built horses with a strong front

The large mare Jamaica is now Robin Bernoski’s first Grand Prix horse, who was previously successful with the KWPN stallion Velazquez (Krack C) in the Young Riders. Walking through the stables, a preference for large, generously developed horses with a strong front becomes apparent. “We mainly select the horses we keep based on Robin”, laughs Hans, referring to his tall son. “We find a strong front important, as well as a hind leg that moves under the body. A horse must naturally have a nice posture, because that usually means you have to do less to improve it. We like upward movement with sufficient hind leg. In recent years, we sometimes see horses in riding that naturally have less of that, where the front has to be ‘lifted’ by the rider, making it look impressive. But the hindquarters never benefit from that. A horse must naturally have that posture”, says Hans.

Robin also points out rideability: “A good neck often gives easier contact. The character must also be good. And the walk, that’s really a point of attention nowadays. A dressage horse actually has to be quite complete.”

To keep or to sell

Jamaica is a horse with a lot of skill and talent for the advanced exercises like piaffe, passage, and pirouettes. She was also successful as a young horse. As a four-year-old, the mare was named best mare in the Pavo Cup under Miranda Pakvis. This year they expect another foal from Jamaica by Proud James, after which they will temporarily stop breeding with the now eleven-year-old mare. “We want to continue with the next generation, you have to keep thinking ahead”, says Robin. With two daughters of Jamaica, they want to continue breeding from this line: a two-year-old by Jameson RS2 and a three-year-old by Hermès (the full sister of the selected Spectre). For now, the focus with Jamaica is on sport with Robin, but eventually the mare will be sold. “I’ve now

Bernoski Dressage is run by Hans, Natascha, and their son Robin Bernoski.

ridden Grand Prix with her a few times and can gain some experience with that."

Keeping or selling is always a difficult point. Of course, the Bernoski family would like to keep their top horses, at least until the next generation is ready for the Subtop, but that's not always easy. "Of course, we also live from trade. But there's another important point: we simply don't have the space. Sometimes I'm a bit jealous of people who can let their top horses grow old at home, but that's just not possible here. When we sell our top horses, a good home is therefore very important. We want those horses to continue performing well in sport for a few more years and also have a nice retirement", says Hans.

Funkenmarie (For Romance)

In addition to the line of Mythilus, another mare line is now being bred at Bernoski Dressage: they had the opportunity to flush an embryo from the mare Funkenmarie (For Romance). This German-born and registered mare passed her EPTM with 93 points and later became elite with 90/95. She also scored 88 points in the Pavo Cup under Miranda Pakvis and now competes at Light Tour level with Marijke van Giessen.

Hans: "This mare was in training with us at the time for the Vanderstappen family. Because of the good relationship, we were allowed to flush an embryo from her. That turned out to be two, by Dream Boy. That seemed like a good start with a new line." These two mares are now four years old, both provisionally keur, and are also being bred. "They are two very different horses, but both have quality." This year, two offspring by Proud James were born: one out of the Dream Boy mare Rapinoe, who comes from Funkenmarie, and one out of Vivaldi daughter Jamaica.

Small certainties

The choice of stallion is made together by the family, but they do not have a specific preference for proven or younger stallions. Hans: "We try to do it as well as possible, but you never know for sure how it will turn out. Take for example the two Dream Boys out of Funkenmarie, they are so different. We look at what we personally find fun and interesting, not directly at commercial value. It's important to look at the qualities of a stallion, and with a young stallion you can sometimes be wrong. I've regularly bred with


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stallions I was very enthusiastic about as young horses, but later I would never use them again. Last year we bred with Hermès, a proven stallion, and with Proud James, a young stallion. This year we bred with Secret Lover and Obsession Taonga. Some older stallions are small certainties."

Robin finds it important that a stallion is as complete as possible: "Everything has to be somewhat in balance, and of course we look at what a stallion can still improve in our mares."

The importance of competing in sport

Almost all foals from the Bernoski family are born via ET, so that the mares can compete in sport themselves. Robin finds this very important: "I think many traditional breeders don't ride themselves, or haven't really competed at a high level. While that actually gives a lot of information about your mare, the basic gaits you can see in a young horse but later, in training, you often only find out if a horse is truly willing to work. Only then can you properly assess rideability, and whether a horse has enough talent for the advanced exercises and wants to move uphill under saddle, you only discover that during further training. Sport gives much more information. By riding them, you get to know a mare line much better."

Hans also believes that a mare who has competed at a high level adds a lot of value to both herself and her offspring. The Bernoski family also likes to take their mares to inspections and have their health thoroughly screened. "If something is wrong with a horse, we don't continue with it. Whether it's a stallion or a mare: a horse must be at least PROK. The back X-rays must also be good. Health is an important condition."

Foals and rearing

Given the limited space at Bernoski Dressage, the recipient mares are housed at Bemi Hoeve in Hoogeloon, and the foals go to rearing at Krimzicht Stables in Friesland. "They have all the knowledge and facilities", Hans explains. In principle, all foals are raised until they are three years old, and then the first selection is made based on health. After that, it is assessed whether the horses could be a match for Robin, and whether they have enough size and ability. The horses are usually backed at Stal Bernoski in Bleiswijk.

Natural succession

Hans and Natascha consider themselves fortunate that their son Robin, now 27 years old, is interested in eventually taking over the business. Robin is currently studying part-time tax law at Erasmus University, which he hopes to complete this year. In addition, he rides several horses a day and his interest in breeding continues to grow. Does he see himself running the business in the future? He laughs: "For now, my parents are far from done. A possible takeover will be an organic process. In recent years, I've become more involved in the business. That will gradually shift more in the coming years. But for now, we really do it together, and that's great fun."

Robin tries to gain experience in as many areas as possible. "I'm getting to know the business better and I'm enjoying breeding more and more. I'm increasingly involved in it. That's also because I'm riding Jamaica now and seeing her offspring grow up. I've also presented our stallions at the stallion inspection myself. That may not have gone completely smoothly yet, but I've learned a lot from it. That way, I get to know all aspects of sport and breeding. You have to experience everything yourself."

Trade and international Grand Prix

In addition to his parents' activities, Robin trades dressage horses together with an investor. "Together with Huub van der Burg, I buy horses. They are usually between six and nine years old. I train these horses further, preferably towards the Subtop, and then they are sold again. I enjoy doing that and I also learn a lot from riding different types of horses." As a result, we're seeing Robin appear at competitions a bit more often again, something he says he may have done too little in recent years. "There's room for that now, and that's where my ambitions lie."

International Grand Prix is Robin's long-term goal, although the trade in their own horses sometimes gets in the way. "Jamaica is the first horse I've been able to continue riding with, but a successor isn't readily available. That process needs to be streamlined better, so that when a horse is sold, you can get back in the picture with a successor."

Hans certainly believes that among their own-bred horses, there is a future horse for Robin. "Looking to the future, we want to keep thinking big. We aim for Robin to compete in top-level sport, and for us to have the best mares to breed with." Because the American Luersman family is involved in the business, that has become easier for the Bernoski family. "We've never had such a beautiful and well-filled collection of horses as we do now. We really enjoy that. In that sense, we're actually very professional hobbyists. You can only do this if you truly love it and have passion", Hans concludes. ■

The Connemara pony: Profiling a versatile Irish gem

By Irish Horse Board / *IHB*
Photography: Courtesy IHB; Susanne Lehmann/Foto-Job.com

From the rugged hills of Ireland's west coast to international arenas, the Connemara pony has quietly earned itself a global following, and for good reason. Hardy, intelligent, and adaptable, this native Irish breed is no longer just a local treasure; it's a worldwide favourite.

Equally at home in the competition arena or on a trail ride, there are few breeds that can rival its versatility or natural talent. With an increasingly active international profile and a 100-year milestone on the horizon, the breed is enjoying a well-earned moment in the spotlight.

Throughout history, these cheeky yet charming ponies can be found gracing the pages of everything from Horse & Hound to beloved children's books. Famous Connemara ponies like Erin Go Bragh, the legendary eventer who was featured in the film *The Little Horse That Could*, and Nugget who cleared the 7'2" (2m18) puissance wall at Olympia Horse Show in London, have inspired generations with their formidable talent and heart. Recently, British YouTube sensation This Esme introduced millions of followers to Casper, her charismatic grey Connemara who also has his own book.

Although Connemaras clearly exhibit the ideal pony characteristics associated with the breed, others have gone far beyond what their size might suggest is possible. Most famously, Stroller, a 14.2hh (147 cms) Connemara-cross-Thoroughbred, won an individual silver medal in showjumping at the 1968 Olympic Games in Mexico City. His legacy remains a benchmark for the breed's potential in elite sport and a reminder that size is no barrier to talent. But beyond screen time, storylines, and medals these ponies have won a multitude of fans across the globe with their easy-going nature, surprising athleticism, and superstar quality.

Castle Ponies

Perhaps what makes the Connemara pony so appealing is its rare ability to bridge the gap between leisure and competition, melding the childhood dream with adult ambitions into one unique equine. Originally bred to handle the rocky, unforgiving landscapes of the wild Connemara coast, these ponies developed strength, stamina, and sure-footedness out of necessity.

Historically, Connemaras were known for their ability to do hard work in tough conditions across terrain other animals couldn't manage. Today, their work looks different, but their defining qualities remain. They're trusted to carry beginners, bold enough to gallop behind the hunt master, and brave enough to leap hedges with scope. And they do it all with a captivating presence that makes people stop and notice, whether that's in a field in Galway or on

a social media feed halfway around the world.

Versatility continues to be the key to their broad appeal, with potential buyers flocking to the Emerald Isle in search of their next dream pony. Connemaras regularly appear in disciplines as varied as eventing, dressage, showing, and even driving. They can also be found teaching children to ride, competing at international competitions, or serving as steady trail mounts for a family hack. For riders who want one pony to do it all without compromising on quality, temperament, or ability, the Connemara pony remains one of the most reliable choices.

Connemara Pony Breeding Societies (CPBS) now exist not only in Ireland, but through daughter societies in the UK, across Europe, North America, Scandinavia, Australia, and New Zea-land. These daughter organisations continue to uphold the breed's core standards and traits while also adapting to modern equestrian needs and pursuits, ensuring the ponies retain their iconic qualities as they expand into new markets and disciplines.

One of the best places to see the breed in all its glory is at the annual Connemara Pony Festival and Show in Clifden, held every August in County Galway, the ancestral home of the Connemara pony. It is the largest gathering of its kind in the world. Ponies and people travel from across the country, and increasingly from abroad, to compete in in-hand classes, working hunter divisions, and performance events. It's more than a show; it's a celebration of rural life, community, and a shared passion for one of Ireland's most treasured breeds.

The 2025 edition, running from August 19-22, will be especially significant, marking 100 years since the event began. To reflect the show's growing scale and international interest in the breed, a newly formed committee will organise the centenary event in collaboration with the CPBS. It promises to honour the breed's roots while showcasing its modern relevance with exhibitions, classes, and festivities for breeders, riders, and visitors alike.

As the breed show celebrates a century of recognition, its future looks stronger than ever. The Connemara isn't just a pony from the past; it's a modern-day marvel with a future as bright as its glittering history. And for anyone seeking an equine part-ner with character, talent, and charm, it may be precisely what you've been looking for all along. For more information about the Connemara Pony Festival and Show in Clifden, please visit The Show – Connemara Pony Show – Clifden

If you are thinking of visiting Ireland for either the CSIO5* Dublin Horse Show, August 6-10, 2025, or the Connemara Pony show please drop the Irish Horse Board an email at info@ihb.ie and we would be happy to assist you if seeking your next equine partner. The Irish Horse Board, under Irish government contract, is responsible for the National Marketing service, to promote and market Irish bred horses and Irish breeders and producers and to connect potential purchasers with Irish Horses. So for trusted, free impartial advice, please reach out and we would be happy to assist you. ■

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Chacco-Blue: Most represented sire at La Coruña Europeans

By José Luis Fernández Cuervo
Photography: José Luis Fernández Cuervo

During the recent 2025 European Championships in showjumping which took place in La Coruña, Spain, the most represented sire was the inimitable Chacco-Blue, with no fewer than four offspring in the entry list.

Chacco-Blue's four offspring are as follows:

• Rain Man (2010/OS/g: out of Pretty Woman x Pilot), ridden by Iván Serrano Sáez (ESP), bred by Sigrid Schmid
• Charino PS (2015/OS/st: out of Pagarina x Norit Larino), ridde by Zascha Nygaard Lill (DEN), bred by Paul Schockemöhle/Gestüt Lewitz
• Mezohegyes Chabala (2010/OS/m: out of Calvaria x Balou du Rouet), ridden by Gábor Szabó Jr., (HUN), bred by Paul Schockemöhle/Gestüt Lewitz
• Chad Blue PS (2015/OS/st: out of Sancenta x Sandro Boy), ridden by Alexia Stanis (CYP), bred by Paul Schockemöhle/Gestüt Lewitz.

Chacco-Blue (Chambertin - Contara x Contender) is currently ranked second in the World Breeding Federation for Sport Horses sire rankings. He held the top spot for six consecutive years, from 2017 to 2022, and has ranked second for the past two seasons.

Interestingly, five stallions each had three offspring in this European Championship:

• **Cardento** (Capitol I - B-Estelle x Lord)
Carabella vd Neyen Z
• **Comme il faut 5** (Cornet Obolensky - Ratina Z x Ramiro Z)
Cazan Z
I. Comme Tessa VHL
Cuma 5
• **Cornet Obolensky** (Clinton - Rabana van Costersveld x Heartbreaker)
Millfield Collette
Casual DV Z
Capsones W
• **Harley VDL** (Heartbreaker - Larthago x Carthago)
Karonia L
Fuzhou
Kalahari Rock

C Vier 2
Obora's Crunchy Nut
Katanga vh Dingeshof
• **Carrera VDL** (Cardento - Vantiels Esprit x Baloubet du Rouet)
Jup
Krachtpatser

Chad Blue PS ridden by Alexia Stanis (CYP)

European Champion: United Touch ridden by Richard Vogel (GER)

Half a dozen stallions had two offspring apiece, while 58 sires were represented by a single son or daughter.

As paternal grandsires, Diamant de Semilly stood out with six descendants through his sons: Diarado (2), Emerald (2), Pacino (1), and Elvis Ter Putte (1).

Heartbreaker also had five descendants through Harley VDL (3) and Toulon (2), as did Clinton, through Cornet Obolensky (3), Eldorado van de Zeshoek (1), and President (1).

Looking at the third generation on the sire line, Capitol I stands out with 12 descendants via Cardento (3), Cassini II (3), Cassini I (2), Indoctro (2), Cento, and Carthago Z (1). ■

Diverse causes and treatments for recurrent colic in horses

By Dr Tatiana Gojdyk, DVM, ECEIM Resident
Photography: Courtesy Equitom

What is a colic? It's the manifestation of pain from a horse, coming from the abdomen, pelvis, or thorax. Horses don't have a lot of means to express their pain, and being prey animals will reluctantly do so.

Any sign of colic must be taken into serious consideration, be it pawing the ground, looking at their flanks, lying like a cow, or laterally like a dead horse for prolonged periods of time (*Figure 1*), having extreme bouts of excitation and sweating profusely, yawning repeatedly, being really grumpy (change of behavior), or reluctant to move or loosing weigh (*Figure 2*).

Sometimes colics can be called recurrent, ranging from more than three episodes of colic per year to more than three episodes of colic per month. It is of course a very serious problem, both from an ethical point of view to a poor performance issue.

This article aims to review the main problems encountered when a team of dedicated veterinarians look into the reason for recurrent colics, and how to make a precise and complete diagnosis.

Dental problems

Horses are mammals with ever-growing teeth and are born with two sets:

- the lacteal, which they will shed like good kids waiting for the tooth fairy,
- and decidual, that are hidden entirely within their head bones, progressively come out, and will be slowly worn down throughout a horse's whole life.

However, some pathologies exist, including eruption defaults or bad wearing bringing imbalance to the entire mouth and the chewing system. Some teeth can be fractured or present cavities, and older horses often have more problems that need to be followed closely.

Let's remind ourselves that a well-balanced mouth is a supple mouth, and that chewing is the first part of digestion.

A good dental examination is essential to the well-being of your horse, which often involves sedation. Indeed, horses being prey animals, it is scary for them to be immobilized with their mouth open, so they contract their extremely strong jaw muscles to fight against us. The mouth of a horse is long and narrow, a bit like a crocodile's, and in order to do a good job, good relaxation needs to be achieved.

Gastric ulcers

One of the most common problems encountered in the equine world is equine gastric ulcers syndrome. It is deeply linked to the amount of stress and feed our horses receive daily.

Horses are submitted to a lot of stress with their environmental conditions. In a short period of time (over a few hundred years), they have been stabled, fed concentrated feed extremely rich in sugar and starch, taken out for short, intense episodes of exercise, and let out into a small yard where they eat close to their poo. Let's not forget that horses were designed to walk more than 15 kilometers

Figure 1 A-B
Manifestations of colic signs in horses

FIGURE 2
Manifestation of recurrent colic signs can also involve weight loss

FIGURE 3
How a gastroscopy is performed

per day, eating a constant amount of grass from the ground, with only the grains maturing at the end of the summer to make them fatter for the upcoming winter months.

• **A gastroscopy** (*Figure 3*) is often needed in order to define the extent, location, and severity of lesions. In some cases, additional pathologies are assessed, like chronic gastric impaction, delayed gastric emptying, pylorus stricture, tumors... The most accurate treatment plan is based upon a good diagnosis.

The equine stomach is composed of two main parts: the top part called squamous mucosa, which is not designed to support severe acidity, and the lower part – glandular mucosa – which produces the gastric-acid secretions. The stomach then opens through the pylorus in the duodenum, which is the very first part of the intestines. Various kinds of ulcers exist, as well as diverse severities (*Figures 4A-B*).

• **Recheck gastroscopies** are as important as opening up a bandage to assess the evolution of a wound. Has the treatment been effective? Does it need to be adapted because one part healed and another worsened? Recheck gastroscopies allow for treatment adaptation or can give the green light for return to normal exercise.

• **Blood analysis:** is this needed? Vets often talk about taking blood and running an analysis. Indeed, lots of information about several systems can be harvested from the interpretation of the results. Markers of inflammation (hypoalbuminemia, hyperproteinemia), of liver pathologies, of infection, in some cases endocrinologic disorders (ACTH), are vital parameters to be followed. Of course, they only make sense when seen within the whole picture context, and have to be put into perspective alongside other examinations.

• **When imaging, especially ultrasound, is an accurate diagnostic tool.** Some recurrent colics have an underlying cause that can be assessed almost immediately upon admission to the clinic with the help of an ultrasound (*Figure 5*).

For example, nephrosplenic entrapments can cause weight loss, poor performance, mild colic signs, with the diagnosis being based upon an ultrasound and transrectal

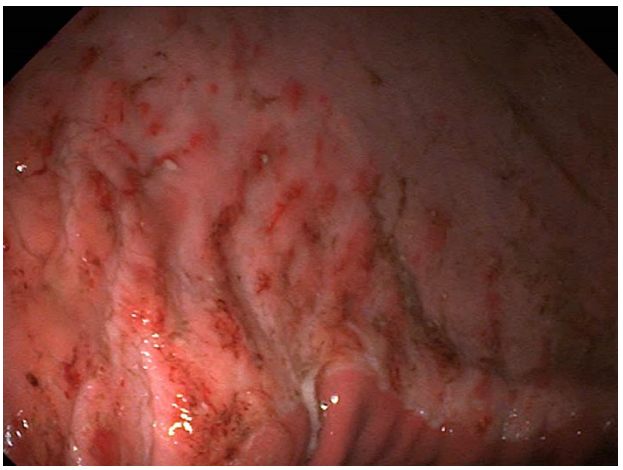


FIGURE 4A
Severe squamous gastric ulcers

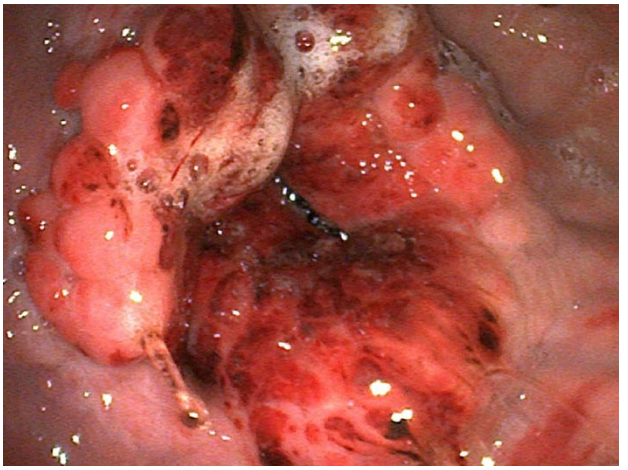


FIGURE 4B
Severe glandular gastric disease

FIGURE 5
Percutaneous abdominal ultrasonography

FIGURE 6
Transrectal ultrasonography

palpation when the horse is admitted. That is why, in certain cases, we ask you immediately bring the horse to the clinic when they start having even mild signs of colic, in order to determine a good diagnosis.

Some more serious pathologies – like chronic equine grass sickness, a debilitating disease – can also be rapidly diagnosed: these horses are often very skinny, adopt a narrow stance, are weak and toe-dragging, and have certain additional symptoms such as ptosis (drooping eyelids), persistent tachycardia, muscle tremors, sweating, rhinitis sicca. The final diagnosis will be determined through biopsies of certain tongue buds (gustatory papillae), but before that, strong suspicions can be identified with a good clinical exam that shows distended intestines with thickened walls on the ultrasound.

Chronic stomach impaction, another complex problem, is best assessed with repeated ultrasounds coupled with gastroscopies. The causes of this pathology can be multiple, and include a mass pressing on the stomach, a repeatedly displaced colon, or an intrinsic default of innervation. Again, a good, complete diagnosis allows the best treatment plan.

Some features of inflammatory bowel disease can also be identified with an ultrasound, such as thickened walls or disrupted motility. We will come back to this syndrome a bit later.

Differences must always be compared with invasive tumors such as lymphoma. The intestinal walls can become markedly thickened, the caecal lymph nodes can appear enlarged, in association with weight loss, tiredness, and sometimes changes in the blood.

Some neoplastic masses are visible with a transcutaneous ultrasound (through the skin of the abdominal wall), some with a transrectal ultrasound. And if the equid is small enough to go through the coil of a CT scanner, some very rare pathologies (pancreatic tumor, pancreatitis, liver stones (hepatolithiasis)) can be identified with more advanced imaging techniques. Indeed, limitations of the ultrasound include the fact that we can only look up to 25-cms deep in a cavity that measures 1.5 to 2-metres wide, and some intestinal contents can prevent the ultrasound from capturing a good image.

With a transrectal probe, the inner aspect of the pelvis and some specific organs can be assessed (*Figure 6*) :

• Arteries, like the aorta, the largest vessel in the body, ends just before the pelvis. A thromboemboly caused by bacteria or worm infestation, or verminosis arteritis, can be painful and cause colic or lameness

• Perirectal abscesses: Following a penetrating wound or regional trauma, such as after giving birth, traumatic breeding, or sometimes inconspicuous foreign body penetration, one or several abscesses can develop and create inflammation and areas of compression that end up being painful.

• Infection of the uterus, also called metritis, can also be a source of pain (the mare would normally also present fever and vaginal discharge). Rarely, ovulation pain or granulosa cell tumor can be the source of pain.

In younger horses, a strong burden of worms can promote the motility of the intestines, causing one intestine to inverse and enter the lumen of the following segment. This phenomenon, called intussusception, can last for up to several weeks before being diagnosed, and occur between two segments of the small intestine, the tip of the caecum in the larger section of it, the colon in the caecum for the most common cases. It adopts a typical aspect on ultrasound, like a bull's eye.

Finally, vets with a lot of experience can assess adherences, when intestines are monitored over several repeated ultrasounds, always at the same place in the abdomen, huddled together, sometimes with motility disturbances.

Another vital examination, especially when a sablosis or sand impaction is suspected, are x-rays. In certain regions of the world, or with the new way of stabling horses in sand paddocks, an accumulation of sand can occur. Because sand is so heavy, it sinks to the bottom of the colon making it

difficult to move with the flow of any normal transit. Of course, the movements of the intestines continue, and the abrasive sand soon irritates the inner lining of the intestine (called the mucosa).

On top of that, the weight of sand can create imbalances and displacements of the colon. A severe amount of sand can sometimes be assessed by the sedimentation test (mixing a handful of feces with water to see if sand accumulates at the bottom of the countainer). But the golden test, especially in assessing the quantity, remains abdominal x-rays (*Figures 7A-B*).

Another cause of recurrent colic, not often seen in some regions, but more common in California and Florida, for example, is enterolith. When horses are fed a lot of alfalfa hay, they tend to form stones in their colon due to an imbalance in minerals and PH. The Arabian breed appears more at risk, but this pathology can touch any horse. Diagnosis is made by x-rays, surgery, and in rare cases by transrectal palpation.

Inflammatory bowel disease

With its trail of vital complementary exams, and grossly similar to Chron's disease in humans, inflammatory bowel disease can take many forms and is not easy to diagnose. It is often linked to malabsorption and, thus, weight loss and hypoproteinemia.

In order to assess the malfunction of the small intestine, an oral glucose tolerance test is highly useful. If the absorption of glucose from the inside of the intestine to the blood stream is decreased, it means the horse is suffering from malabsorption and the diet needs to be adapted, alongside the routine administration of certain medications.

As previously described, ultrasounds are extremely useful in such cases. Indeed, inflammation of the intestines can cause dysbiosis, meaning that the normal bacterial population is disrupted and produces too much gas if normal fermentation cannot properly occur. The accumulation of gas in certain places can force the intestines to move into abnormal spaces and cause colic. An abnormal topography can be assessed by ultrasound and through transrectal palpation.

Dysbiosis can also cause 'free faecal water syndrome', meaning water around normal feces or at the end of pooping. Transfaunation, meaning a graft of normal microbiota (= bacterial population from a normal horse), can be performed in relevant cases.

Inflammation of the intestines can be very painful by itself and cause colic signs and behavioural changes. It can also be linked to neuritis of abnormal neural communication within the enteric nervous system (which in the horse is grossly like a second brain, with extremely complex neural connections called plexuses). This lack of communication can slow the transit itself and cause impaction of different segments.

Exams allowing the diagnosis of IBD, when there is a strong strong clinical suspicion, are biopsies.

• The pinch biopsies of the duodenum and the rectum are minimally invasive (*Figures 8A-C*). By doing a gastroscopy, the duodenum can be accessed and the biopsies taken. Through rectal palpation, biopsies can be taken fairly easily with minimal risk. However, the pinch biopsies, because they only take part of the mucosa and the submucosa and are taken at the very beginning and very end of the digestive tract, can be disappointing.

• If it's case suggested, surgical procedures can be offered. A laparoscopy can be performed on a standing, sedated horse, allowing a camera and instruments to be inserted through a small incision. Full-thickness biopsies can be performed on the small intestine and sometimes on the colon as well as some resolution, like closure of the nephro-splenic space. But the entire length of the intestine cannot be explored. Rehabilitation time usually extends to six weeks.

• In case of a severe episode of colic that doesn't resolve medically, or if a diagnosis cannot be made otherwise, a laparotomy can be performed (*Figure 9*). For this procedure,

FIGURE 7A
How to perform abdominal x-rays

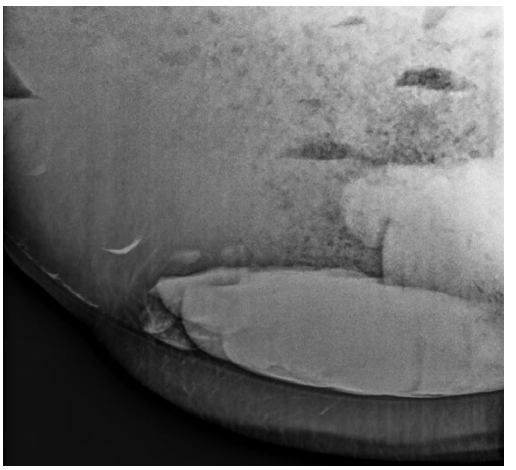


FIGURE 7B
Diagnosis of sand accumulation in the colon

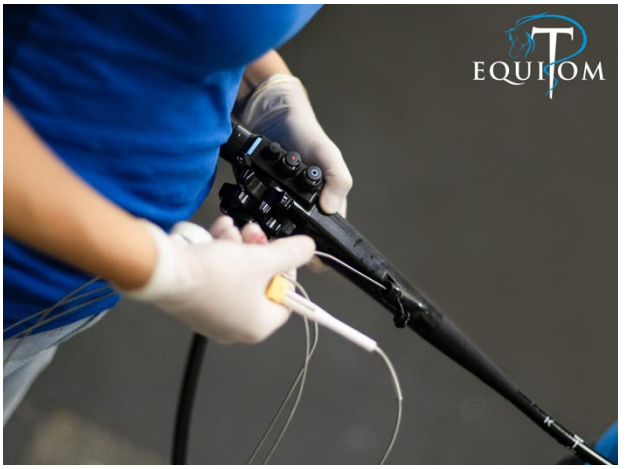


FIGURE 8A
The biopsy pinch is inserted into the gastroscope top perform duodenal biopsies

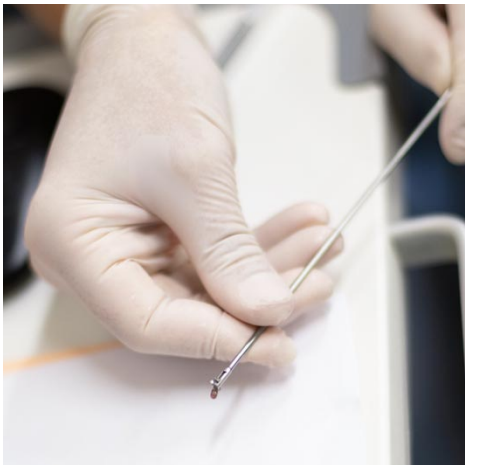


FIGURE 8B
The biopsy pinch with the piece of mucosae

FIGURE 8A
Placement of the biopsy pieces into the special dedicated containers

the horse needs to be placed under general anesthesia and the abdomen opened. In this case, the entire abdominal cavity can be explored (*Figure 10*) and treated, except for very deep organs like certain parts of the liver. This allows for the most precise diagnosis, because of direct exploration of

– organs (ileal or caecal muscular hypertrophy, zones of stricture, zones of hyperhemia, enlargement of lymph nodes)

– diagnosis of adherences and hopefully resolution (the risk of getting adhesions back is sadly very high)

– diagnosis of masses (lipomas, other kind of tumors, cysts, abcesses...)

– diagnosis and resolution of enteroliths (stones forming in the intestines), of impactions (including sand impaction, even though the risks of organ rupture are high), of congenital malformations even at a later age (congenital means the horse has been born with it), etc. This procedure is more serious, with more risks of complication, with recovery taking three months at best.

Before a surgery is attempted – in order to assess the severity of inflammation, to distinguish between a septic or aseptic peritonitis, or attempt to see tumoral cells – an abdominocentesis is very often performed. It is a fairly risk-free examination, but as the abdominal cavity is so wide and compartmentalized, it also has its limitations.

Verminosis

One cannot talk about weight loss and recurrent colics without talking about worms and, more importantly, worm resistance. Enteric parasites can create blockages, like the *anoplocephala* at the ileo-caecal valve, or *ascaridae* in the small intestines.

They can create inflammation, like *cyathostominae larvae* in the wall of the colon, or *gasterophilus larvae* that hang on the mucosa of the stomach.

Diagnosis is sometimes difficult, and may require different tests.

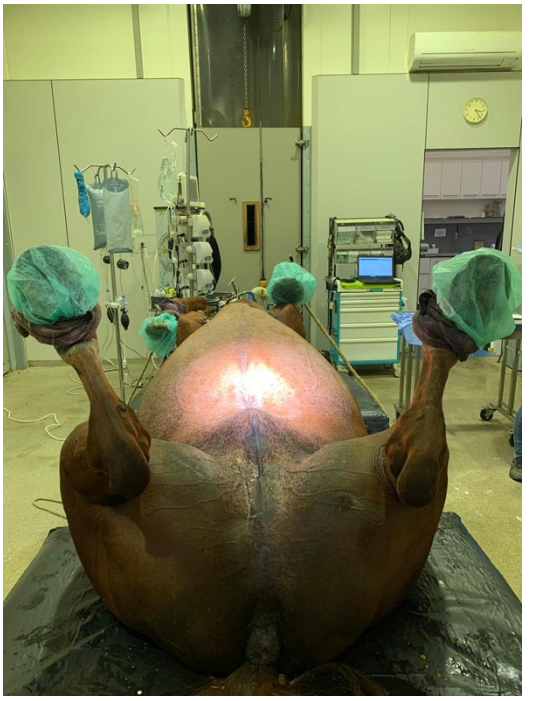
• Coprology or analysis of the feces consists of counting eggs, for which there must be adult worms in the intestines. When eggs are present, it is a powerful tool in determining which worms are present and the severity of the shedding. From the result, deworming can be tailored to an individual, a group, a stable, or studfarm, thereby addressing a build-up in resistance.

• Serologies are particularly useful when a suspicion of *anoplocephala* or *cyathostominae* infection is present. Indeed, those novel tests measure the response of a horse's body to the infestation and informs both a diagnosis and a tailored treatment plan.

Of course, general management is important, if not more so than the treatment.

Nutrition

Nutrition is incredibly important in regard to all these issues, and should be advised by well-trained professionals with wide experience and the ability to adapt diet to the



FIGURES 9A (TOP) AND 9B (RIGHT)

In case of a severe episode of colic that doesn't resolve medically, or if a diagnosis cannot be made otherwise, a laparotomy under general anesthesia can be performed

horse's taste, an owner's and stable's compliancy, and the requisite needs for dfferent levels of performance.

Essentially, horses need forage for at least 2% of their body weight (around 12-kgs for a normal-sized horse), available throughout the day, and a minimal amount of sugar and starch. Nowadays, more and more feed brands are managing to unite interesting feed compositions, and diets can therefore be tailored to an individual horse's needs.

Also, it should be especially noted that information in this article is valuable NOT ONLY for hoses, but applies in general to all equids, including donkeys. (*Figure 11*).

As you have read, recurrent colics, even though stressful, confusing, and sometimes despairing, are not without solutions. Don't hesitate to check in with us for any further information or a diagnosis that could help your horse. ■

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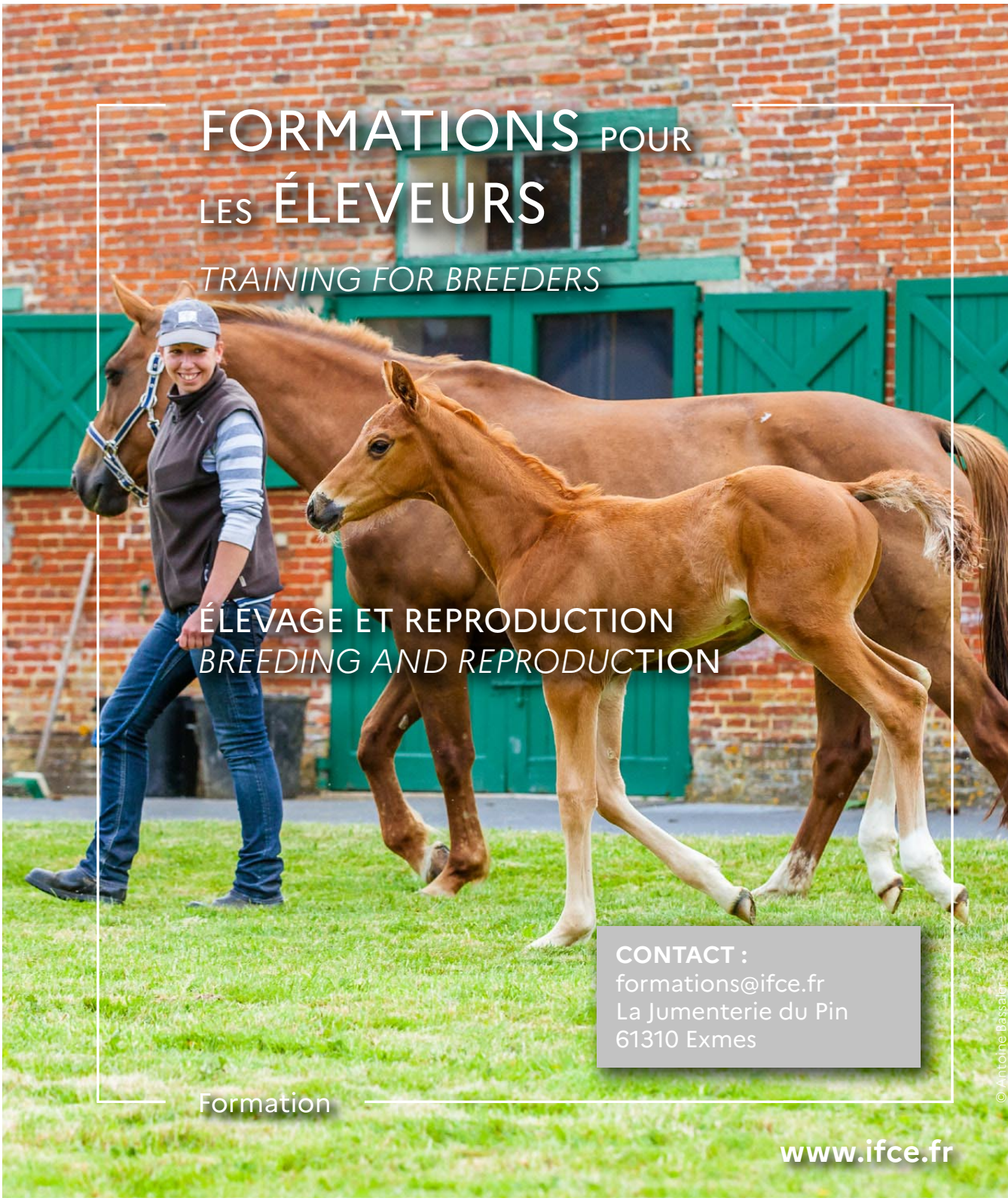

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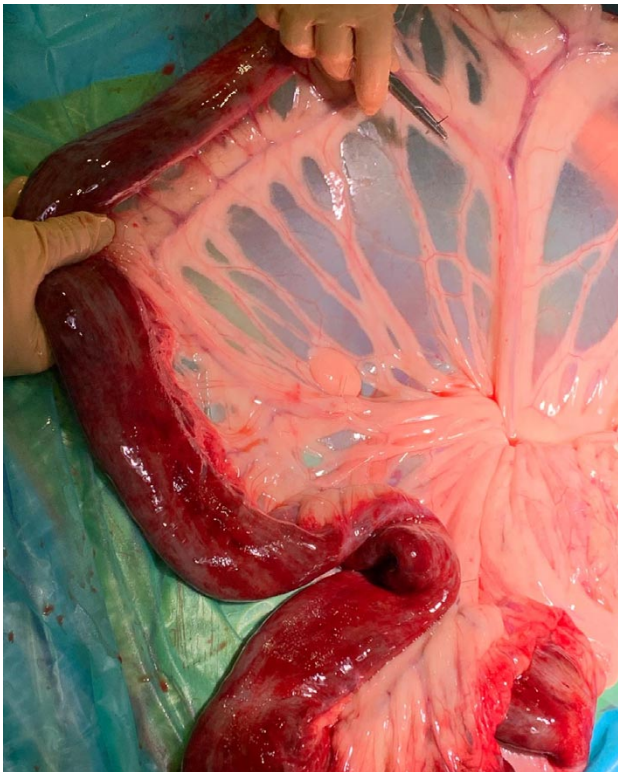
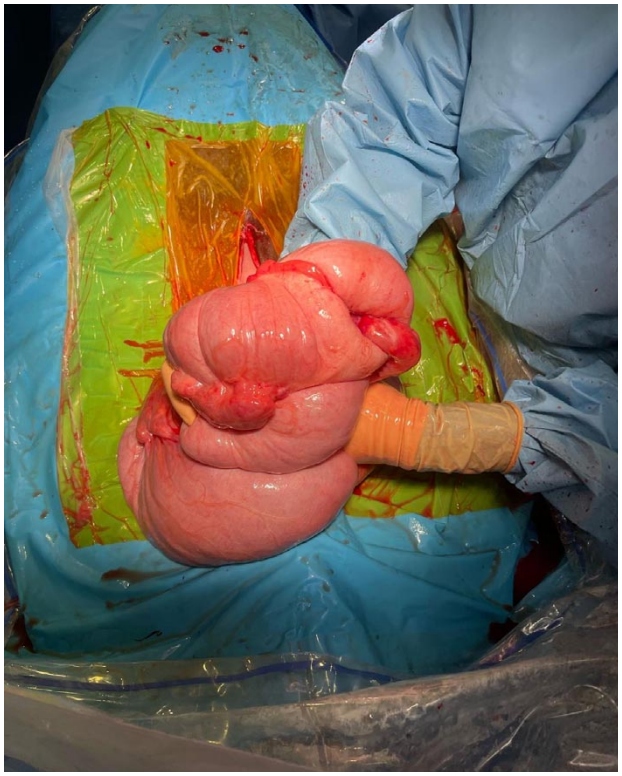


FIGURES 10A, 10B, 10C (FROM TOP LEFT)

The laparotomy allows the exploration of the entire abdominal cavity, showing examples of (A) A torsion of the colon; (B) A seriously damaged jejunum, and (C) An in-vagination

FIGURE 11 (BOTTOM RIGHT)

Recurrent colics can touch all equids, including donkeys



Brazilian breeding shines at the Wimbledon of showjumping

By Roberta Milani (translation Caroline Padilla) / *ABCCH*
Photography: Mackenzie Clark; LC Ruas; personal archive

With breathtaking performances during the recently concluded CHIO Aachen 2025, Brazilian Sport Horses (BH) demonstrated their strengths and qualities, reaffirming the continued excellence of the country's national breeding.

Brazil wrapped up its participation at one of the best showjumping venues in the world, the prestigious CHIO Aachen 2025 in Germany with plenty to celebrate. Among the world's showjumping elite, Brazilian Sport Horses (BH) took center stage with impressive results, reaffirming the high standards of Brazilian breeding on the sport's most demanding stages.

In the Rolex Grand Prix, the event's most coveted class, the 100% Brazilian pairing of Stephan Barcha and Primavera Montana (Calvaro Z x Paroli) secured fourth place over a technical and fiercely contested course. The mare, bred by Haras Montana and owned by Ana Eliza Aguiar M. Ramos, completed both the main round and the jump-off flawlessly, with a competitive time and exceptional precision, once again placing Brazil on the podium at one of the world's top events. Earlier in the week, the same duo had already stood out by jumping clear in both phases of the VBR-Prize (CSIO5*), reinforcing Primavera BH's consistent performances on European soil.

Stephan Barcha and Hex-Lup ((X-Rated GMS x Clinton Jmen) in the spotlight

Stephan Barcha and Primavera (Calvaro Z x Paroli) in the Rolex Grand Prix during the CHIO Aachen 2025 final round

Another prominent Brazilian name, Yuri Mansur, achieved an emotional victory in the Mystic Rose Prize, a competition sponsored by the Brazilian Haras Rosa Mystica. The win served as a silent tribute to his unforgettable partner, Miss-Blue Mystic Rose (Chacco-Blue x VDL Zirocco Blue), bred by Haras Rosa Mystica and owned by Thalita Gorri de Almeida, who passed away just days before the event. His victory, with mare Clariquada T, moved the audience and immortalized the memory of the BH mare who helped elevate the name of the stud farm and the breed around top

Pedro Veniss and CS Hortencia (Etoulon VDL x Cassini II) awareded for third place in the CSIO5 Handwerk Prize*

Barreto Jnr. Serv.Vet/SFB Ensino I. Negocios. Born in 2009, this BH horse reinforced the excellent international record of the rider and the strength of Brazilian genetics over the most challenging European circuits.

Brazilian international Pedro Veniss also represented his country with distinction. With Duelante 3K (Lordanos x Zirocco Blue VDL), owned by Marcelo Giovanetti D. Arienzo and bred by Haras 3K, he completed both phases of the Städte Region Aachen Prize (S4) without penalties, for a well-deserved eighth place. Riding the mare CS Hortência (Etoulon VDL x Cassini II), bred by Haras Campos Salles and owned by Olavo Ribas, he shone once again by finishing third in the 1m45 Handwerk Prize (CSIO5*), showcasing the best in partnership consistency and skill.

Brazil's participation in Aachen not only yielded podium finishes but also highlighted the strength and integrity of the work of BH horse breeders, proving that the quality of Brazilian breeding competes – and wins – at the highest level of global equestrian sport. ■

international circuits.

Again in Aachen, Stephan Barcha clinched another victory with the experienced Hex Lup (X-Rated GMS x

Clinton Jmen), bred by Haras Nutreal and owned by E.X.

An emotional victory for Yuri Mansur(BRA) in the Mystic Rose Prize – named after his unforgettable mare, Miss-Blue Mystic Rose who had passed away just days before the event

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Jessica Lynn Thomas – test rider for Swedish Equestrian Weeks

By Jean Llewellyn (press release)'
Graphics: FEI/Dirk Caremans

Internationally accomplished rider Jessica Lynn Thomas will be joining the SWB Equestrian Weeks with Breeders Trophy at Flyinge this autumn as the test rider for the four-year-old dressage horses, presented by AJ Produkter. She brings a wealth of experience, feel, and expertise in young horse development.

Jessica is a Swedish rider with deep roots in international equestrian sport. She first traveled to Germany age 17 and, after living between countries for several years, has now been based there for over a decade. Together with French husband, Raphaël Thomas, she runs a training and competition yard with a team of four staff members from various countries. This international environment creates a dynamic daily life where different methods and experiences meet.

The couple specializes in training young horses aged three to seven, with a focus on preparing them for championships in Germany, the Netherlands, and Denmark. Jessica has also competed in Sweden, most recently winning the five-year-old dressage class at the Breeders Trophy in 2020 with the SWB horse Mr. Grey VH. She is now looking forward to returning to her home country after many years abroad.

"I'm really looking forward to being the test rider during SWB Equestrian Weeks and the Breeders Trophy. It's inspiring to see how the Swedish system is structured today and what has changed. After following young horse classes and championships in Germany, Holland, and Denmark, I'm curious to see what similarities and differences exist and what Sweden can learn from others, as well as what we can contribute ourselves", says Jessica Lynn Thomas.

Jessica Lynn Thomas (SWE) riding 5yo stallion Secret in the World Breeding Championships for Young Horses, Ermelo 2019

Jessica's training philosophy is both thoughtful and compassionate. She likens working with horses to working with children, though she is careful to note that horses are not literally children, she believes the responsibility and care are quite similar. "To me, the most important thing is that the horse wants to come to its rider, especially when it feels unsure or afraid. Rules and structure are important, but trust is even more crucial. The horse needs to feel that it can turn to the rider for safety, just like a child turns to a parent. It must trust the rider more than its surroundings, and that kind of relationship is built through respect, clarity, and mutual attentiveness", she explains.

Jessica also emphasizes that flashy gaits and spectacular movements aren't everything. She believes it is vital for a horse to be mentally and emotionally strong, especially in today's demanding competition environments with large crowds and high pressure. She stresses the importance of not breeding horses just for brilliance and intensity, but for their ability to focus, communicate, and handle stress calmly. In this regard, she sees Sweden's breeding program as having great potential. "I'm incredibly grateful to work with what I love, educating horses, following their development, and building relationships that last far beyond the competition arena", Jessica concludes.

Jessica's passion for the whole journey, from young horse to Grand Prix, combined with her humble yet clear leadership style and sharp eye for long-term development makes her a powerful advocate for modern young horse training.

About Jessica Lynn Thomas

- Year of Birth: 1983 (41 years old)
- Residence: Germany
- Nationality: Swedish
- Family: Married to Raphaël Thomas, with a six-year-old son, Max
- Profession: Runs a training and competition stable in Germany with an international team
- Specialty: Young horses (three to seven years old) and preparing older horses for Grand Prix
- Favorite Food: Loves all kinds of food
- Favorite Music: Listens to all types of music from morning to night. ■

German organizational diversity during Hörup Springflut Festival

By Jean Llewellyn (press release)
Photography: Malina Blunck

If a top-event organizer hopes for anything, it's that the final day will be festive, diverse, and of the highest standard, so the wishes of Stephan Johannsen, his family, and the entire team of the Springflut (Spring Tide) Festival at the Hörup facility were certainly realized.

Riders and guests who packed the stands raved about the friendly and dynamic atmosphere, while the market square and James Farm were popular and well-frequented gathering places. The focus, however, was the finest level of showjumping, with the VR Bank Nord eG Grand Prix as the highlight and Linn Hamann as the celebrated winner.

The demanding 1m50 Grand Prix course saw 34 riders saddle up their best horses, with each competitor allowed to ride two, and Denmark's Rikke Heineking recognized for being the only one who brought both her partners to the finish line without faults.

Eleven pairs qualified for the jump-off, and the enthusiastic audience witnessed a thrilling finale with all the drama of a Hollywood blockbuster. Almost every clear ride was faster than the one before but, ultimately, Linn Hamann flew the course with her proven 10-year-old Holsteiner Cool Fox (Colman - De Schwatte x Singulord Joter, bred by Jens Riutters) crossing the finish line in an unbeatable time of 35.27 seconds. The 26-year-old from Hamburg was overjoyed: "The Springflut Festival is one of my favorite shows. We always enjoy coming here and have even taken part in a jump-off. The whole weekend, and especially now in the Grand Prix, has been fantastic for my horses and me. We simply feel at home here, and that's why I'm all the more pleased that we've managed to win the jump-off." Her first place was also sweetened with a special prize: a prestigious jumping saddle, donated by Reitsport Duus.

And the result continued with more extraordinary results when two riders shared second place: Jörg Naeve from Ehlersdorf with his veteran partner Benur du Romet (Balou du Rouet - Donna x Damour, bred by Andrea Pilger), and team world champion Carsten-Otto Nagel (Clarimo - Udine I x Lerano, bred by Manfred Kummetz) with his grey Holsteiner GK Curacao (both with 0/35.33).

Before the final sporting event, organizer Stephan Johannsen, along with several representatives of his team, expressed his thanks to the many visitors: "I wasn't the sole host, which is why we're all here; we were all your hosts. This team deserves a big round of applause. We thank you all for being here and supporting us for six years."

Champion colt foal by United Way x Dinken, bred by Malte Kuhnert from Freienwill

Johannsen also looked optimistically to the future: "We will continue to develop the sport, just as we will develop the event as a festival, both Springtide and James Farm. And that includes equestrian sports as well as the best entertainment."

Earlier in the day, the showjumping began with a two-phase class, which was won by Thore Stieper and his Holsteiner mare Criminal Blue (Plot Blue - Avanti x Contender) – a horse bred by his grandfather Reimer Hedt – who produced a flawless round in a 35-horse field. According to Stieper, "She's only eight years old and was born on our farm." Having trained the mare himself throughout her career, he added: "Our first two competitions resulted in two

Winners of the Grand Prix, Linn Hamann riding Cool Fox (Colman - De Schwatte x Singulord Joter, bred by Jens Riutters)

wins, and it's basically been the same since then. She's very cautious and an exciting horse for the future."

Thore Stieper comes from a horse family, but only found his way into the saddle at the age of 12. Since then, he's been even more dedicated and successful: "All the horses I ride were bred by my grandfather, and he's always there at the shows. A few years ago, he gave me a mare, and since then, I've also been active as a breeder."

Second place went to Fynn Müller-Rulfs riding the grey Holsteiner stallion Caspiato M (Casall - Pialotta III x Carthago Z, bred by Stall Magdalenenhof), ahead of 20-year-old Tjade Carstensen from Sollwitt, with his Holsteiner gelding Cosmo. Just days earlier Tjade had won the German U25 Showjumping Cup in Aachen riding his 11-year-old mare Gasira (Casalito - Be Happy x Cassaro Z, bred by Karl Heinz Clausen)

Thore Stieper and his grandfather are just two among many other dedicated breeders in Germany's far north, passionate about their mares and offspring, so it was natural that the Johannsen family, themselves successful breeders, should offer their top event to the Schleswig-Flensburg licensing district as a stage for their foal championship. Thirty young Holsteiners competed, including a United Way x Dinken son bred by Malte Kuhnert from Freienwill who came out on top as the best dressage-bred foal. Annika Kuhnert was thrilled: "We are passionate Holstein breeders, and being able to present our foals in front of such a backdrop is truly unique and something you don't experience every day.: Among the fillies, a daughter of Utamaro d'Ecaussines, Z-Cascadello, bred by her owner Stephan Johannsen, received the highest rating.

As the Springflut Festival 2025 in Hörup came to an end, it was recognized that the organizers once again succeeded in putting together a unique event that goes far beyond first-class showjumping: The entire region was actively involved, and with eventing, another exciting discipline found its place in the program.

The highly successful Highlights Sales Auction and the Foal Championship provided an impressive platform for the breeding program,while the open gates of James Farm provided guests with authentic insights into sustainable farming. Stephan Johannsen and his team have thus successfully placed the horse in the public spotlight – with all its positive attributes – and next year's Springflut Festival 2026 will be held in Hörup from July 8-12. ■

BRINGING THE BEST STALLIONS TOGETHER

CHACOON BLUE Chacco-Blue - Cartoon

CASALLCO Casall - Contender

PROUD JAMES Jameson RS2 - Johnson

LA PAIX La Vie - Sir Donnerhall I
Oldenburger Siegerhengst 2025

ESCAMILLO Escolar - Rohdiamant

CHAD BLUE PS Chacco-Blue - Sandro Boy

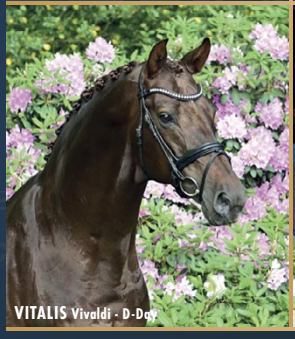
CHACCOTHAGE BLUE PS Chacco-Blue - Conthargos

DAAN G Daan G - Don Olymbrio

ESCANTO PS Escamillo - Fürstenball

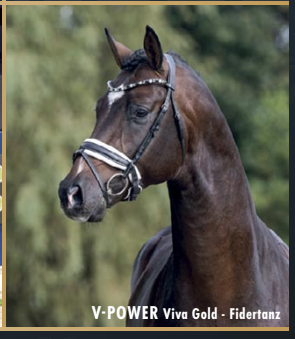
DIALLASCO BLUE PS Diablue PS - Casallco

DOURKING HERO Z Dourkhan Hero Z - Kassander van't Roosakker



VITALIS Vivaldi - D-Day

EXTREME U.S. Escamillo - Vivaldi



V-POWER Viva Gold - Fidertanz

Simultaneous Holsteiner foal auctions at two venues

By Jean Llewellyn (press release)
Photography: Malina Blunck

On July 12, two Holsteiner foal auctions took place at two different venues – as part of the Spring Tide Festival in Hörup and the Falsterbo Horse Show in Sweden. Both auctions concluded with some top prices and good average prices: In Hörup, customers paid an average of €13,250 per foal, while in Falsterbo, they paid €11,000.

The top price in Hörup was catalog number 11, Ces't Chic Hero P (Cento x Echo van't Spieveld), bred by Timm Peters from Bargenstedt. After a long and exciting bidding duel during the Spring Tide Festival, customers from Germany decided the filly, who is out of the famous Usha van't Rossakker, was worth €20,000 to them.

Auctioneer Hendrik Schulze Rückamp's hammer fell on catalog number 10, Tequila (Pegase van't Ruytershof x Cascadello I), at €17,500. Johannes Manns from Wöhrden bred the filly from line 730B. Her granddam, India Blue (Zirocco Blue), is a full sister to the licensed stallions Zornell I and II. Zornell II also bears the prefix LB in her name and was successful in international competitions under the saddle of Christina Liebherr (SUI).

Catalog number 1 put clients in a buying mood at the start of the auction, when Modric P (Million Dollar x Cornet Obolensky), bred by Timm Peters, changed hands for €17,000. Once again, it was demonstrated that outstanding pedigree performances generate great desire: For Modric P, it is line 890 that offers hope for an outstanding future.

World Cup finalist Bull Run's Jireh (Uriko), ridden by Kristen Vanderveen (USA), and his full brother, the former reserve champion of the Holsteiner licensing Uno I, are out of Modric's granddam.

A colt from the first crop of the Verband stallion Cascolero also sold very well, at €16,000. Cörnel A – catalog number 13, out of a Kannan dam – was exhibited by ZG Andresen from Amrum and, like all foals in this auction, remains in German ownership. This auction achieved a 100% sale rate.

Sport-proven genetics in demand in Sweden

Twelve young hopefuls, along with their breeders and owners, traveled to the traditional Falsterbo Horse Show in Sweden, and represented the Holsteiner horse in an ideal manner. Highly interesting foals from sought-after sires with proven dam lines ensured that international customers invested an average of €11,000 for their future Holsteiner star at this auction.

Two foals achieved a hammer price of €16,000: One was catalog number 4, Touch of Diamond ML (Ermitage Kalone x Diarado. The mare's granddam is a full sister to Cardento by Capitol I and thus boasts numerous closely related 1m60 horses, including Cartello (CartaniP) ridden by Irishman Darragh Kenny. Touch of Diamond ML will be based in the Netherlands in the future.

The other is catalog number 7, Tamila (Ogano Sitte x For Fashion). She was bred by Ohl Lühr KG in Büsumer Deichhausen, and her granddam produced none other than Aachen winner LB Convall (Colman) ridden by Philipp Weishaupt (GER). Tamila was acquired by customers from Norway.

Auctioneer Christoph F. Rowold knocked down two more foals for €12,000: Thalia (Ermitage Kalone x Verdi), bred by ZG Hansen & Remus (Wöhrden), and Knoppers (Keaton I x Cascadello I), bred by Jens Böckenhauer, Boostedt. Hopefully, we'll see the Keaton son again in a few years as a prospective stallion, as his new home is one of Europe's largest stallion stations. With a sales rate of 83% percent, the foals averaged €11,000, selling to Sweden, Norway, England, Germany, Spain, and the Netherlands. ■

Top price for Ces't Chic Hero P (Cento x Echo van't Spieveld), bred by Timm Peters

Maja Bogren: “I love the journey

By Isabelle Eklund and Anette Sånesson (translated by Hillevi Brasch) / *SWB* Photography: Sofie Gullberg Photography

On a farm between Halmstad and Laholm, in the western part of Sweden, 32-year-old Maja Bogren lives with her family, including her partner, son, and parents. Here, she is living her dream of working full-time with horses.

Maja’s journey has been shaped by persistence, lessons from setbacks, and a growing interest in young horses. Her passion for horses started early, thanks to Maja's grandfather, who bought a pony even before she was born, marking the beginning of a life filled with horses. Maja has competed in dressage, showjumping, and eventing, and it was together with her dressage-enthusiast mother that the foundation was laid. “My pony years weren’t a meteoric rise, but I learned so much. It was valuable to have to work hard,” says Maja.

Her breakthrough came when she transitioned from pony to horse as a junior and found an excellent future competition partner at Stall Linell. The horse was named Aperitif (SWB) (2006: Hip Hop (SWB) - Alicia (31) (SWB) - Magini (SWB), bred by Fredrik Linell), and with him she competed up to 1m30-1m40 in showjumping. That’s also when her interest in working with young horses grew, especially those that other riders didn’t want or dared to take on. “I saw it as a challenge to find a way to make it work with them. That’s something I’ve carried with me ever since,” Maja explains.

Maja Bogren with Horseparters Alison PS (Action Blue x Silvio I)

National Mare Champion – Sunny Girl

During her high school years, Maja spent nearly all her free time with the Linell family, where she gained invaluable experience with young horses. After graduation, she got a job working for Pia Levin, where she had the opportunity to ride and compete frequently. Maja and her partner eventually found a farm to renovate, and every-thing started to fall into place. “Today we have 13-15 horses of different ages on the farm. We breed, train, compete, and also have two retirees living the good life in a free-range paradise. My biggest collaboration today is with Horse-partner in Laholm,” says Maja.

Last year’s Breeders Trophy was a big success for Maja and the four-year-old mare Sunny Girl, who won both the National Mare Championships and the three-year-old Championship. This year, the focus is once again to participate in the SWB Equestrian Weeks and Breeders Trophy. “I was so happy when I heard that ‘Sunny’ was

Sunny Girl

coming back to our barn. She has incredible confidence and a wonderful personality," says Maja. "I love making the journey and seeing how different individuals learn and develop along the way."

At the same time, last year's success brings a certain pressure. "You want to give her the best possible conditions to perform well again this year. I'm looking forward to presenting her again," says Maja.

Preparations for the Breeders Trophy are carried out with great care, to keep the horses happy and mentally positive. "We vary the training a lot – we go for hacks out in the woods, jump logs, work on strength and conditioning. 'Sunny' has done two starts at 0m90, and the plan is to ride two qualifiers for Falsterbo before we aim for the Breeders Trophy."

If an entry at Falsterbo happens, a well-earned summer break awaits. "Rest is essential for young horses. They always take a step forward after a break," says Maja. "I also want to be assured that the young horse is truly ready for the task." A proper daily routine is the key to keeping the horses sound. Maja strongly believes in the importance of a solid foundation and variety in their everyday life.

At the farm, clear routines, well-planned feed rations, and a horse-friendly environment are essential. "No horse is happy going around the arena five days a week. We ride out as often as we can, sometimes go to the beach, and make sure the horses spend a lot of time outside in the pastures, ideally with companions." The goal is to build both body and mind for long-term soundness.

For Maja, the Breeders Trophy is a highlight of the year – a competition that allows young horses to shine in an organised setting suitable for youngsters. Maja also believes the timing of the event is ideal, giving ample time to prepare the horses. "It's fantastic to follow the horses from foals to seven-year-olds. Last year was magical, especially having a horse in the six-year-old final. I am already looking forward to this fall." ■

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Westfalian foal auction and spotlighting amateur competition

By Lea-Sophie Baberg / *Westf*
Photography: Westfälisches Pferdestammbuch

*Once again this year, from July 29 to August 23, the vibrant Westfalian showgrounds in Münster Handorf will host dressage competitions up to Class M, showjumping classes up to Class S***, and the Westfalian Showjumping Championships.*

For the third time, Tuesday will spotlight amateur equestrian sport as the Sparkasse Amateur Day. Another sporting highlight during Westfalen-Woche is the final of the HORSE24 Amateur Cup 2025, along with a qualifier for the Waldbach Amateur Tour.

Talented young Westfalian horses will have the opportunity to qualify for this year's Bundeschampionat in Warendorf. New this year are the HLP evaluation classes for four- to six-year-old riding stallions in both dressage and showjumping.

The best young Westphalian riders will be honored with the title of Westphalian Champion 2025 in Münster-Handorf. Another breeding highlight of this six-day event is the Elite Mare Show for three- and four-year-old mares, where these exceptional horses will take center stage.

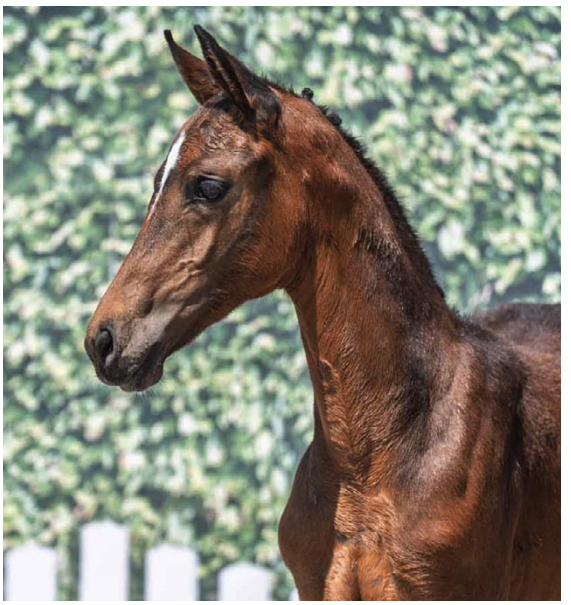
On Friday and Saturday, the show grounds will transform into an auction arena. The event begins with top-class jumping foals going under the hammer of auctioneer Thomas Münch on Friday. Saturday will feature the auction of high-quality dressage foals, who will find new owners here.

We look forward to six wonderful days full of unforgettable Westphalian moments in breeding and sport.

Foal Collections: https://bit.ly/WestAuk

Lot 23: Golden Snickers (German Riding Pony colt by Golden Daim)

Lot 12: Chacconado B (colt by Chacco's Son)



Lot 31: GPF's Ecappucina (filly by Extreme U.S.)

PZHK 130th annivesary: A rich history and new challenges

By Ewa Pogodzińska / *PZHK*
Photography: FEI

The Polish Horse Breeding Association has been supporting Polish breeders for over a century, and 2025 marks the 130th anniversary of the association. The organization currently has nearly 10,000 members and maintains studbooks for nine breeds.

The nine breeds are: Malopolska Horses (m), Wielkopolska Horses (wlkp), Polish Sport Horses (sp), Silesian Horses (l.), Polish Ardennes (ard. pol), Polish coldblood horse (pkz), Hucul Horses (hc), the Polish Konik (kn), and the Pony .

As a national association, the PZHK serves as an administrative body in Poland, carrying out tasks assigned by the Ministry of Agriculture. It cooperateswith the Agency for Restructuring and Modernization of Agriculture, the State Veterinary Inspectorate, scientific and research institutions, and social organizations.

What distinguishes the PZHK from other associations operating in Poland is its proximity to the headquarters of the district associations, which bring together breeders, making contact much easier.

The offices of the district and provincial associations are based at 16 locations. This allows for the quick resolution of matters that cannot be handled online.

Each year, the PZHK organizes and co-organizes a vast number of events with district and provincial associations.

The annual exhibition and breeding calendar features approximately 170 events, including the flagship event, the Polish Championships for Young Horses in dressage, showjumping, eventing, single-horse driving, and endurance riding.

The Polish Horse Breeding Association (PZHK) is taking on the challenging task of organizing and fully funding the Polish Championships for Young Horses – an event that is a key element of breeding selection in every country.

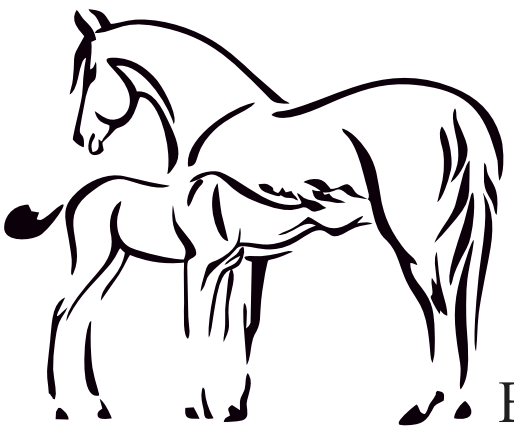
In 2025, the Polish Championships for Young Horses in showjumping will be held from August 15-17 at the Łack Stallion Stud Farm. Two weeks later, the Single-Horse Driving Championships will be held at the same stud.

Then, from September 4-7, the Polish Eventing Championships for Young Horses will be held at Stragona Strzegom, near Wrocław. The Polish Dressage Championships for Young Horses will be held at the Lider Radzionków Riding Club near Katowice from September 26-28.

A key element of the PZHK's activities is its breeding fund, which, among other things, pays breeding premiums to breeders participating in PZHK events, annually totalling PLN280,000 (€66,000/US$77,000) as well as premiums to breeders of mares and stallions that pass performance tests, totaling PLN140,000 (€33,000/US$33,500) annually.

Our organization conducts annual stallion qualifications as a crucial element of the selection process, followed by performance tests, including the recognition of stallions after alternative performance tests.

Equally important is the international promotion of horses with Polish passports. In this regard, the Polish Horse Breeding Association (PZHK) financially supports their trips to the World Breeding Championships for Young Horses in Lanaken and Verden, as well as the Draft and Hucul Championships.



130 YEARS
1895-2025
POLISH HORSE
BREEDERS ASSOCIATION

Jan Kaminski (POL) rides Jard (PZHK-SP: Czuwaj - Jucznia x Chef Supreme), bred by SK Rzeczna during the FEI Eventing Olympic Qualifier (Group C) in 2023

The Polish Sport Horse Days series is a highly successful initiative. This is a joint initiative of the District Horse Breeders' Associations to organize a series of events aimed at creating a platform for promoting the best foals and young horses bred under the Polish breeding brand. The series is dedicated exclusively to horses registered in the Polish Sport Horse, Wielkopolska, and Małopolska studbooks and holding passports issued by the Polish Horse Breeders' Association. This event is growing rapidly – from four events and 155 horses in 2022, through six events and 212 horses in 2023, to eight events with 280 horses in 2024. Plans for 2025 are even more ambitious, with 10 events planned.

Breeders and horse owners emphasize several key factors contributing to the growing popularity of this series. These include: proximity to the venues, which translates into lower participation costs; attention to horse welfare – an extremely important element in today's world; the integration of the breeding community under the common PZHK brand; and financial bonuses, which reach approximately 100,000 PLN annually.

New challenges

What challenges does the Polish Horse Breeding Association (PZHK) face in the coming years? As an organization comprised of horse breeders with diverse interests, it must reconcile the often divergent interests of everyone. Breeders of fine horses want to promote them in sport. Therefore, the PZHK recognizes the athletic performance of Polish-bred horses in major competitions held in Poland and abroad by funding special prizes and awards. Breeders of draft horses want to compete at auctions and shows. Here, too, the PZHK organizes and co-organizes numerous breeding events. Representing all horse breeders in Poland is an ongoing task for the future.

Another challenge is ensuring horse welfare, and this topic will remain a focus of the PZHK in the coming years. However, we do not agree to any initiatives that could ultimately lead to a complete ban on horse riding or the use of harness horses in Poland. However, we must all ensure that the breeding and use of horses are socially acceptable. A growing number of Poles live in cities, where daily contact with horses is rare. They often fail to realize the time and commitment required to properly care for these animals. For true horse lovers, their well-being is more important than their own comfort. We must continually promote this knowledge within Polish society.

As you can see, the Polish Horse Breeding Association (PZHK) will face many new challenges in the coming years.■

CWHBA spotlights Janine Olsen and Two Willows Equine in AB

By Chris Gould / *CWHBA*
Photography: Janine Olson; Capturing The Moment; Rylee Smolarchuk

In 2002 Two Willows Equine began as a dream realized by Janine Olson (Willow Butte Cattle Co.) and Trish Mrakawa (Willow Grove Stables). Friends since childhood, their love of horses and mutual realization of the need for sound minded multi talented horses.

Their goal for horses that would suit riders wanting to show and train at a high amateur level in both hunter and jumper disciplines brought them together as business partners.

Janine gradually took over all the operations as Trish's career as a successful, full-time coach and trainer limited her engagement in the business. Throughout the years Janine not only developed a successful breeding program, she became very active with the CWHBA at both the national and provincial level serving as the National Director for Alberta, Studbook committee member, senior inspector, and chapter inspection coordinator. In her spare time she has been a professional horse photographer, although she limits that talent to hobbyist now. I spoke with Janine about her program. Here is her story in her own words.

T.W. Voltage 2025 foal

"Two Willows is primarily breeding Canadian Warmbloods and sport ponies. My goal now is to market prospects from weanlings through to youngsters who are ready to begin their under-saddle training. In the past I have produced six to 12 foals a year but am currently downsizing to only having two to five foals per year.

"I have also, for many years, offered custom foaling to a limited number of outside mares. In 2025 foaling five outside mares and three of my own.

T.W. Voltage 2025 foal

"One of my greatest triumphs has been the breeding of my current stallion T.W. Voltage. Creating a fully approved home-bred CWHBA stallion showcases the culmination of many years of breeding vision.

"The first stallion which helped begin Two Willows Equine was the KWPN stallion Wodan (1980: Lorenz [Holst] - Ittica [KWPN] x Millerole xx, bred in the Netherlands by P.G.A.M. van Leuven). At the end of his breeding career he was gifted to Trish and me by Kip and Caroline Jones. Wodan lived here at Two Willows until his passing and we still have one of his daughters, at 20 years young, in our broodmare group.

"Our next stallion was Centim (2002 Czech Warmlood: Cassilus - Chiméra x Dietward-4 x Przedswit xx, bred by Dr. M.V. Lysák) who was imported in 2010. Having

Janine Olson with T.W. Voltage

been top stallion at his Czech 70-day test he became a CWHBA approved stallion. Centim was used as both a breeding and performance stallion. Centim competed in the high performance hunters and later the jumpers throughout Canada and the USA.

"After Centim's untimely passing in 2017, it was decided to present his two-year-old son T.W. Voltage (Centim - Vera Lisa x Metall x Libero H) for licensing. With dedication and development by Wachter Horses, Voltage has competed in Florida at the World Equestrian Center, Ocala; Spruce Meadows and Rocky Mountain Show Jumping, in Alberta; and Thunderbird Show Park, British Columbia.

"In 2022 T.W. Voltage successfully completed his accreditation with the CWHBA for full approval at the Stallion Performance Test.

"After initially doing the hunters, Voltage soon had me realizing he needed to show his versatility, so currently he has been doing the jumpers. Successes in both rings and a recent second place in the St George's Jumper Derby 1m10 division has proven this.

"Voltage has been lightly marketed as a breeding stallion, but the main breeding focus with him has been to use him in our Two Willows Breeding program until more of his offspring enter sport.

"Becoming an active member and volunteer of the CWHBA has connected me with many other breeders; they have become both my peers and friends. Being a small part of the CWHBA has enabled me to support and maybe influence some of direction this group is going. It has certainly helped me develop the vision for my breeding program.

"For those beginning their journey breeding Warmbloods, or really any horses, my advice is to be fully aware you will deal with the highest of highs and the lowest of lows. Being realistic in your goals and recognizing our industry changes very fast will help you evolve.

"I am very happy that the T.W. Prefix at the beginning of a horses name can now be seen in hunter, jumper and eventing rings across Canada and the USA. The most flattering thank yous come from the many owners who continue to share their messages of success." ■

T.W. Voltage jumping in Hunter division

Lovisa Wessblad developing athletes: “Let horses be horses!”

By Isabelle Eklund (translated by Hillevi Brasch) / *SWB*
Photography: Camilla Hannell; Digishots; Roland Thunholm

We are talking to Lovisa Wessblad about young horse development, longevity, and soundness, and the road to the prestigious Breeders Trophy. With two well-known SWB talents in her barn, Lovisa gives us a behind-the-scenes look at how she prepares for a busy competition year.

A career built on dedication

Lovisa’s equestrian journey began at a riding school – she has no family background in horses. Early responsibility and relentless hard work paved the way to a thriving career. Today, she’s based at Hannell Dressage Stable, where she’s in charge of training and competing promising dressage horses.

Her rise to the national level came through a mix of cheeky ponies and talented young horses. Thanks to the trust of supportive horse owners, she gained valuable experience from an early age. At just 16, she got her first own horse – and not long after, was selected for the youth national team.

Four intense and formative years abroad followed. Now back in Sweden, Lovisa has spent the past two years at Hannell Dressage, where she focuses on developing sound athletes – starting with giving the horses the most natural life possible. “All our horses are turned out in large grass paddocks during summer,” she says. “It makes a big difference for the horse, both mentally and physically.”

Two SWB stars in the spotlight

This year, Lovisa is preparing two exceptional SWB horses for the competition circuit: KS Frank Sinatra (SWB) (2020: Franklin x Fürst Romancier), bred by Kärragårda Säteri AB. Lovisa has ridden the stallion since he was three. Sold at the Elite Foal Auction, he topped the dressage rankings at the young horse test in Osby, placed third at Falsterbo, and made the four-year-old final at the Breeders Trophy ridden by guest rider Benjamin Werndl.

Lovisa Wessblad riding KS Frank Sinatra (SWB) (2020: Franklin x Fürst Romancier), bred by Kärragårda Säteri AB

The second horse is the mare Simmebros de Luze (SWB) (2018: Ironman H x Shooting Star), bred by Ulrika Bynander. She has already competed at the World Breeding Championship for Young Horses, and qualified for the Breeders Trophy final. Lovisa has trained him from the start as well.

The big goal for both is Falsterbo 2025, with a potential return to the Young Horse World Championships. Regardless, the Breeders Trophy is a key milestone. "There's something incredibly fulfilling about developing a horse from the very beginning and truly getting to know them," Lovisa says.

Every horse has its own journey.

While young horse classes are a helpful guidepost, Lovisa emphasizes that they are not the ultimate goal. Each horse develops at its own pace – and it's up to the rider to listen. "Some are ready sooner, others need more time. What matters is reading the horse and adapting the plan to what it needs."

She begins planning each season in winter, striking a balance between training and recovery. Short breaks – from a few days to a week – help young horses mentally process new experiences and training phases.

Confidence comes from routine

Lovisa also prioritizes early exposure to competition environments: hauling in trailers, travelling, getting used to the sights and sounds – so the experience becomes routine. "At home, we mimic competition conditions as much as possible. For instance, I'll warm up indoors and finish outdoors – just like at a show. It helps the horse feel familiar and confident when it really counts."

Structure and predictability are at the core of her program. Each horse's warm-up is tailored – some need a longer time walking, others need more canter – but the underlying routine stays the same. "My best advice? Change as little as possible and think long-term. When the horse feels safe and knows what to expect, it relaxes and enjoys the work. When it enjoys the work, the results will come." ■

Simmebros de Luze (SWB) (2018: Ironman H x Shooting Star), bred by Ulrika Bynander, ridden by Lovisa Wessblad

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Outstanding top price of €105k during DSP Elite Foal Auction

By Jean Llewellyn (press release)
Photography: DSP/Björn Schroeder

What an evening! Foals that truly deserved the 'Elite' designation, a great atmosphere, a well-filled hall until the end of the auction, and, at the end, happy sellers and equally enthusiastic customers – this hybrid auction will remain in the memory of all who attended.

It was clear from the outset that success was in the air; after all, the collection included 72 youngsters, including four riding pony foals from DSP breeding stables. "Four-and-a-half hours, average price in the five figures," auctioneer Hendrik Schulze Rückamp boldly predicted. He was right.

The fifth foal in the cleverly arranged auction order caused a sensation and created a great atmosphere: The colt True Fino made the hearts of dressage fans beat faster, and not only in Germany. Eva Böhm from Mainburg in Lower Bavaria had bred her mare, with the telling name Tanzmarie, (by Quadrofino – a son of the DSP elite stallion Quaterback), to True Hope PS. He combines the genetics of two breeding legends – Totilas and Fürstenball. This was undeniably a perfect match.

A foal that was picture-pefect, energetically moving off, every gait a highlight, and from a lineage that is successful in both breeding and sport. After a thrilling bidding duel, the dark bay colt was knocked down to the USA for an online bid of €105,000.

Two more dressage foals from the collection also broke the €30,000 mark: Vesuv, a son of Vjento out of a Dantano dam, changed hands for €37,000. Then, much to the delight of breeder Rupert Wiedemann from Weiler-Simmerberg in the Allgäu region, who also exhibited Vesuv, Schulze Rückamp brought down the hammer on a daughter of Parero at €32,000, making her the most expensive filly at the auction. Bred to a Totilas grandson by Gestüt Greim in Bärnau, Bavaria, the mare by L'Espoir was a reserve member of the German roster for the World Breeding Championships for Young Horse in dressage before being used as a broodmare.

Five-figure hammer prices were achieved for 17 other foals, with the average for the 68 Warmblood foals settling at €11,313, while the four riding pony foals sold for an average of €4,813. Buyers included breeding farms and training stables, as well as renowned stallion owners such as Birkhof Stud and the Brandenburg State Stud Neustadt/Dosse. The majority of the youngsters stayed in the country – in addition to the top-priced foals, three foals found new owners abroad, including to Portugal.

Fritz Fleischmann is clearly pleased with this result, but he doesn't take credit for the success alone: "Such a success is only possible as a team effort," summarizes the DSP marketing and auction director. "My sincere thanks go especially to the many helpers behind the scenes who ensured that everything ran smoothly. And of course, we are delighted that both stallion breeders and several training stables with championship ambitions secured talents for the future at this DSP Auction." The prediction is bold: One or two of this year's auction foals will be seen again in Kranichstein – at the DSP championships.

The DSP foal auctions continue on August 2 at the Immenhöfe in Donaueschingen as part of the Festival of Horses tournament. A collection of select jumping foals will also be offered there in hybrid format. Details about the collection can be found at www.dsp-auktion.de or by contacting Fritz Fleisch-mann personally at +49 (0)151 53 11 57 83. ■

True Fino set hearts fluttering when the colt achieved the top price of €105,000, sold to a buyer from the United States

Irish horses and riders storm to youthful Europeans success

By Horse Sport Ireland / *HSI*
Photography: Sportfot

It has been a busy few weeks in terms of both underage and senior European showjumping championships, with the next generation of Irish riders have signalled their arrival to the forefront of the sport in impressive fashion.

Ireland's Junior team led the way when becoming European Junior team champions after a stunning display at the FEI Jumping European Championships in Riesenbeck, Germany.

Denis Flannelly's team of Alice Wachman, Tabitha Kyle, Paddy Reape, Jack Kent, and Emily Moloney closed out the competition in style at Ludger Beerbaum's venue, taking the gold medal on a final score of 6.99.

After three fantastic days of scintillating jumping, the Irish team proved to be too strong for Europe's best and secured gold ahead of the Netherlands who finished in second place on a score of 12.79, with Belgium finishing third on 20.60.

The Irish team were well placed in fifth position of 22 competing nations after the opening speed round. A dominant display on day two saw them shoot into a clear lead, and the afternoon ofday three was all about consolidation as the chasing pack attempted to apply pressure.

Niamh McEvoy riding BP Rocket Man (Stakkato Gold (Hann) - BP Quidy (ISH) x Quidam Junior I (KWPN)

First to jump was Reape and Mr Rocky Blue (ISH), bred in Co. Down by George McCullogh, and they were unfortunate at the wall for four faults. Reape kept his composure under pressure, however, and came home with just that blemish which would keep Ireland in the lead regardless.

Emily Moloney riding Temple Alice (ISH) (Foxglen Cruise Control (AES) - Inishannon Shamrock (ISH) x Rantis Diamond (ISH))

Mr Rocky Blue was sired by Chacoon Blue (MV), a popular sire for Ireland's breeders, and out of Ardeche Z (Z) by Artos Z (Hann). Ardeche Z has also produced the stallion Marco Polo Z (ISH) by Beach Ball (ISH) who competes at 1m35 level with British rider Sophie Austin.

Next into the arena was Tabitha Kyle, daughter of Irish Olympic event rider Mark Kyle, and BP Goodfellas (ISH), owned and bred by the Ballypatrick Stables outfit of brother and sister duo of Greg and Cheryl Broderick, and once again they did as they had all week, delivering a flawless round of jumping. It meant that a clear round from Wachman would secure the gold medal for Ireland, with closest pursuers for the Netherlands more than a fence behind.

Cool as ice, Wachman and Killarney were foot perfect, delivering the all-important clear to bring home the first gold medal of the week and spark jubilant scenes.

BP Goodfellas, a gelding of a mere eight-years of age is by Stakkato Gold (Hann) and out of the former international ride of Irish Olympian and 2001 European

Mr Rocky Blue (Chacoon Blue (MV) - Ardeche Z (Z) x Artos Z (Hann)) ridden by Paddy Reape

team champion in his own right; Kevin Babington, Goodwin's Loyalty (ISH) by OBOS Quality 004 (Oldbg).

No stranger to medal success, BP Goodfellas and Gerard O'Neill won the five-year-old world showjumping title at the 2022 FEI-WBFSH World Breeding Championships for Young Horses at the famed Zangersheide Stud in Lanaken, Belgium.

Moloney, Ireland's anchor, was stress free from a team perspective with gold already in the bag, but she is still very much in contention for individual honours with Temple Alice (ISH), bred by Susan McDonald in Co. Waterford. She put the seal on the victory and kept herself in the silver medal position with yet another clear round.

Temple Alice was sired by Foxglen Cruise Control (AES) and out of the mare Innishannon Shamrock (ISH) by Rantis Diamond (ISH) who has also produced the international event horse Bullards Fine Gin (ISH) by Arthurs Gold (ID), and is herself a half sibling to Innishannon On Air (ISH); an international event horse by Triggerero (TB).

Produced as a young horse by Emily's father, Eddie Moloney, both nationally and internationally up until 2022 when Emily took over over the ride, seeing them represent Ireland at shows in Liege (BEL), Compiègne (FRA), Zuildwolde (NED), Sentower Park (BEL), Hagen (GER) and Kronenberg (NED), before their appearance in Risenbeck at the European Junior Championships.

That wasn't all for Moloney and Kyle however as they led a storming Irish performance in the individual final to secure a one-two and bring gold and silver home to the Emerald Isle.

On what was a remarkable day for not only youth jumping in Ireland, but for young female athletes also, Moloney and Temple Alice (ISH) produced two clear rounds to stay on her original day-one score of 1.47 and land the gold, with Tabitha Kyle finishing second on BP Goodfellas and taking home the silver medal.

Both Irish riders had done all they could, jumping double clear on the day and it came down to whether or not Switzerland's Laura Andre could match them, but she dropped two rails handing the top podium places to the Irish duo.

Young riders

Not to be outdone, the Irish Young Rider team of Tim Brennan, Max Foley, Niamh McEvoy, Tom Wachman, and Coen Williams brought home the team silver medal from their European Championships, also hosted in Risenbeck (GER) alongside the Junior and Children On Horses classes July 9-13.

Ireland held a slender advantage after the first two days of competition, having produced six clear rounds already before the final afternoon of team jumping, and the task was simple; three more clears and they could not be caught.

First in was Wachman and Obora's Laura (ESH), who had sat 11th overnight individually and had jumped a clear round on day two of the proceedings.

Wachman has been in fine form of late and he proved why chef d'equipe of the Young Rider team Michael Blake sent him in first for Ireland, delivering a crucial clear to apply massive pressure on Belgium, who had a four-fault score with their first combination.

Williams and Floris R Z (Z) were foot perfect, leaving all poles standing, but did exceed the time allowed for three penalties, ahead of next-to-jump, Brennan and his speedy mare Diadema della Caccia (MASAF), who had been breathtaking throughout the event. Brennan came into the day lying in second place individually, although that medal slipped out of his hands after he dropped the middle rail of the combination for a total of four faults and thus handing the initiative to Belgium.

Their final rider produced a clear round under severe

Rachel Proudly and Quality Street (ISH) bred by Ciara Marron by OBOS Quality 004 (Oldbg) - Coirban Lady Lux (ISH) x Lux Z (Hann)

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For over 45 years the reference in Europe for developing, producing and installing horse fences, gates and wooden shelters. The best care, protection and safety for your four-legged friend, excellent service for you and added value for your property.

Seamus Hughes-Kennedy riding ESI Rocky (Stakkato Gold (Hann) - Clonaslea (BWP) by For Pleasure (Hann))

pressure to land gold, regaining the crown they last won in 2022 on a score of 5.72, with Ireland finishing on 7.61 for the silver medal and ending any hopes of an Irish hat-trick of team golds at the Young Rider European Championships.

Although the team gold was gone, Niamh McEvoy and BP Rocket Man (ISH) jumped another foot perfect clear and climbed to fifth individually to keep her dreams alive of an individual medal.

Based for several years now with Greg Broderick in Ballypatrick Stables, McEvoy and BP Rocket Man were going into the final having been foot perfect all year, and also taking fourth and second place at the Barnadown and Cavan legs of the 1m50 Plusvital Premier Series in Ireland, respectively.

Also sired by Stakkato Gold (Hann), BP Rocket Man is out of BP Quidy (ISH) by Quidam Junior I (KWPN) who is a half sister to Super Chilled (ISH) by Gelvin Clover (ID), who won at 1m50 level in the United States for Kevin Babington.

Though McEvoy and BP Rocket Man finished in eventual 12th place overall, there was still success for Irish breeders in the final, as the combination of British rider Rachel Proudly and Quality Street (ISH) maintained a clean sheet throughout the show to clinch the individual gold medal.

Bred by Ciara Marron in Co Monaghan, Quality Street is by OBOS Quality 004 (Oldbg), out of Coirban Lady Lux (ISH) by Lux Z (Hann) who is a half sister to A Touch Imperious (ISH) by Touchdown (ISH), the former mount of Britain's Harriet Biddick who had finished second in the Hickstead Derby on five occasions, as well as third in the CSIO5* 1m60 Grand Prix of St. Gallen (SUI) in 2018.

Proudley and Quality Street had also taken third place in the 1m60 Stoneleigh Cup at the 2024 Horse Of The Year Show in Birmingham (GBR).

FEI Europeans, La Coruña

The march of Irish youth coming to the fore of European showjumping didn't end in Risenbeck however, as attention then turned to the FEI European Championships for Showjumping being held in La Coruña, Spain and the arrival of Ireland's newest showjumping star, Seamus Hughes -Kennedy and his trusted partner ESI Rocky (ISH).

A single time fault is the only penalty this combination accrued over the course of the week's jumping by the final day, having been foot perfect throughout the team competition to help Ireland to an overall fourth place finish with less than a single pole keeping them from a podium finish.

Making his senior championship debut, 22-year-old Hughes-Kennedy and ESI Rocky had been part of the Irish team that won team gold at the 2023 European Young Rider Championships in Gorla Minore (ITA) before going on to take the individual gold medal himself.

Yet another Irish Sport Horse sired by Stakkato Gold (Hann), ESI Rocky is out of Clonaslea (BWP) by For Pleasure (Hann), and bred by Ennisnag Stud in Co. Kilkenny, the breeding operation of Hughes-Kennedy's uncles Andrew and Niall Hughes.

Finishing in eventual fifth place overall, it was an incredible debut at this level with the combination having already been on the victorious Irish team at the La Baule (FRA) Nations Cup where they were double clear. As they were in the 1m60 CSIO5* Grand Prix of Rome where their double clear secured them fourth place overall. They also featured on the Irish team in the Rotterdam (NED) Longines League of Nations where Ireland finished sixth.

With an ever developing pool of talented horses and riders, Ireland's showjumping future certainly looks to be extremely bright. ■

Tabitha Kyle with BP Goodfellas (Stakkato Gold (Hann) - Goodwin's Loyalty (ISH) x OBOS Quality 004 (Oldbg))

Thoroughbred blood and the modern sport horse: Part 2

By C.R. Potocnik; C. Potocnik; Prof. F.C.V. Potocnik
Photography: Courtesy of the authors

In our July 2025 issue, we published Part 1 of this article focusing on the influence of Thoroughbred blood in today's sport horse breeding, using the 2024 WBFSH top-10 sires ranking. This is the second and final part of this invaluable update in breeding modernization.

A more detailed overview of some of the most important progenitors, including photographs is important to establish some idea of quality, conformation, and type of represented Thoroughbreds. The photographs have been sourced from the public domain, and due to age are not the best quality despite attempts to upgrade the resolution as far as possible. Viewing the collection of profile photographs it becomes clear that a particular Thoroughbred 'sport type' has been incorporated in sport horse breeding as a select group. This will, of course, in turn bear a relationship to the pedigrees which genetically underpin this preferred type. In brief these features include;

• More classical type Thoroughbred which is usually associated with middle to longer distance race performance (1,400-metre and longer races). The longer distance pedigrees tend to further embody the sport type.

• These classical features usually include a taller horse with a balanced conformation and stance over ground. They carry a longer length of neck and rein, well set on neck higher from the chest and uphill from the wither with a good top line. The chest consistently appears reasonably deep, which raises the question regarding possible relationship to the 'big heart gene'. The hindlimbs and hindquarters with a lower set tail are well conformed and carry with strength.

Precipitation xx, winner of seven races, is the sire of the great Furioso xx and Furioso II. Precipitation xx shows the highest influence in jumping, likely through his descendants like Furioso, who then link to other foundation stallions.

Precipitation (1933): Furioso xx (son of Precipitation) is ubiquitous in all disciplines and has earned his place as a legacy sire internationally, particularly in French and German Studbooks. Historically Furioso xx's descendents have competed at 23 Olympic Games/World Championship finals at 1m70. In the current study, he and Ladykiller xx in particular stand out with strong representation across all three disciplines, with the latter especially in dressage and eventing. These sires have left an enduring stamp internationally on modern Warmbloods.

Furioso xx's legacy lives on today through the bloodlines of Furioso II by Furioso xx with Orange Peel xx on his damline through Dame de Ranville.

Mexico was a full brother to Furioso II, and sired Le Mexico. Le Mexico (Mexico X - Peche Melba), whose pedigree incorporates Furioso xx, Orange Peel xx x 2.

Precipitation (1933)

Purioso by Furioso II carries Furioso xx and Orange Peel xx through his sireline, and Herold xx and Dark Ronald xx on his damline. This pedigree and its presence in modern day competitors is outlined below:

Furioso xx and Descendants: Furioso xx and his following descendents are well represented as is evident in the following;

- **Lurioso (Furioso xx) is out of Quenotte, dam of Cor de la Bryère**
- **Purioso - by Furioso xx**
- **Furioso II (Furioso xx) out of Dame de Ranville**
- **Le Mexico – by Mexico → by Furioso xx**

Le Mexico: Full brother to Furioso II, influential in Dutch breeding.

More specifically, Furioso II has been a significant influence in both dressage and showjumping.

- Voltaire: Son of Furioso II, prominent in show-jumping lines.
  - Kannan: Son of Voltaire, ranked 1st in showjumping and 5th in eventing.
  - VDL Zirocco Blue: descendant of Voltaire, ranked 9th in showjumping.

• Purioso: Son of Furioso II, sire of Cocktail, who is the sire of Jazz is prolifically represented in the top 10 dressage sires.

Johnson TN → Jazz → Cocktail → Purioso → Furioso xx

• Jazz: Ranked 5th in dressage is the sire of:
  - ■ Johnson TN: son of Jazz, ranked 1st in dressage.
  - ■ Blue Hors Zack: grandson of Jazz, ranked 3rd in dressage.
  - ■ Vivaldi: son of Jazz, ranked 10th in dressage.

Tables 7 and 8 outline Furioso and his descendants' presence more fully in dressage and showjumping respectively.

Ladykiller xx (1961)

Ladykiller xx historically produced progeny which competed at good level in all disciplines including; 2 x Medium dressage, 3 x CC12* eventing and 22 x Olympic and World Championship 1m70 competitors. In this study, Ladykiller xx stands out with strong representation across all three disciplines, especially in dressage and eventing. Ladykiller xx carries the Phalaris xx bloodline twice in his six-generation pedigree (*See Figure 2*)

Der Lowe (1944)

Der Lowe (also referred to as Der Loewe) is renowned in German dressage, especially Hanoverians, and also well represented in showjumping. His breeding career spanned 20 years, during which time he produced six state stallions, 158 registered mares, as well as 314 competition horses who earned winnings of DM750,000. His progeny achievements included dressage OlympicWorld Championships Final, international CC12* eventing, and 18 showjumping international competitors 1m40.

Rantzau xx (1946)

Rantzau xx was a French-bred racehorse that went on to be an extremely influential sire of dressage, showjumping, and eventing horses, and is considered to be one of the most influential stallions from the French studbook. On the track, he was personally a winner of two and placed in five of nine races. On retirement, due to his quality, type and athletic capability he was purchased for sport horse breeding. He produced 12 Olympic/World Championship 1m70 competitors. In this survey, Rantzau xx's influence is more heavily weighted toward jumping lines, although also appearing in dressage pedigrees via Cor de la Bryère. Rantzau carries 4 x St Simon xx, 6 x Galopin, Ajax → Teddy and Rantzau xx's sire Foxlight descends from the Son-in-law → Dark Ronald → Bay Ronald sire line.

Other sires with higher representation in dressage nclude: Cottage Son xx/Phalaris xx through his son Fairway xx; Orange Peel xx, Teddy xx, and Black Sky x. Interestingly, a common ancestor here is the British born Bay Ronald (1893), one of the most influential lines in racing and sport. This can be traced back to the foundation female Pocahontas (1837) through the following lineage pathways:

• Pocahontas → Stockwell → Doncaster → Bendo Or → Bay Ronald

Bay Ronald → Bayardo → Gainsborough → Hyperion (dressage/eventing influence)

• Bay Ronald → Dark Ronald → Son in Law → Teddy →Influence extending to Furioso, Cottage Son, Ladykiller, Rantzau, Phalaris/Fairway

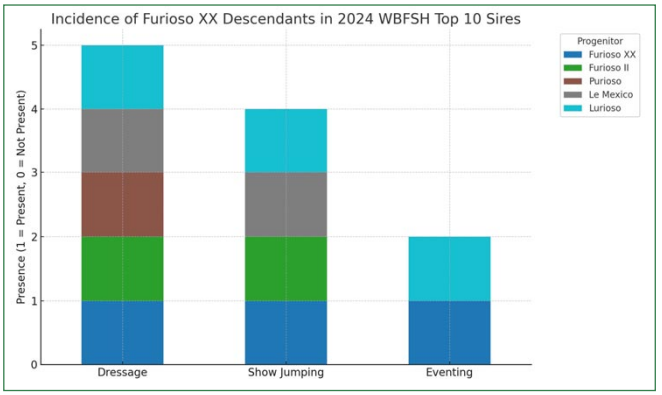
• While a more distant connection this Bay Ronald line is reflected in Heraldik xx whose pedigree includes multiple lines tracing back to this influential ancestor. Heraldik xx is renowned for producing versatile sport horses excelling in eventing and showjumping. The Anglo Arab Matcho AA's pedigree also intertwines with Bay Ronald's heritage, particularly through the Teddy line. Matcho AA has been influential in refining Warmblood breeds, imparting elegance and athleticism.

• In modern day terms Bay Ronald's legacy underpins many leading sires in the 2024 WBFSH rankings including Totilas, Kannan, Chacco-Blue and Jaguar Mail.

The other important historical ancestor deserving of further special mention is Phalaris (1913) who is recorded through the descendent pathways of multiple important sport-producing sons such as Fairway xx, Pharos xx through Nearco xx and the great Ladykiller xx (x2) as already mentioned. While a critical sport influence, Phalaris now appears as a deeply embedded influencer rather than a directly named lineage contributor. This influence persists indirectly through Phalaris in the more recent Nearco, and the Northern Dancer line. The same applies to other important foundation Thoroughbred sport bloodlines including Rock Sand and St Simon, who underpin the modern genetic frameworks.

His major lineage pathways are outlined as follows into the modern era:

Phalaris
├— Pharos



Incidence of Furioso xx descendants in 2024 WBFSH top 10 sires

TABLE 7

Furioso xx and his descendent's' presence in the 2024 WBFSH top-10 dressage sires

Name	Foundation % TB Selle Français	Furioso xx	
1 **Johnson**	15.62%	46.34%	Lurioso {Furioso xx {Quenotte Purioso {Furioso II x Furioso xx {Quenotte Furioso xx (x 2)
2 **Quaterback**	12.5%	41.02%	Furioso xx
3 **Blue Hors Zack**	12.5%	41.87%	Purioso {Furioso II x Furioso xx {Quenotte Le Mexico → Mexico → Furioso xx
4 **Totilas**	0%	39.53%	n/a
5 **Jazz**	25.0%	45.41%	Purioso {Furioso II x Furioso xx {Quenotte (x1)
6 **Apache**	3.12%	43.65%	Lurioso {Furioso xx {Quenotte Purioso {Furioso II x Furioso xx {Quenotte (x2)
7 **Ampere**	9.37%	34.30%	Lurioso {Furioso xx {Quenotte Furioso xx (x2)
8 **San Amour**	3.12%	40.41%	Purioso {Furioso II x Furioso xx {Quenotte x2 Furioso II {Furioso xx {Dame de Ranville Furioso xx (x4)
9 **Bordeaux**	6.25%	n/a	Lurioso {Furioso xx {Quenotte Purioso {Furioso II x Furioso xx {Quenotte (x2)
10 **Vivaldi**	12.25%	n/a	x2 Lurioso {Furioso xx {Quenotte Purioso {Furioso II x Furioso xx Le Mexico → Mexico → Furioso xx (x4)

│ └── Nearco
│ ├── Nasrullah → Bold Ruler → Secretariat
│ └── Northern Dancer → Sadler's Wells/Danzig → sport TB infusions
├── Sickle → Native Dancer → Raise a Native → Mr. Prospector
├── Fairway → Blue Peter
├── Furioso xx
│ └── Furioso II → Voltaire → Kannan/Zirocco Blue
├── Ladykiller xx → Landgraf I / Lord → Cardento/Eldorado vd Zeshoek
└── Rantzau xx → Cor de la Bryère → Chacco-Blue Cornet Obolensky

One of the primary Phalaris lines showing ascent from the foundation "big heart" mare Pocahontas into the modern sport horse sires is illustrated in Figure 4 (published in our last issue – July 2025).

The expansive influence of Pocahontas is impressive, as evident in her prolific presence in the pedigrees of both Ladykiller xx and Furioso xx, where the Pocahontas bloodline is carried through her son Stockwell 28 and 60 times respectively in 12 generation pedigrees. An interesting observation which requires further empirical analysis, is that this bloodline is carried more prominently through damlines in Furioso xx. The tendency to see this bloodline incidence often double in pedigrees in an approximate 2 decade period is also evident.

While a critical sport influence, Phalaris now appears as a deep-rooted influencer rather than a named lineage contributor. This influence persists indirectly through Phalaris, Nearco, and the Northern Dancer line. The same applies to other important foundation Thoroughbred sport bloodlines including Rock Sand and St Simon, who underpin the modern genetic frameworks.

The more distant foundational triumvirate includes;

- Eclipse: Found in over 95% of Thoroughbreds, dominant modern progenitor.
- Herod: Influences stamina and toughness.
- Matchem: Adds balance and traditional qualities.
- Other sires of note: Some part Thoroughbred sires were also represented in the 2024 WBFSH Sire rankings, and the Thoroughbred pedigrees represented across their 12 generations were also then recorded. Le Mexico, Purioso and Furioso II have already been discussed earlier in their bloodline association with Furioso xx.

TABLE 8

Furioso xx and his descendents' presence in the 2024 WBFSH top-10 jumping sires

Name	Foundation Selle Français	% TB	Furioso xx	Cor de la Bryère	Nimmerdor
1 **Kannan**	37.50%	42.72%	x2 Furioso II {Furioso xx n/a {Dame de Ranville Le Mexico → Mexico → Furioso xx Furioso xx		x 1 damsire of Kannan
2 **Chacco-Blue**	25.0%	52.56%	Lurioso {Furioso xx {Quenotte' through Cor de la Bryère	x3	
3 **Diamant de Semilly**	100%	52.98%		x3	
4 **Cornet Obolensky**	12.5%	47.22%	x3 Lurioso {Furioso xx {Quenotte through Cor de la Bryère	x1	By Cornet Obolensky's sire's dam x Heartbreaker → Nimmerdor
5 **Mylord Carthago**	50.0%	56.45%	Furioso xx Lurioso {Furioso xx {Quenotte through Cor de la Bryère	x1	
6 **Toulon**	12.50%	42.58%	Le Mexico → Mexico → Furioso xx		
7 **Cardento**	n/a	60.13%			
8 **Comme il faut**	18.75%	42.85%	Lurioso {Furioso xx {Quenotte through Cor de la Bryère	x1	x1
9 **VDL Zirocco Blue**	43.75%	46.02%	Le Mexico → Mexico → Furioso xx Furioso II {Furioso xx {Dame de Ranville		
10 **Eldorado van de Zeshoek**	n/a	45.48%	x2 Lurioso {Furioso xx {Quenotte through Cor de la Bryère	x2	2nd damsire Heartbreaker by Nimmerdor

The other prominent stallions include:

• Nimmerdor carries 38% Thoroughbred through one Anglo Arab sireline and Koridon the Throughbred damsire. A highly influential Dutch showjumping stallion, recognized as the 'Stallion of the Century' in 2000. He was known for his significant impact on both national and international breeding programs, with numerous offspring achieving success in showjumping. Nimmerdor was also a successful international competitor himself, retiring from the sport in March 1999 and passing away in April 2003. Nimmerdor is well represented in the current WBFSH rankings as the damsire of Kannan who is ranked No 1 sire for showjumping and No 5 for eventing. Within the 38% Thoroughbred pedigree percentage Nimmerdor carries St Simon and Isonomy each x 5, and the foundation mare Pocahontas x 33 incorporating her sons Stockwell x 22, King Tom x 5 and Rataplan x 3. It is interesting to note Nimmerdor's frequent appearance through the damline of top sport competitors. (*See Tables 9 and 10 on following page.*)

The significance of foundation dam Pocahontas and her son, Stockwell

Lastly, the consistency with which the throughbred influence is regularly traced via Pocahontas xx and her sons Rataplan, King Tom, and especially Stockwell is remarkable and worthy of special consideration. The latter dam and son carry depth unmatched in maternal and paternal

Table 9

Nimmerdor's presence in 2024 WBFSH top-ranked dressage stallions

Rank	Name	Nimmerdor
1	**Johnson** (Jazz - Roxanne)	Damsire of Jazz and 2nd damsire of Johnson
3	**Blue Hors Zack** (Rousseau - Orona x Jazz)	Damsire of Jazz
4	**Totilas** (Gribaldi - Lominka	Nimmerdor – sire of Glendale

Table 10

Nimmerdor's presence in 2024 WBFSH top-ranked showjumping stallions

Rank	Name	Nimmerdor
1	**Kannan** (Voltaire - Cemeta x Nimmerdor)	Damsire of Kannan
4	**Cornet Obolensky** (Clinton - Rabanne v Costersveld x Heartbreaker x Nimmerdor)	2nd damsire of Cornet Obolensky
8	**Comme il faut** (Cornet Obolensky x Ratina Z)	2nd damsire of Cornet Obolensky
10	Eldorado vd Zeshoek (Clinton - Bijou Oral x Toulon x Heartbreaker x Nimmerdor	3rd damsire of Eldorado vd Zeshoek

Thoroughbred lines. Pocahontas and her descendents have been identified to carry the so-called 'big heart gene'. In brief summary, this is a genetic predisposition to transmit a structurally (non-pathological) large heart often exceeding 2 x normal proportions with related increased function. It is well documented that some of the most successful race horses of all time carry this gene, which gives notable performance advantage. This is the heart that is recorded to have fired Hyperion, and the Great Secretariat among others to champion success. While much debate has arisen within the equine community about this, the general consensus is reasonably that the benefits of the big heart gene are inevitably intertwined with other variables that contribute to success, such as nutrition, other conformation factors, good training, temperament, and freedom from injury and other illness. As such, while the big heart gene is acknowledged as a beneficial genetic predisposition, the full potential of its expression is contingent on a so-called 'concert effect' of all the variables to generate the best possible symphony performance.

The prolific prevalence of this bloodline is illustrated in the pedigrees of Furioso xx (1939) and Ladykiller xx (1961) (Figures 6 and 7), where the Pocahontas bloodline is carried through her son Stockwell 28 and 60 times respectively in 12 generation pedigrees.

An interesting observation which requires further empirical analysis, is that this bloodline is carried more prominently through damlines in Furioso xx. The tendency to see this bloodline incidence double in pedigrees in an approximate two-decade period is also evident.

Thoroughbred incorporating Arab bloodlines

The Darley Arabian lineage as represented in Thoroughbred bloodlines is very prominent in the pedigrees of the 2024 WBFSH top 10 ranked stallions. The Arab progenitor pathways are outlined in Figure 8 (*Lalonde, 2019*.

In Showjumping this is evident in the historical progenitors:

• Common TB sires like Rantzau (via Bay Ronald → Dark Ronald → Teddy line) and Ladykiller xx trace to Darley Arabian. (*Lalonde, 2019*)

• Other lines, such as Furioso, Cottage Son, and Lucky Boy, also trace back to the Darley Arabian tail-male. (*Lalonde, 2019*)

In Dressage:

• TB influence is more refined, often through Bolero, Lauries Crusador xx, or Matcho AA, but the deeper lineage again ties back primarily to Eclipse and thus the Darley Arabian. (*Lalonde, 2019*)

In Eventing:

• More variety exists here with stronger representation of Herod (Byerley Turk) and Matchem (Godolphin Arabian) lines, especially through older blood like Precipitation, Ben Faerie, Master Imp, and Heraldik xx. (*Lalonde, 2019*)

• However, even here, many highly influential lines (e.g., Rock King, Ben Faerie, Hand in Glove xx) still trace male-line to Darley Arabian. (*Lalonde, 2019*).

In Summary it is also important to address the question whether the Darley Arabian is overrepresented in sport pedigrees compared to the general TB population? (*Lalonde, 2019*)

Category	% of Tail-Male Line from Darley Arabian
General Thoroughbred	~95–97%
Sport Horse TB Ancestors (WBFSH sires)	~90–95%
Eventing pedigrees	Slightly less (~80–90%), more diversity
Dressage/jumping pedigrees	~95%+

In answering this question it appears that while Darley Arabian is already massively overrepresented in the general TB, the same tail-male dominance carries through into sport pedigrees – especially via specific sub-lines like Bay Ronald, Teddy, Furioso, and Precipitation. However, eventing pedigrees do retain slightly more diversity with traces of Byerley Turk and Godolphin Arabian lines. (*Lalonde, 2019*)

Over and above the foundation arab progenitors within the Thoroughbred breed, the modern sport horse owes much to other potent Arab and Anglo Arab progenitors, in particular Ramzes. Ramzes in present in the damline of Cor

Figure 6

Furioso XX (1939) 12 generation pedigree pathways to Stockwell and his dam Pocahontas

Precipitation → (mare) Double Life → Bachelor's double → Tredennis → Kendal → Bend Or → Doncaster → Stockwell x 1
Precipitation → Hurry On → (mare) Tout Suite → Sainfoin → Sainfoin → Springfield → St Albans → Stockwell x 1
Ballyroe → Belladrum → Stockwell x 1
Sainfoin → (mare) Sanda → (mare) Sandal → Stockwell x1
Thunderbolt → Stockwell x 1
Kendal → Bend Or → Doncaster → Stockwell x 1
(mare) Devotion → Stockwell x 1
(mare) Isola Bella → Stockwell x 1
(mare) Alone → Young Melbourne Man → (mare) Anonyma → Stockwell x 1
Grebe → Bend Or → Doncaster → Stockwell x1
(mare) Greeba → (mare) Sunrise → Springfield → St Albans → Stockwell x 1
(mare) Insignia → Blair Atholl → Stockwell x 1
(mare) Mowerina → (mare) Stockings → Stockwell x 1
(mare) Maureen → Son in Law → (mare) Mother in Law → (mare) Be Cannie → Jock of Oran → Blair Atholl → Stockwell x 1
(mare) Reticence → Vespasian → (mare) Vesta → Stockwell x 1
(mare) Maureen → (mare) St Prisca → Friar Marcus → Cicero → Cyllene → Bona Vista → Bend Or → Doncaster → Stockwell x 1
(mare) Illuminata → Paraffin → Blair Atholl → Stockwell x 1
Ayrshire → (mare) Atalanta → (mare) Feronia → Stockwell x 1
(mare)Perdita II → (mare) Hermione → (mare) La Belle Helene → St Albans → Stockwell x 1
(mare) Nunsuch → (mare) La Morlaye → Doncaste → Stockwell x 1
(mare) Roxelane → War Dance → (mare) War Paint → Uncas → Stockwell x 1
La Samaritain → (mare) Clementina → Doncaster → Stockwell x 1
(mare) Maureen → (mare) St Prisca → (mare) Temoignage → The Tetrarch → (mare) Vahren → Bona Vista → Bend Or → Doncaster → Stockwell x 1
(mare) Maureen → (mare) St Prisca → (mare) Temoignage → The Tetrarch → (mare) Vahren → (mare) Castania → Hagioscope → (mare) Sophia → (mare) Zelle → Stockwell x 1
(mare) Maureen → (mare) St Prisca → (mare) Temoignage → (mare) Monalene → Walmsgate → (mare) Flying footstep → Atalanta → (mare) Feronia → Stockwell x 1
(mare) Maureen → (mare) St Prisca → (mare) Temoignage → (mare) Monalene → Walmsgate → (mare) Flying footstep → Doncaster → Stockwell x 1
(mare) Maureen → (mare) St Prisca → (mare) Temoignage → (mare) Monalene → (mare) Kendal → Bend Or → Doncaster → Stockwell x 1
(mare) Maureen → (mare) St Prisca → (mare) Temoignage → (mare) Monalene → (mare) Kendal → (mare) Lady Ronald → Lord Ronald → Stockwell x 1

TOTAL 28

Der Lowe xx

Rantzau xx

Phalaris xx

Ladykiller xx

Figure 8

Tail-male linage of Thoroughbred influence in sport horse pedigrees

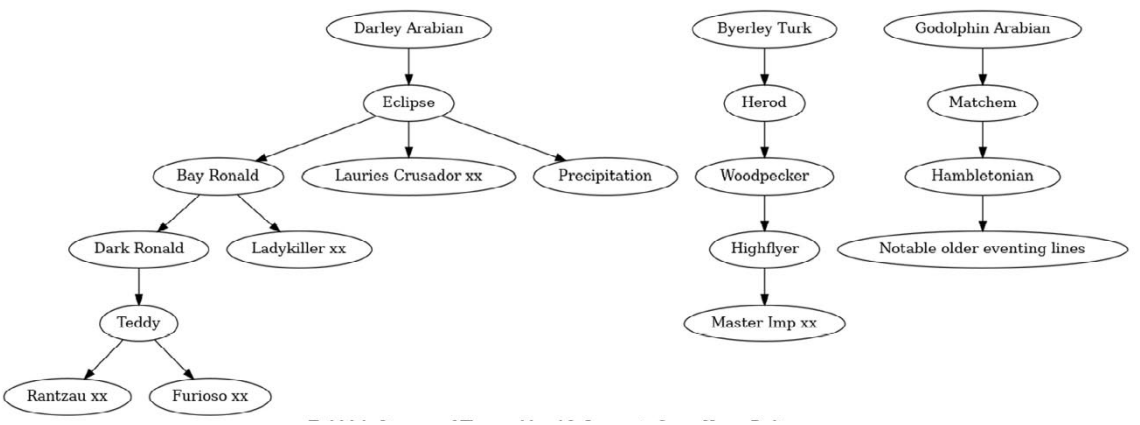


FIGURE 7

Ladykiller XX (1961) 12 generation pedigree pathways to Stockwell and his dam Pocahontas

Fairway → Phalaris → Cyllene → Bona Vista → Bend Or → Doncaster → Stockwell x1
Colorado → Phalaris → Cyllene → Bona Vista → Bend Or → Doncaster → Stockwell x1
Polymelus → Phalaris → Cyllene → Bona Vista → Bend Or → Doncaster → Stockwell x2
Minoru → Cyllene → Bona Vista → Bend Or → Doncaster → Stockwell x 1
Cyllene → Bona Vista → Bend Or → Doncaster → Stockwell x 2
Bachelor's Double → Tredennis → Kendal → Bend Or → Doncaster → Stockwell x 1
(mare) Rosalys → Bend Or → Doncaster → Stockwell x 1
(mare) Dongola → Doncaster → Stockwell x 1
Vahren → Bona Vista → Bend Or → Doncaster → Stockwell x 2
Valens → Laveno → Bona Vista → Bend Or → Doncaster → Stockwell x1
(mare) Diamond Agnes → (mare) Golden Agnes → Bend Or → Stockwell x 1
Roi Herode → Le Samaritaine → (mare) Clementina → Doncaster → Stockwell x2
(mare) Musa → Martagon → Bend Or → Doncaster → Stockwell x 1
Tredennis → Kendal → Bend Or → Doncaster → Stockwell x 1
Musicwood → Glenwood Ormonde → Bend Or → Doncaster → Stockwell x 1
Necromancer → Touchet Lord Lyon → Stockwell x 1
Necromancer → (mare) Enchantress → (mare) Lady Love → Blair Atholl → Stockwell x 1
Lord Lome → (mare) Lady Lucas → (mare) Lady Ripon → Stockwell x 1
(mare) Be Cannie → Jock of Oran → Blair Atholl → Stockwell x 1
(mare) Darkie → Mare (Insignia) → Blair Atholl → Stockwell x 1
Ormonde → Bend Or → Doncaster → Stockwell x 1
Breadalbane → Stockwell x1
Sunstar → (mare) Doris → (mare) Lauretta → (mare) Ambuscade → Camerino→ Stockwell x1
Grebe → Bend Or → Doncaster → Stockwell x 1
Isonomy → (mare) Isola Bella → Stockwell x 7
Sainfoin → Springfield → St Albans → Stockwell x 6
(mare) Cheery → (mare) Sunrise → Springfield → St Albans → Stockwell x 1
(mare) Broad Corrie → (mare) Corrie Roy → (mare) Corrie → Stockwell x 1
Gallinule → (mare) Moorhen → (mare) Skirmisher Mare → Skirmisher → (mare) Verlumna -> Stockwell x 1
(mare) Margerine → (mare) Sweet Songstress → Doncaster → Stockwell x1
Sainfoin → (mare) Sanda → (mare) Sandal → Stockwell x 4
Stockwell → (Mare) Thrift x 4
Chesterfield → Wisdom → (mare) Aline → Stockwell x 1
(mare) Aline → Stockwell x 3
Matchmaker → Donovan → (Mare) Mowerina → (mare) Stockings → Stockwell x 1
Stockwell → (mare) Devotion x 1
St Frusquin → St Simon → Galopin x 1 (pathway King Tom → Pacohontas)

Pedigree pathways to Pacohontas via Stockwell and/or her other progeny **TOTAL 60**

Conclusion

The modern sport horse carries a higher percentage Thoroughbred/Rrab pulsing through its veins than is readily recognised. Across the disciplines this averages to approximately 35% for dressage, 49% for showjumping, and 54% for eventing. These thoroughbred pedigrees are, however, well integrated across 12 generations, generating a definite breed lightening and refinement influence clearly observable in the more modern day sport horses. Historical and well-recognised thoroughbred sport horse sires such as Teddy, Dark Ronald, and Phalaris provide broad historical influence, forming the genetic base for many sires but showing less direct recurrence under their own names i contemporary top sires – because their impact is often subsumed under notable descendants. This has seemingly masked their relevance in historical literature and surveys.

Genetic research in recent decades has confirmed that even more remote historical genetics potentially carries a powerful impact into the current era. Some more distant historical Thoroughbred pedigrees were found to be present with high frequency in this modern sport horse population These converged on the root foundation of Pocahontas and her sons, particularly Stockwell at a high frequency. Moreover, it appeared that the pedigrees of the most successful thoroughbred ancestors incorporated the multiple the presence of these lines, which are also purported to carry the 'big heart gene' benefit. It makes sense that such a physiological advantage can notably benefit equine athletes, and can possibly be a contributing factor to the success that some stallions from this line have shown in their own and progeny performance.

The composite factors required to enable the best expression and benefit of the 'big heart gene' have been discussed, but it is also important to recognise the potential extended value of this for showjumping, eventing, and endurance horses. The 'big heart gene' benefit should be further researched for this reason.

Other qualities specific to particular Thoroughbred

de la Bryère, as well as other Warmblood cross sires and dams. He is well represented in the current rankings. This raises certain observations about the exceptional natural athletic, jumping and endurance capability of some arab bloodlines.

One of the current authors has had personal experience of this extraordinary ability in the form of a Shagya Arab ,Sheikh, standing some 14.2hh, who performed at top showjumping level (then 1m60) in South Africa. He was also a member of a winning national showjumping team in the late 1970s. While the following photograph is of poor quality, it clearly confirms the horse's remarkable capability.

This point requires some careful consideration, especially given the exceptional impact that Ramzes has had on sport breeding through generations. Identifying and developing bloodlines of particular talent is potentially very important for current and future sport horse breeding.

bloodlines require further research and documentation to enable more conscious utilisation of these benefits in breeding going forward. These factors include; the apparent need for the dressage discipline to incorporate the broadest possible Thoroughbred diversity blending classical and modern lines, for jumping to focus on the more dynamic and powerful Thoroughbred lines such as Ladykiller and Rantzau, and eventing's favouring of stamina and boldness characteristic of the more recent Teddy and Dark Ronald pedigrees. The need for genetic diversity in the Thoroughbred breeding arena is an important issue. It is also clear that the sport horse industry has historically been limited with regard to access to the best possible Thoroughbred stallions for sport breeding.

First, this is limited by some sport horse studbooks requiring a high time form rating to qualify a Thoroughbred for entry and a breeding licence. This immediately places many Thoroughbred stallions in an elite and unaccessible breeding and financial category for sport horse breeders, as such stallions and their covering fees are extremely costly. Many good stallions then only become available for sport breeding later after they have 'failed' as Thoroughbred sires. Inevitably, this occurs after many years at Thoroughbred stud, and they enter the sport breeding programs in later years with a limited lifespan. Many such stallions only prove their worth posthumously with the limited benefit of frozen semen.

Shagya Arab – Sheikh

It may be of value to approach the Thoroughbred industry in relevant countries, to establish a co-operative program for suitable Thoroughbred sire use for sport horse purposes. The important role of the (more specifically Shagya) Arab should be considered and researched in more detail. This may provide important benefits in many aspects of multi disciplinary sport, particularly for the younger and smaller rider.

Limitations of this study: This study did not utilise an experimental design or statistical methodology. Going into the future, more rigorous research utilising statistical methodology will render the studies and their findings more valid, particularly with larger population groups and randomised control designs.

In closing, this study has unquestionably raised the importance of the Thoroughbred and Arab as foundation progenitors of the modern sport horse, as well as important influencers going forward. It is important to bear this in mind, and to use the knowledge mindfully to inform future breeding programs to maximise every opportunity for success. ■

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SELL CHAMPIONS

Illumina BeadChip genotyping detects cases of chromosome 27

By: Please see the full list of authors at the end of this article
Photography/graphics: Courtesy of the authors

In last month's issue of World Breeding News, Horse Sport Ireland announced the publication of a paper entitled 'Detection of two horses with chromosome 27 trisomy using single nucleotide polymorphism (SNP) chip genotypes. We are pleased to now publish the full article below.

Autosomal trisomy, a genetic disorder characterized by the presence of an extra autosome, is a rare but important chromosomal abnormality in horses, often associated with infertility, developmental abnormalities, and reduced life expectancy. This study represents the largest population-level screening for autosomal trisomy in horses; the analysis used single nucleotide polymorphism (SNP) panel genotype intensity data from 17,078 horses, 6,601 of which were juveniles (i.e., ≤12 months of age) when genotyped.

Using methodologies adapted from similar screening studies in cattle, the only aneuploidy detected was trisomy 27 in two juvenile male Irish Sport Horses (ISH) (0.03% prevalence among juveniles or 0.01% prevalence in the overall population). One ISH colt was cytogenetically confirmed and displayed no overt external phenotypic abnormalities, while cytogenetics was not undertaken on the other ISH colt, nor was it phenotypically assessed. Parentage analysis revealed that one ISH colt inherited two different copies of chr27 from the sire, demonstrating heterodisomy, likely due to a nondisjunction event during meiosis I in the sire. The other ISH colt inherited two different copies of chr27 from the dam, also indicating heterodisomy; the dam was 23 years of age when the colt was born.

Based on the observed prevalence of autosomal trisomy, it can be estimated that at least three foals per 10,000 live births are likely to have autosomal trisomy. Though, given that only 74 (i.e., 0.004%) of horses were genotyped within a month of birth, this is likely an underestimate. The economic consequence of undiagnosed trisomy in high-value breeding horses that are potentially infertile could be substantial. As horse genotyping for parentage verification and discovery is transitioning to medium-density single nucleotide polymorphism panels, routine genomic screening for autosomal aneuploidy could be readily undertaken and potentially should form a standard screening prerequisite along with other genetic defects at horse sales.

Currently, Thoroughbred horses registered for racing are not genotyped, and only a limited number of sport horse studbooks are using SNP genotyping. This highlights an opportunity for those already genotyping to expand their support for breeders through low-cost, high-value chromosomal screening at the time of registration rather than incurring additional costs over the horse's life cycle to determine the root cause of certain phenotypes owing to the undiagnosed trisomy.

1. Introduction

Chromosomal abnormalities in horses are among the most common non-infectious causes of infertility and developmental abnormalities [1]. Chromosomal abnor-malities account for 60 to 70% of early pregnancy loss in horses [2] and 30% of fertility or developmental issues in horses [1]. Of these chromosomal abnormalities, aneuploidy, which is a genetic condition characterized by a missing (monosomy) or an extra (trisomy) chromosome [3], often results in non-viable embryos or early abortions in horses [4].

While autosomal monosomy is lethal in most species, trisomy of certain autosomes can result in live births; examples include trisomy 21 in humans (i.e., Down syndrome) [4,5] and trisomy of smaller autosomes in cattle [6]. Only 13 live-born non-mosaic cases of autosomal trisomies have been documented in horses, involving chromosomes 23, 26, 27, 28, 30, or 31 [1,7,8]. Most of these 13 horses exhibited behavioral, neurological, or musculoskeletal issues, with two horses requiring euthanasia due to severe health complications. Even where horses with autosomal trisomy have survived, they are generally infertile [1]. The majority of male horses with autosomal trisomy are azoospermic or oligospermic [9,10], caused by arrested spermatogenesis at meiosis [11].

Previous reports of autosomal trisomy in horses have mostly been limited to individual case reports, which are likely biased toward those with severe observable abnormalities. It is possible that horses with autosomal trisomy may exist with mild or no noticeable external phenotypic abnormalities, making them less likely to be identified and documented in case studies. Consequently, horses with undetected autosomal trisomy might be retained as candidates for breeding, which, if infertile, is futile.

The only study in horses beyond individual case reports of autosomal aneuploidy was conducted by Bugno et al. [12], who undertook cytogenetic testing of 500 juvenile horses (<3 years old) randomly selected from private studs and farms across Poland to estimate the prevalence of chromosomal abnormalities. However, no cases of non-mosaic autosomal aneuploidy were detected, potentially due to the limited

sample size. As a result, reliable estimates of the prevalence of autosomal aneuploidy in live-born horses are not currently available, nor is it known whether horses can carry autosomal trisomy without any obvious (external) phenotypic abnormalities.

Larger-scale cytogenetic screening, like the one undertaken by Bugno, Słota, and Koscielny [12] in horses, is laborious, costly, and impractical. An alternative is low-cost and high-throughput karyotype screening by SNP chip genotyping data, which has been successful in cattle [6,13,14], sheep [15], and humans [16,17,18]; such studies have also been undertaken in cattle embryos, chicken, and salmon [19].

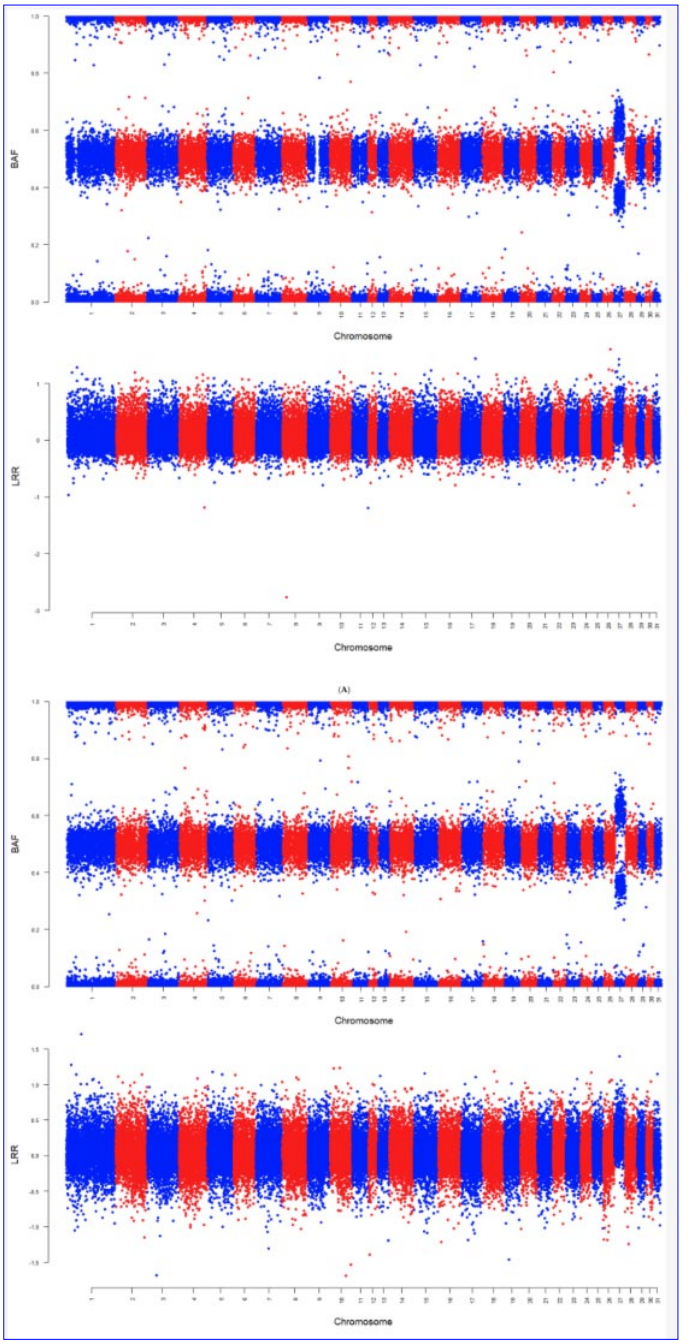
The proposed approach uses SNP chip genotype intensity information to detect chromosomal duplications and deletions. Given that many horse populations, including those in Ireland, are now transitioning to routine SNP genotyping of animals for circa 60,000 SNPs for parentage, this resource offers an opportunity to apply screening algorithms developed in other species to help estimate the prevalence of karyotype abnormalities in the Irish horse population. The objective of the present study was to use available genome-wide medium-density SNP genotypes from Irish horses to estimate the prevalence of autosomal aneuploidy in Ireland.

2. Materials and methods

2.1. Genotype Data: Single nucleotide polymorphism genotype intensity data from the Illumina Equine80select chip (Illumina, San Diego, CA, USA) were available for 17,053 horses, all of which had a call rate ≥90%; the population comprised 12,561 horses recorded as females and 4,492 recorded as males. Of these, 60% were Irish Sport Horses, 18% were Irish Draughts, and 6% were from foreign studbooks; Thoroughbreds, Irish cobs, Irish sports ponies, Kerry bog ponies, Connemara pony, and horses with no associated studbook each consisted of <5% of the population. Of the 17,053 horses, 6,601 (38%) were genotyped when younger than one year of age (juveniles), and of these, 74 (i.e., 0.004%) were genotyped within one month of birth.

Figure 1

The B-allele frequency (BAF) and log R ratio (LRR) and plots for the (A) Thoroughbred x Cob colt and the (B) Irish Sport Horse colt diagnosed with trisomy on chr27



The SNP genotype panel consists of 71,248 autosomal and 3,511 X-chromosome SNPs. Sex-chromosomal aneuploidy could not be accurately determined in the present study given that no Y SNP probes exist on the Illumina Equine80select chip. Consequently, the genotype of XXY horses would be indistinguishable from that of XX females. Similarly, it is not possible to discriminate between XY males, XO females, SRY-positive and SRY-negative XY females, XX females with X uniparental disomy, or XX females with extremely homozygous X chromosomes due to inbreeding. Therefore, only autosomal SNPs with a locus call rate ≥90% were retained. Following edits, 67,728 autosomal SNPs remained.

2.2. Genotype Intensity Data: The B-allele frequency (BAF), the log R ratio (LRR), and R-values of SNP genotype data were used to identify horses that had autosomal aneuploidy as described in detail by Ryan et al. [6] for

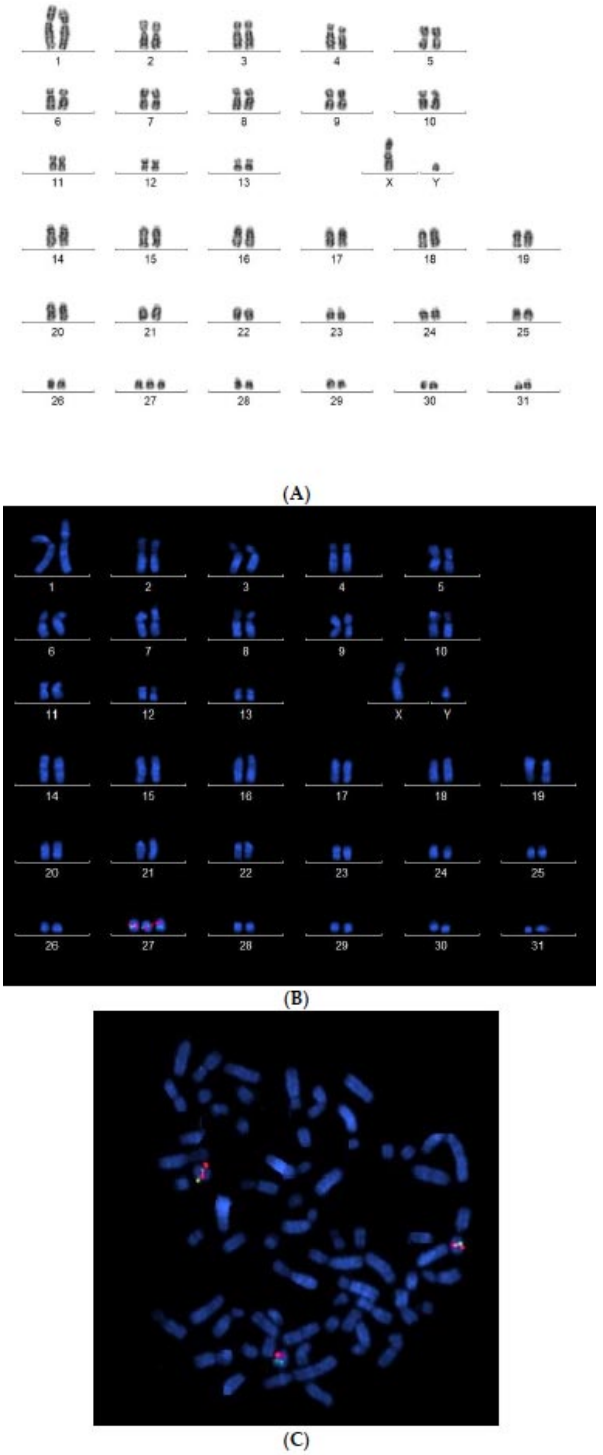


FIGURE 2

(A) G-banded karyotype of the yearling colt with 2n = 65, showing chr27 trisomy
(B) DAPI-labeled karyotype following FISH using BAC chromosome 27-specific probes, confirming trisomy of chromosome 27 (The BAC probes: red (rhodamine)-labeled MAC16 and green (streptavidin)-labeled PDGFRL)
(C) Metaphase spread used to generate the DAPI-labeled karyotype.

Thermo Scientific SNP array genotypes in cattle. The R-value is defined as the sum of the raw signal intensity values from both the X and Y fluorescent dyes associated with the reference and alternate alleles for each SNP [20]. The LRR is the log ratio of the observed R-value to the expected R-value, relative to a reference sample [20,21], and is calculated as

$$LRR = \log_2 (Xsample + Ysample \; Xreference + Yreference) \quad (1)$$

where *Xsample* and *Ysample* are the respective X and Y signal intensities for the sample of interest and *Xreference* and *Yreference* are the respective X and Y signal intensities for the reference sample on the panel. An LRR of 0 indicates a neutral copy number, a positive LRR suggests a copy number gain, and a negative LRR indicates a copy number loss [22].

The BAF is calculated by dividing the fluorescence intensity of the B allele by the total fluorescence intensity of that SNP [21]. In the called genotype file generated during genotyping, alleles are designated as A or B. When visualizing a set of consecutive SNPs for a diploid individual in a BAF whole-genome Manhattan-type plot, data typically appear as horizontal bands at 0 (AA), 0.5 (AB), and 1 (BB).

As documented by Ryan, Purfield, Matthews, Rathje, Valldecabres, and Berry [6] and Ryan, Purfield, Matthews, Canedo-Ribeiro, Valldecabres, and Berry [13] for detecting aneuploidy from SNP genotype array data, where chromosomal duplication exists, the heterozygous BAF band typically shifts from 0.5 to approximately 0.33 (AAB) and/or 0.67 (ABB), positioned between the homozygous BAF bands at 0 (AAA) and 1 (BBB). Furthermore, the LRR and R-values associated with duplications are higher than those observed on a standard diploid chromosome. Conversely, in cases of chromosomal deletion, the BAF is restricted to 0 (A) and 1 (B), accompanied by lower LRR and R-values.

2.3. Detecting Aneuploidy: Using the BAF, the LRR, and the R-values, the approach proposed by Ryan, Purfield, Matthews, Rathje, Valldecabres, and Berry [6] for detecting autosomal aneuploidy in cattle was used to detect possible cases of autosomal monosomy or trisomy in the sample population.

In brief, for each horse, the mean LRR and R-values for the autosome under investigation was expressed relative to the mean and standard deviation of LRR and R-values across all other autosomes (excluding the chromosome being investigated). The population mean and standard deviation of these standardized LRR and R-values were then calculated for each autosome. Additionally, the percentage of SNPs on the autosome under investigation that had a BAF range within the expected heterozygous BAF range of 0.45 to 0.55 (for a diploid genome) was calculated per autosome for each horse.

For each autosome separately, horses with ≤3% of SNPs in the 0.45 to 0.55 BAF range were flagged; this was

Colt ID	Number of SNPs with Opposing Parental Homozygotes	% of Alleles Dam	% of Alleles from Sire	Inferred Parent of Origin of Extra Chromosome
ISH1	87	66.3%	33.3%	Extra chromosome inherited from the dam
ISH2	102	33.7%	66.0%	Extra chromosome inherited from the sire

TABLE 1

Determination of the parent of origin of the extra chromosome 27 based on SNPs where the sire and dam were homozygous for opposite alleles (i.e., AA vs. BB) Horse colt diagnosed with trisomy on chr27

Colt ID	Number of AB SNPs in Parent of Origin	Heterozygous Genotypes in the Colt	Homozygous Genotypes in the Colt	Interpretation
ISH1	240	240	0	Heterodisomy
ISH2	262	242	20	Heterodisomy

TABLE 2

Determination of heterodisomy versus isodisomy based on SNPs where the parent of origin was heterozygous (AB).

the approach proposed by Ryan, Purfield, Matthews, Rathje, Valldecabres, and Berry [6] for detecting autosomal aneuploidy in cattle. From these flagged horses, those with standardized LRR and R-values that deviated both by more than 2.5 standard deviations from the respective population mean for that autosome were classified as potentially having autosomal aneuploidy. Horses classified with suspected autosomal monosomy exhibited standardized LRR and R-values that were more than 2.5 standard deviations below the mean, while horses classified with suspected autosomal trisomy had values greater than 2.5 standard deviations above the mean. The genotypes of suspected cases of autosomal aneuploidy were further examined visually by plotting Manhattan plots of LRR and BAF values per SNP across the entire genome to confirm the chromosomal anomaly.

In cases of suspected trisomy, the parent of origin of the extra chromosome was determined by evaluating SNPs on the affected autosome where the sire and dam were homozygous for opposite alleles (i.e., AA in one parent and BB in the other). These informative SNPs with opposing parental homozygotes were used to infer the origin of the third allele by comparing the genotype of the offspring to that of the parents.

Offspring genotypes initially called as heterozygous (AB) were recoded based on BAF values; SNP with a BAF around 0.33 were classified as AAB, and SNPs with a BAF around 0.67 as were classified ABB. For each SNP, the parent whose homozygous genotype matched two of the three alleles in the offspring was assumed to have contributed two alleles. These contributions were summed across all informative SNPs to calculate the proportion of alleles inherited from each parent. If one parent consistently contributed two of the three alleles across the chromosome, it was concluded that the trisomy originated from that parent.

In order to determine whether the trisomy arose through isodisomy or heterodisomy, only SNPs on the affected chromosome where the parent identified as the source of the extra chromosome was heterozygous (AB) were analyzed. At these loci, the trisomic offspring must have inherited two alleles from that parent, i.e., the offspring must have inherited either both alleles (A and B), consistent with heterodisomy, or two copies of the same allele (i.e., AA or BB), consistent with isodisomy. If the same allele were inherited twice, a higher proportion of homozygous genotypes (AAA or BBB) would be expected in the offspring, indicating isodisomy. Conversely, inheritance of both parental alleles (A and B) would result in a predominance of heterozygous genotypes (AAB or ABB) in the offspring, indicating heterodisomy.

Furthermore, the owners of horses identified as possibly having autosomal aneuploidy were contacted and asked to provide consent for a veterinary examination by an equine specialist, with the aim of assessing the horses for any external phenotypic abnormalities, developmental issues, or clinical

FIGURE 3

Photograph of the ISH1 colt with chr27 trisomy, shown here as a foal. The image illustrates mild bilateral forelimb flexor tendon hyperflexion (commonly referred to as "contracted tendons") and mild bilateral hindlimb flexor tendon laxity.

signs that might be associated with chromosomal aneuploidy.

During the examination, ethylenediaminetetraacetic acid (EDTA) and serum blood samples were collected. These samples were submitted for hematology and biochemistry analysis. The hematology analysis included the assessment of red blood cell parameters, platelet count, and white blood cell parameters. The red blood cell parameters were red blood cell count, packed cell volume, hemoglobin levels, mean corpuscular volume (MCV), mean corpuscular hemoglobin concentration (MCHC), and mean corpuscular hemoglobin (MCH). The white blood cell tests included total white blood cell count and a differential count of neutrophils, lymphocytes, monocytes, and eosinophils. Biochemistry analysis encompassed protein tests (including total protein, albumin, and globulin levels), liver and muscle enzyme levels, electrolyte levels, iron levels, and kidney function tests.

2.4. Karyotyping: With the owner's consent, cytogenetic analysis was conducted at the University of Agriculture in Krakow on one Irish Sport Horse (ISH) colt suspected of having trisomy of chromosome 27 (chr27) based on the SNP genotyping data. No horses with monosomy were detected in the present study. Blood samples were obtained from the coccygeal vessels using 10 mL lithium heparin evacuated tubes (BD Vacutainer, LH 102 I.U.; BD, Plymouth, UK).

To prepare the blood samples for karyotype analysis, heparinised blood was cultured in RPMI 1640 medium with l-glutamine, 10% (v/v) fetal calf serum (FCS) (Sigma, Deisenhofen, Germany), penicillin and streptomycin sulfate salt (100 g/mL) (Sigma, Deisenhofen, Germany), and lectin from pokeweed (Phytolacca americana; 5 g/mL) (Sigma, St. Louis, MO, USA) for 72 h at 37 °C. Cell division was arrested by the addition of colcemid (Gibco, Thermo Fisher Scientific, Waltham, MA, USA) at a concentration of 10 µg/mL for 120 min, followed by hypotonic treatment using 75 mM potassium chloride. A mixture of methanol and acetic acid in a 3:1 ratio was added on top of the hypotonic solution, and the tubes were inverted for flash fixation.

Metaphases for karyotyping were stained with GTG banding [23]. Images were captured with an Axio Imager M2 microscope equipped with a cooled charge-coupled device camera and the MetaSystem software (MetaSystems, Altlussheim, Germany). A total of 20 metaphase images were captured, and 10 metaphases were karyotyped with Meta System–Neon software (MetaSystem, Germany). The chromosomes were arranged following the International System for Cytogenetic Nomenclature of the Domestic Horse (ISCNH 1997) [24].

2.5. Fluorescence in situ kybridization (FISH): FISH was conducted on metaphase spreads using two digoxigenin-labeled horse bacterial artificial chromosome (BAC) clones containing the MAC16 and PDGFRL genes to specifically identify and confirm the presence of an additional copy of chromosome 27 in the metaphase spread. The MAC16 BAC was labeled with digoxigenin and detected using an anti-digoxigenin–rhodamine conjugate (red signal), while the PDGFRL BAC was labeled with Alexa Fluor 488 (green signal). Probe labeling, probe and chromosome denaturation, and hybridization and post-hybridization washes were conducted according to standard procedures described elsewhere [25,26]. Hybridization signals were detected with anti-digoxigenin–rhodamine conjugate (Vector Laboratories), and the results were analyzed under a Axio Imager.D2 fluorescence microscope (Carl Zeiss, Oberkochen, Germany) equipped with a camera (AxioCam MRm; Carl Zeiss) and ZEN software.

3. Results

Of the population of 17,078 horses included in this study, only two horses, both males, were diagnosed with autosomal trisomy. Both horses were genotyped when they were less than one year old, resulting in a prevalence of 0.03% of aneuploidy in the juvenile population. Based on SNP genotyping data, both males had trisomy chr27, which was the only autosomal aneuploidy detected. Both colts were Irish Sport Horses, which belong to an open studbook. One colt was a Cob x Thoroughbred cross, referred to as ISH1 from here on out, while the other colt was a Dutch Warmblood x Irish Sport Horse cross, referred to as ISH2 from here on out. Whole-genome BAF and LRR Manhattan plots for the two horses demonstrated clear signatures of trisomy chr27 (*Figure 1*). Specifically, the BAF plot for both individuals revealed four clusters at 0 (AAA), 0.33 (AAB), 0.67 (ABB), and 1 (BBB) on chr27, whereas the diploid autosomes from these individuals had three clear clusters of BAF at values close to 0 (AA), 0.5 (AB), and 1 (BB). Likewise, the LRR values per SNP were higher on chr27 relative to the diploid autosomes of these two horses.

The owner of the ISH1 colt with trisomy consented to a veterinary examination of the yearling, whereas the owner of the ISH2 yearling colt declined it. Karyotyping of the ISH1 colt confirmed aneuploidy, showing that the colt had abnormal chromosome number 65, XY with an extra-small acrocentric autosome (*Figure 2A*). FISH analysis with chr27-specific probe unambiguously identified the extra autosome as chr27 (*Figure 2B*). Given that at least 100 metaphases were examined by karyotyping and FISH and all demonstrated trisomy chr27 (*Figure 2C*), mosaicism of ≥3% on chr27 can be ruled out with 99% confidence, or mosaicism of ≥2% can be ruled out with 95% confidence [27].

3.1. Parental Origin: Parental origin of the extra copy of chromosome 27 was established for both colts by analyzing SNPs at which the sire and dam were homozygous for opposite alleles (i.e., AA in one parent and BB in the other) (Supplementary Table S1). A total of 87 such SNPs were identified for the ISH1 colt and 102 for the ISH2 colt. The ISH1 colt inherited the extra copy of chr27 from its sire (Table 1), who was six years old when the colt was born. The sire was in the youngest 15% of stallions used in Ireland in 2023 [28]. The sire has 37 other progeny, with genotypes available for 11

FIGURE 4

Photographs of the ISH1 yearling colt with chr27 trisomy appearing bright and alert and in overall good health

of them, none of which exhibited any autosomal aneuploidy. The ISH2 colt inherited the extra chr27 from its dam (*Table 1*), who was 23 years old when the colt was born. The dam was in the oldest 5% of dams that had a foal in Ireland in 2023 [28]. The dam had nine other progeny, with the Irish Sport Horse colt being her most recent; no genotypes were available for the other nine progeny.

To determine whether the trisomy arose through isodisomy or heterodisomy, SNPs on chromosome 27 were further evaluated where the parent identified as the source of the extra chromosome was heterozygous (AB genotype). For the ISH2 colt, 262 SNPs were analyzed where the dam was heterozygous. Of these, 242 showed heterozygous genotypes (AAB or ABB), and 20 were homozygous (AAA or BBB). For the ISH1 colt, 240 SNPs were analyzed where the sire was heterozygous, and the ISH1 colt was heterozygous (AAB/ABB) across all 240 SNPs. These results indicate that both colts inherited two different alleles from the parent of origin, consistent with heterodisomy (*Table 2*).

3.2. Phenotypic Assessment: The owner of the ISH1 colt provided background information on the colt. The owner reported no issues with gestation and parturition. The owner reported that the yearling colt, however, displayed clinical signs consistent with neonatal maladjustment syndrome (i.e., dummy foal syndrome) during his first week of life, for which he was treated with intravenous fluids and the Madigan squeeze technique. Four photographs taken by the owner of the back and the side of the colt when he was approximately one week of age were analyzed by the veterinarian and indicated mild bilateral forelimb flexor tendon hyperflexion (i.e., contracted tendons) and mild bilateral hindlimb flexor tendon laxity (*Figure* 3).Apart from being born with neonatal maladjustment syndrome, the owner described the colt as relatively normal but reported that the yearling colt displayed unusual social behavior when turned out with his paddock mates (other horses of similar age). The yearling colt appeared to be slow to react to intraspecies social cues and appeared to be "pushed around" by or isolated from his paddock mates as a result.

As part of this study, the ISH1 colt was examined externally by a veterinarian on the farm as a yearling. On initial examination, the colt appeared bright, alert, responsive, and in good general health (*Figure 4*). The colt was smaller in size relative to his two contemporaries within the herd of similar age and breed. No obvious abnormalities of the head, eyes, or teeth were noted on examination. A grade-one holosystolic cardiac murmur was audible at the heart base on the left-hand side. The musculoskeletal system was largely within normal limits, baring a mild to moderate clubfoot appearance of the left forefoot and the straight hock conformation bilaterally (*Figure 5*).

The penis and prepuce of the ISH1 colt were both normal on visual examination of the reproductive organs. Initially, only the right testicle was palpable within the scrotum. Following sedation with 0.2 mL of detomidine hydrochloride (Domosedan 10 mg/mL solution) and 0.2 mL of butorphanol tartrate (Torbugesic 10 mg/mL solution) intravenously, the left testicle was found via ultrasound to be retained within the left inguinal canal. The left testicle could be palpated within the scrotum following gentle manipulation. Both testicles were examined and measured via ultrasound. The left testicle (3 cm × 5 cm) was smaller in size compared to the right testicle (6 cm × 8 cm), which likely indicates that the left testicle descended more recently than the right. The ultrasonographic appearance of both testicles and associated structures was within normal limits.

Hematology blood analysis revealed that the red blood cell count, packed cell volume, and hemoglobin levels were all below the reference ranges, indicating mild anaemia (*Supplementary Table S2*), while the eosinophil levels indicated eosinopenia. The biochemistry analysis revealed mild

FIGURE 5

Photograph of the ISH1 colt with chr27 trisomy displaying mild to moderate clubfoot of the left

hypoalbuminemia, as both albumin and total protein levels were slightly below normal (*Supplementary Table S2*). These biochemistry findings are consistent with a high parasitic worm burden and are not thought to be related to the genetic abnormality and are likely normal in the ISH1 paddock mates.

4. Discussion

This study represents the most extensive screening effort to date for autosomal aneuploidy in horses, comprising 17,053 horses from seven different breeds. Unlike previous studies, which have primarily focused on individual case reports [7,8,9] or small-scale cytogenetic screening initiatives [12], the present study used a cost-effective SNP-based karyotype screening approach to generate population-level insights into the prevalence of autosomal aneuploidy. By overcoming the limitations of traditional cytogenetic screening, such as high costs and, by extension, limited sample sizes, one conclusion from the present study was that autosomal trisomy can exist in horses even without obvious external phenotypic abnormalities.

The scale of this study not only provides the first prevalence estimate of autosomal aneuploidy in horses but also underscores the utility of SNP-based screening as a valuable tool for large-scale detection of chromosomal duplications and deletions in equine populations. This is especially true in populations that have already embarked on SNP-panel-based genotyping strategies, adding to the range of information that can be generated from such data [29], providing an opportunity for annual foal surveillance, which could support education for breeders and vets.

4.1. Prevalence of aneuploidy: No cases of autosomal monosomy were detected in the present study, which is expected given autosomal monosomy is generally lethal and has not been detected in live-born livestock animals [30]. Nonetheless, autosomal monosomy has been recorded in early equine pregnancy losses [31]. The detection of two cases of autosomal trisomy in a population of 17,078 genotyped horses corresponds to a prevalence of 0.01%. Notably, 6,601 juvenile horses were genotyped, yielding a prevalence of 0.03% in juveniles. This prevalence is consistent with reported prevalence rates in cattle, where 0.01% of 779,138 juvenile cattle genotyped also on a SNP-genotype array were diagnosed with autosomal trisomy [6].

In the present study, trisomy was detected only for chr27, with no evidence of trisomy of other autosomes. In a population of 779,138 cattle, Ryan, Purfield, Matthews, Rathje, Valldecabres, and Berry [6] reported trisomy on 10 different autosomes. However, the cattle dataset used by Ryan, Purfield, Matthews, Rathje, Valldecabres, and Berry [6] was approximately 47 times larger than the dataset used in the present study, thus providing greater power to detect rare events such as autosomal trisomy. Based on the prevalence rates of trisomy observed in cattle and adjusting for the smaller sample size of the horse dataset, the likelihood of detecting trisomy on horse autosomes in the current population is exceedingly low. For instance, the prevalence of the rarest trisomy detected in juvenile cattle was that of chr6 at 0.00013% [6]. Given this prevalence, almost 800,000 genotyped horses would be required to detect one case, which equates to fewer than one case (approximately 0.02 cases) expected in a population of 17,000 horses.

An additional feature of the structure of the present study in relation to detecting aneuploidy was that horses are genotyped at any stage of their life so the dataset used in the current study likely does not include genotypes from horses that would have died shortly after birth, potentially due to trisomy of larger autosomes. While trisomy on only chr27 was detected in the present study, previous studies in horses have reported trisomy of horse chr23, 26, 28, 30, and 31 [1,7,8], suggesting additional cases of autosomal trisomy may exist but were undetected here. This may be because, unlike calves, which are genotyped at birth in Ireland, horses in this study were rarely genotyped soon after birth; only 74 of the 17,053 horses (0.004%) were genotyped within a month of being born.

Furthermore, foals with external phenotypic abnormalities may not have been genotyped by their owners. While aneuploidy can occur on any chromosome [32,33], the viability of the embryo often depends on which chromosome is affected. Specifically, trisomy on longer autosomes are more likely to be aborted before birth [6,31,34]. If horses with trisomy on larger autosomes died within the first two weeks of life, as observed in cattle [6], they would likely not be genotyped. For example, the stated requirement to have to genotype almost 800,000 animals to detect a single case with a prevalence of 0.00013% (chr6 in Ryan et al. [6]) is compounded by the fact that these 800,000 foals would have to be genotyped at birth; [6] reported that all 19 cattle cases of trisomy of chr12, 15, 20, and 24 died within 15 days of birth. Consequently, the prevalence estimates in the present study could be an underestimate of the true prevalence of autosomal trisomy in horses.

While the study provides a robust estimate of autosomal aneuploidy prevalence in horses, it does not account for sex-chromosomal aneuploidies. This limitation arises from the absence of Y-chromosome SNP probes on the genotyping chip, which prevents reliable detection of abnormalities such as XXY (Klinefelter-like), XO (Turner-like), and SRY-negative XY females.

4.2. Parental Origin of Additional Chromosome: Aneuploidy is often attributed to meiotic errors, and in humans, the risk increases with advancing maternal age [33]. From a study of 782 humans with Down syndrome (trisomy chr21), the extra chromosome originated from the mother in over 90% of the cases [32]. Of those that inherited the extra chromosome from the mother, 70% of the errors originated during maternal meiosis I. Similarly, of the 134 cattle with trisomy and genotyped parents, the extra autosome

originated from the dam in 92% of trisomy cases [6]. While the ISH1 colt in the current study inherited the extra chromosome from his sire, the ISH2 colt inherited the extra chromosome from his dam. Both cases were heterodisomy, which usually occurs due to a nondisjunction error during meiosis I, where homologous chromosomes fail to separate, and both are passed to the offspring. The parental origin of trisomy in horses has been previously reported in only one case, where the extra chromosome was confirmed to originate from the dam [35]. In another case, it was presumed (but not proven) to be maternally inherited due to the dam's advanced maternal age (26 years) [36].

Just as the risk of aneuploidy increases with maternal age in humans [33], the same may be true for horses; of the 10 live-born foals previously reported in other studies to have autosomal trisomy where the dam's age was reported, 5 of the dams were aged between 14 and 28 years when they gave birth to the foal with trisomy [8,10,36,37,38]. Only one of the 10 dams was <5 years old when she gave birth to the foal with trisomy [8]. Similarly, the dam of the ISH2 colt in the present study, identified as the parent of origin for the extra chromosome, was 23 years old when the colt was born. The increasing risk with maternal age in horses is not unexpected given that mare oocytes are subject to age-related aneuploidy [39]. In contrast, the sire of the ISH1 colt identified as the parent of origin of the extra chromosome was only six years old when the colt was born.

4.3. Chromosome-Specific Aneuploidy: The lethality of autosomal aneuploidy is influenced by the imbalance effects of several major genes together with many minor genes specific to the individual chromosome [40]. As a result, the prevalence of trisomy may be similar for each chromosome at the time of conception but may differ greatly among abortuses and live-borns [41]. For instance, while trisomy of all autosomes, with the exception of chr7, has been observed in cattle embryos [32], trisomy of only 10 chromosomes has been detected in a very large population of live-born cattle [6]. Similarly, trisomy on chr1 and chr11 in humans has been reported in multiple spontaneous abortions but never reported in live-borns, suggesting lethality in each instance [41]. To the best of our knowledge, no large-scale screening study has been conducted on the prevalence of aneuploidy in equine embryos. However, Shilton, Kahler, Davis, Crabtree, Crowhurst, McGladdery, Wathes, Raudsepp, and de Mestre [31] reported that, of 256 equine products of conception analyzed from early pregnancy losses (i.e., embryos lost before 55 days of gestation), triploidy was identified in 42% of cases, while trisomy and monosomy were detected in 4.6% and 4.2% of the products of conception, respectively.

Trisomy of chr27 appears to be the most common autosomal trisomy in both live-born cattle [6] and horses (the present study). Interestingly, both species share conserved synteny with human chromosomes 8p and 4q [42]. The relatively high prevalence of trisomy chr27 in live-born cattle and horses may be linked to the small size and low gene density of chr27 in cattle and chr27 in horses compared to other autosomes in their respective genomes (*Supplementary Tables S3 and S4*). For instance, chr27 in horses has a total gene density of only 8.4 genes per Mb, whereas chr12, a more gene-dense autosome, has a total of 24.7 genes per Mb (*Supplementary Table S4*). Similarly, in cattle, chr27 has a total gene density of 8.3 genes per Mb, compared to 25 genes per Mb on chr18 (*Supplementary Table S3*). These findings support the general observation that aneuploidy of smaller, gene-poor autosomes tends to be less detrimental [43].

A similar pattern is observed in humans; while aneuploidy can occur on all autosomes, only trisomy on chromosomes 13, 18, and 21 are viable at birth [41]. These three chromosomes are the gene-poorest autosomes in the human genome [4]. The relationship between chromosome size and the viability of aneuploid embryos appears to hold true in horses as well. All reported cases of live-born, non-mosaic autosomal trisomy in horses involve shorter autosomes, including chr23, 26, 27, 28, 30, and 31 [1,7,8].

Of the 13 documented cases of live-born, non-mosaic autosomal trisomy in horses, 38% were on chr27, with an additional 30% being chr30. Notably, these two chromosomes are among the four autosomes with the lowest total gene count in the equine genome (*Supplementary Table S4*). However, it is important to note that chr29 in horses is also among the four autosomes with the lowest gene counts in the equine genome, yet no live-born horses with trisomy on chr29 have been reported.

4.4. Phenotypic symptoms: Previous studies documenting autosomal aneuploidy in horses have primarily focused on individual cases trying to resolve the cause of notable phenotypic abnormalities. These case reports have documented a variety of musculoskeletal issues, such as facial asymmetry [7], brachygnathia inferior [36], articulated splint bones [8], and angular limb deformities [8,36]. Neurological impairment has also been documented in some of these cases [35], suggesting that candidates for further investigation often consist of horses with visible abnormalities. In fact, across species, case studies documenting karyotype abnormalities [7,44,45] are generally on animals with some external phenotypic abnormalities.

The yearling ISH1 colt with trisomy in the current study had no discernible external symptoms, albeit he was smaller than his contemporaries on the farm; smaller size is a characteristic reported in other cases of equine autosomal aneuploidy [7,9,10]. Given that this colt exhibited no severe phenotypic abnormalities, he would have likely gone undetected as harboring a karyotype abnormality. Despite his lack of observable symptoms, he is potentially (likely) infertile, as autosomal trisomy in males typically results in azoospermia or oligospermia due to arrested spermatogenesis during meiosis [9,10,11]. Nonetheless, the penis and prepuce of the ISH1 colt with trisomy chr27 were normal on visual examination of the reproductive organs, and the

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ultrasonographic appearance of testicles and associated structures were within normal limits.

Likewise, there were no clear external signs of infertility other than cryptorchidism in the colt with chr27 trisomy documented by Brito, Sertich, Durkin, Chowdhary, Turner, Greene, and McDonnell [9], but no sperm was found during repeated attempts to collect semen. This underscores the importance of population-wide genomic screening for detecting individuals with aneuploidy who, though obviously asymptomatic, may still present reproductive and economic risks.

4.5. Reduced life expectancy: The colts with chr27 trisomy, as identified in the present study, were 14 and 16 months of age when the analysis for this study was conducted. Survival beyond infancy for horses with autosomal trisomy is thought to be rare, with intensive care sometimes required to ensure survival [46]. To date, only one horse with autosomal trisomy, which was chr26, has been documented to survive beyond two years of age [8].

Previous reports of chr27 trisomy in horses highlight its severe health repercussions. For example, a colt with chr27 trisomy was euthanized at six months of age due to health complications [37], while a filly with mosaic trisomy of chr27 was euthanized at two years of age due to health issues [46]. In stark contrast, the yearling ISH1 colt with trisomy chr27 described in the present study exhibited no obvious health issues.

The colt with trisomy chr27 documented by Brito, Sertich, Durkin, Chowdhary, Turner, Greene, and McDonnell [9] was electively euthanized at two years of age, but no obvious health ailments were reported that might have impacted survival into adulthood. The only other documented case of trisomy chr27 involved a foal [38], although its lifespan was not reported. The only autosomal trisomy in humans where the individuals typically survive into adulthood is trisomy chr21 (Down syndrome) [47]. Live-born cattle with autosomal trisomy have been documented to have a markedly reduced life expectancy [6].

In a study of nearly 800,000 genotyped cattle from multiple breeds, including calves genotyped at birth and those that were stillborn, autosomal trisomies involving the larger chromosomes (chrs6, 12, 15, 20, and 24) typically did not survive beyond two weeks of age [6]. Notably, the only cattle with autosomal trisomy that survived beyond 24 months were those with trisomy on the shorter autosomes (chrs27, 28, or 29), which typically carry fewer genes [6].

5. Conclusions

An approach developed for identifying autosomal aneuploidy in cattle using SNP-panel genotype intensity metrics was applied to 17,078 horses, of which 6,601 were genotyped as juveniles. Only two horses, both of which were still juveniles, were detected with autosomal aneuploidy; both had trisomy of chr27, translating to a prevalence of 0.03% in the juvenile population. Although the occurrence rate is low, undiagnosed trisomy can be a nuisance as horses with the condition, such as the colt described in this study, may appear outwardly normal during early life but may potentially fail to meet expectations for performance, fertility, or conformation.

The economic implications of undiagnosed trisomy in horses could be substantial, particularly for buyers who may incur a large cost of purchasing a breeding filly or a young colt. To mitigate these risks, routine screening for aneuploidy using SNP-panel genotype information could be considered a standard prerequisite for horse sales, particularly for high-value breeding or performance animals. Moreover, the inability to properly diagnose sex chromosome aneuploidy using the approach in the present study because of a lack of Y-chromosome SNPs points to the need to include Y-chromosome SNPs on genotype panels. ■

Supplementary Materials: The following supporting information can be downloaded at:
https://www.mdpi.com/article/10.3390/ani15131842/s1
Table S1: SNP-level analysis used to determine parental origin of the extra chromosome in ISH1 and ISH2;
Table S2: Hematology and biochemistry test results for the ISH1 colt;
Table S3: The length and the number of genes on each bovine autosome according to the ARS-UCD 1.2 genome build;
Table S4: The length and the number of genes on each equine autosome according to the EquCab3.0., adapted from Raudsepp et al. [48].

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Abbreviations

The following abbreviations are used in this manuscript:

SNP	Single Nucleotide Polymorphism
ISH	Irish Sport Horse
chr27	Chromosome 27
LRR	Log R Ratio
EDTA	Ethylenediaminetetraacetic Acid
BAC	Bacterial Artificial Chromosome
ISCNH	International System for Cytogenetic Nomenclature of the Horse

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Impressive youngsters and familiar Freestyles in Ermelo

By: Claartje vanAndel
Photography: FEI/Libby Law; FEI/Leanjo de Koster

The winners of the Dutch National Dressage Championship in 2025 (ZZ-Zwaar level – just under intermediate), were Diederik van Silfhout and Dinja van Liere, twice, riding Zaragon, Mauro Turfhorst, and Hermès, respectively.

Van Silfhout rode the Westfalian-bred black-brown Zaragon (Zoom - Jasmin x Just Perfect), breeder/owner Norbert van Laak), while Van Liere rode eight-year-old stallion Mauro Turfhorst (Glock's Zonik NOP x Negro x Scandic, breeder Jan Greeve, Haaksbergen) and the very well known 13-year-old stallion Hermès (Easy Game x Flemmingh, bred by G. Gijsbers, owned by Joop van Uytert).

Fond memories

Who doesn't remember the historic team gold of the Netherlands at the European Championships in La Mandria near Torina in Italy 2007?

As a reminder, Dutch star Anky van Grunsven won Freestyle gold on the final day of the show, while the Dutch team in the previous days had historically beaten Germany. At that moment Germany hadn't been beaten since 1965 and were certainly expected to win team gold. However Anky van Grunsven and Salinero had already won the Grand Prix with a score of 77.458%, and Imke Schellekens-Bartels and (Olympic) Sunrise had placed fourth with 74.167%.

These Dutch championships were a reminder of those happy days and recalling fond memories once again, as this 2025 edition of the event certainly took you back to another era, but also provided an optimistic glimps of the future, and possibly forthcoming moments in Dutch dressage. Will it be possible to beat Great Britain again, Germany, Denmark? It's still in the stars ofcourse, however it's a fact that new, younger horses are definitely on the rise.

Dinja van Liere riding Hermès during the FEI Dressage World Cup 2022-23 in Den Bosch, the Netherlands

Zaragon ZZ-Zwaar

The medal-winning horses in ZZ-Zwaar all showed the potential to grow and do a little more. They certainly all presented harmonious tests, promising more from their bodies in the future. In the Freestyle tests, happily enough, the tension of the first days had gone and, with the use of familiar tests and music, gave the audience a nicer impression of Dutch dressage than they have perhaps seen during the previous 10-15 years.

Once good, always good! The Freestyle test of Diederik van Silfhout is definitely a winner, and on this occasion he won with the Westfalian-bred black-brown Zaragon with a very natural and easily ridden test, to successfully defend his ZZ-Zwaar title from last year. Zaragon remained beautifully consistent throughout the test, and the pair's harmony received on 9.0 and twice 8.5, although the canter tour was the highlight earning them 79.042% overall.

Interestingly, Diederik's freestyle test dates back to his young-rider schooling time with Gribaldi daughter Ruby. Van Silfhout won team gold with Young Riders in 2008 and then claimed ndividual silver after the Freestyle. "The test and music still fits perfectly, so I still like to use this score and music. Once good, always good," Diederik smiled. In total, this is his sixth championship title using this same choreography and music for the Freestyle.

He concluded by saying; "Zaragon has three very nice gaits, and the best thing about him is his incredibly nice character. I usually ride more energetic and expressive blood-type horses, but it's really wonderful to ride such a naturally relaxed horse. During the first test, I put a little too much pressure on him, which was completely unnecessary and was my mistake. To summarize: Zaragon is truly a complete horse in every way."

Stable mate Diana van de Bovenkamp finished as reserve champion showingthe seven-year-old mare

Rotterdam Nations Cup 2025 – Thamar Zweistra riding Hexagon's Luxuriouzz NOPT

Newton's Law (In Style x Lorentin, bred by the Van de Veen family) with a score of 76.433%. "We really are a team at our stables," Diederik explains. "We always help each other in every way, so we are also very happy with this silver medal. As long as Diana continues to score like this, she will be partnering Newton's Law; that's a fact."

The bronze went to Danielle Heijkoop and seven-year-old stallion Nordic (Totilas - Demeter B x Jazz, breeder Janssen) scoring 75.708%. She performed a very powerful and expressive freestyle but was eclipsed by Newton's Law.

Intermediate: Mauro Turfhorst

The earlier comments about this championships could also be applied to the Intermediate level. The splendid winner of this class was Mauro Turfhorst, shown by Dinja van Liere. We of course remember his glancing appearances at the World Breeding Championships for Young Horses when he was a five-, six-, and seven-year-old finalist, who has now developed into a stand-out eight-year-old stallion.

"I notice you're still able to do this," Edward Gal joked when Dinja and Mauro Turfhorst left the arena scoring 81,350%. Dinja herself said: "My GP mount Hermès and me are truly a couple. We know and trust each other so well that we are certain we can do this, no doubt. However, my new black friend Mauro Turfhorst is so much improving that he now often makes me wonder at home what to practice? There is hardly anything left…He will have a shining future in dressage, I'm sure."

The silver medal was won by Marieke van der Putten and the nine-year-old Westfalian stallion About You RS2 (AcDc 4 x Estobar, bred by Stephan Borgmann) with 78,700%, while bronze went to the young and talented Marten Luiten riding the 12-year-old Westfalian gelding Johnny (Johnson TN x World Magic, bred by Lida and Aat Both), 78.083%.

Three best of the best!

The final Freestyle was of course reserved for the best of the best in the Grand Prix. Dressage is all about emotion, and emotional moments were plentiful at the Dutch NC Dressage. Sadly, two horses heard the bell and didnt finish their tests: the nine-year-old stallion Dante US unfortunately showed a little blood in his mouth, while 13-year-old gelding Hermès-V (Bretton Woods x Goldstar) showed unevenesses. Optics are everything in equestrian sport these days, so it's important to react quickly and appropriately.

Before Thamar Zweistra entered the arena for her Freestyle, the brief message, "This one is for you," could be heard, and everyone knew what was meant by 'you'. It's really amazing how the Hexagon team continues to ride, train, show, and care without their lost boss, owner, and motivator Leunus van Lieren.

"This was so much more than riding a test", Thamar explained. The young and talented nine-year-old Hexagon's Luxuriouzz NOPT (Johnson TN - Walida vd Waalsehoeve x San Remo, bred by W. Plomp) shows piaffes with the greatest of ease and received several nines. In fact, the test immediately opened with piaffe and passage highlights, and the canter routine was a similar feature. The result: Hexagon's Luxuriouzz NOPT and Thamar won bronze medal with a beautiful freestyle routine with 79.995%.

Marieke van der Putten and the 11-year-old Oldenburg mare Zantana (Glock's Zonik NOP x Sir Donnerhall, bred by Paul Schockemöhle/Gestút Lewitz) performed a great test, demonstrating how a horse should walk, trot, and canter. Especially the walk was fantastic, as well as the uphill featured elements, results in 80.985% and the runners-up position.

Dinja van Liere said afterwards she had to motivate herself after the highlights of the Paris 2024 Olympic Games, "But Hermès and me are one of a kind, a pair, a fit, we know each other so well. So we did it again". Result for Dinja and Hermès – 83.550%. "If you can dream it, you can do it", is one of the songs in her Freestyle test, as well as "What you really really want". Until this moment, the pair have scored maximum 10s around 40 times, but what Dinja really wanted was to win. And so it happened.

A well-deserved championship pairing

It would be remiss to sign off without mentioning Rowena Weggelaar and the 17-year-old Don Quichot (United x Gribaldi, bred by M.C. Totté). The pair did extremely well in Aachen, and just missed the podium to finish fourth in the Freestyle with 74.415%. Never throw away a promising pair who were successful at the Wimbledon of horse sport in Aachen, I would say.

These are words for the Dutch dressage chef d'quipe Patrixk van der Meer, when naming the names of the team for the up-coming European Championships, scheduled to take place in Crozet, France, from August 26-31, 2025. ■

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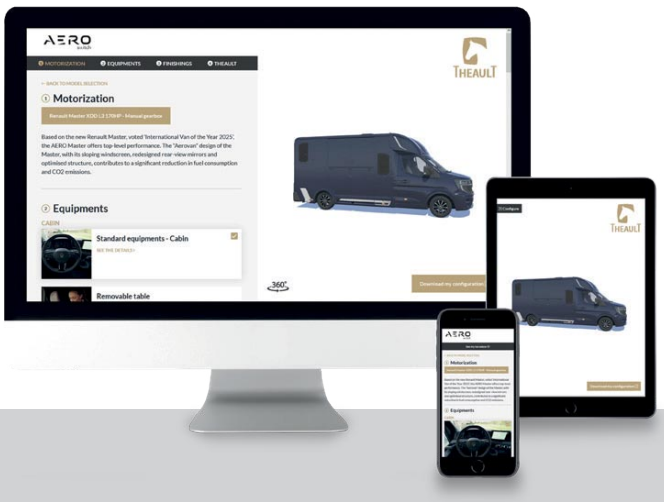

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■ General Assembly 2025 – South Africa

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WBFSH General Assembly 2025
South Africa Welcomes the World Breeding Federation for Sport Horses

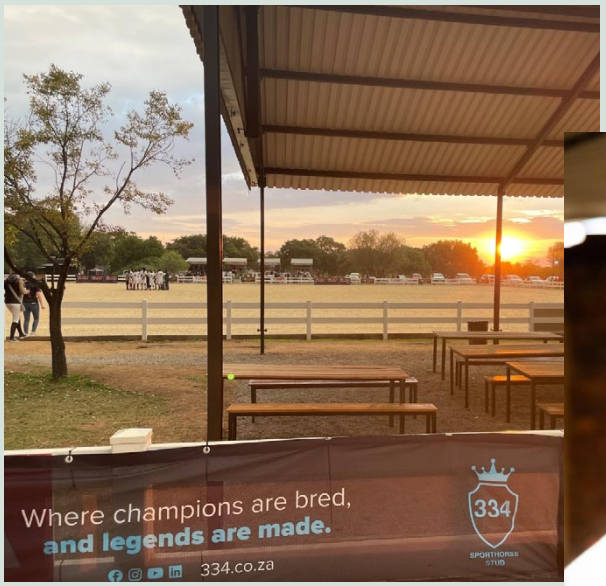
For the first time in its history, the WBFSH General Assembly will be held on the African continent. From October 10-14, 2025, the international sport horse breeding community will gather in Nottingham Road, South Africa, for an exceptional edition of the WBFSH Annual Meetings. Hosted by the South African Warmblood Horse Society (SAWHS), this landmark event promises to blend high-level discussions with the rich cultural heritage and stunning landscapes of the Rainbow Nation.

Based at the impressive new facilities of Stud 334, participants can expect a dynamic program combining expertise, innovation, and vision. The seminar schedule will feature in-depth discussions on equine welfare, digital marketing, artificial intelligence, and the latest advances in reproductive technologies. The release of the State of the Industry Report 2025 will also provide critical insights into the current landscape of international sport horse breeding. A round table discussion with leading experts will offer participants the opportunity to engage in meaningful dialogue about the evolving future of the industry.

Outside the conference room, the event will offer unforgettable cultural and networking experiences. Attendees will enjoy guided visits to local landmarks, including the Nelson Mandela Capture Site and Ardmore Ceramics. Visits to prestigious breeding places such as Hartford House and Capital Stud will showcase the skills and ambition of South African sport horse breeding.

Social highlights will include the traditional Gala Dinner at the beautiful Crystal Barn, where guests will enjoy an evening of South African hospitality. From the welcome reception at Highveldt Farm to daily opportunities to connect with international colleagues, the week promises to be as enriching socially as it is professionally. For those unable to attend in person, the WBFSH will record and share the General Assembly and selected seminars, ensuring broader accessibility and inclusion.

President Jan Pedersen and the WBFSH warmly invite all studbooks, partners, and national federations to participate in this historic meeting. With the generous support of the SAWHS and the stunning backdrop of KwaZulu-Natal's Midlands, the 2025 General Assembly promises to be a memorable chapter in the WBFSH's history.



The South African Warmblood Horse Society

Photos from the top:
334 Sporthorse Stud
South African Warmblood horse
Ardmore Ceramics
The Nelson Mandela Capture Site

WORLD BREEDING FEDERA

SHOWJUMPING

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
1st	DONATELLO D'AUGE	107GF73	JARNAC	1391
5th	DERBY DE RIVERLAND	106YK30	KANNAN	1115
10th	BOND JAMESBOND DE HAY	105TS76	DIAMANT DE SEMILLY	1066
11th	VESTMALLE DES COTIS	104WA72	BALOUBET DU ROUET	1028
13th	DEXTER DE KERGLENN	106HQ90	MYLORD CARTHAGO HN	1014
35th	VITALHORSE FLEUR D'OZ	107BO74	OLIMBOS MERZE	865
			Total:	6,479

Donatello d'Auge/Julien Epaillard (FRA)

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
2nd	INCREDIBLE	106XB56	CLINTON	1181
6th	FARREL	105HT95	CARDENTO 933	1101
12th	IMAGINE	106QY91	CASSINI GOLD	1017
17th	IMPERIAL HBF	106RZ19	GLASGOW VH MERELSNEST	976
19th	EIC JULIUS CAESAR	106TJ92	COULEUR RUBIN	957
26th	JUP	107CI62	CARRERA VDL	895
			Total:	6,127

Glamourdale/Charlotte 'Lottie' Fry (GBR)

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
7th	MONACO N.O.P.	105LH22	CASSINI II	1087
8th	BULL RUN'S JIREH	107LB37	URIKO	1084
18th	LYJANAIR	106OY74	LYJANERO	962
24th	MY LADY LAVISTA	107RB30	MYLORD CARTHAGO HN	922
39th	CASTURANO	106QG07	CASTELAN 3	854
41st	ELYSIUM	105RO98	VDL ZIROCCO BLUE	841
			Total:	5,750

London 52/Laura Collett (GBR)

ATION FOR SPORT HORSES

DRESSAGE

KWPN Royal Dutch Sport Horse

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
1st	GLAMOURDALE	105HH76	LORD LEATHERDALE	2469
3rd	JAGERBOMB	107VX02	DANTE WELTINO OLD	2243
10th	FLAMBEAU	106TF94	AMPERE	1966
14th	GOTILAS DU FEUILLARD	106CR42	TOTILAS	1910
15th	HARTSUIJKER	106DL19	JOHNSON TN	1903
17th	HELIX	107XP47	APACHE	1881
			Total:	12,372

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
5th	TOTAL HOPE OLD	106DN00	TOTILAS	2107
6th	MAXIMA BELLA	107CO92	MILLENNIUM	2026
8th	DENOIX PCH	106LA74	DESTANO	1990
13th	INVOICE	107MH94	JAZZ	1937
16th	FLORINE OLD	106LM96	FOUNDATION 2	1902
28th	DROMBUSCH 2	106HG50	DESTANO	1723
			Total:	11,685

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
4th	ZONIK PLUS	107IT01	ZONIK N.O.P.	2164
7th	MOUNT ST JOHN FREESTYLE	105BZ34	FIDERMARK	2024
18th	GLOCK'S TOTO JR. N.O.P.	106OS57	TOTILAS	1878
19th	GLOCK'S TAMINIAU	108HC64	GLOCK'S TOTO JR.	1873
23rd	TARANTINO 5	106OG59	TORONTO	1790
27th	DUENENSEE	106ZD00	DANCIER	1726
			Total:	11,455

EVENTING

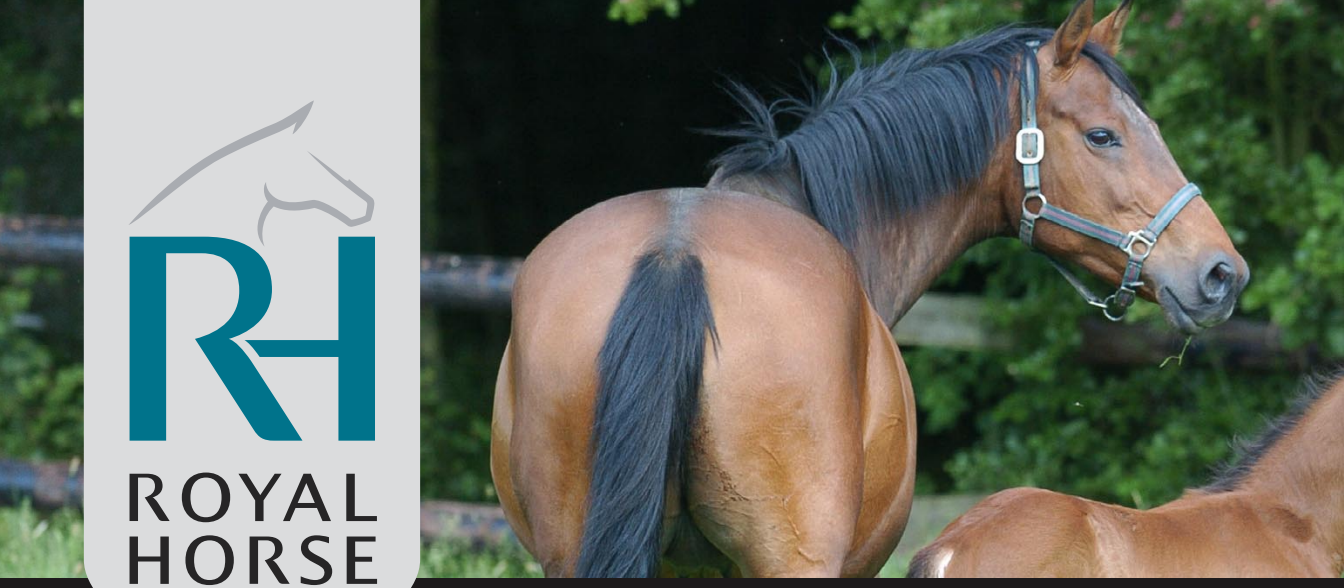
HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
6th	LONDON 52	105MA75	LANDOS	179
7th	NICKEL 21	107DT49	NUMERO UNO	176
8th	CARLITOS QUIDDITCH K	106HF09	QUIWI DREAM	175
10th	COLA	105PX78	CATOKI	158
13th	DACAPO	105AV87	DIARADO	144
15th	COMMANDO 3	106OA01	CONNOR 48	140
			Total:	972

HORSE SPORT IRELAND

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
4th	COOLEY ROSALENT	106XW23	VALENT	197
5th	BROOKFIELD QUALITY	105AI77	OBOS QUALITY 004	196
23rd	SBH BIG WALL	107FD26	PUISSANCE	127
25th	BALLAGHMOR CLASS	104BY62	COURAGE II	125
30th	SRS KAN DO	105IU97	ARKANSAS	118
30th	BLARNEY MONBEG PEPPER	107ID48	DIGNIFIED VAN'T ZORGVLIET	118
			Total:	881

KWPN Royal Dutch Sport Horse

HORSE RANK	HORSE NAME	FEI ID	SIRE	POINTS
1st	IZILOT DHI	106OW12	ZAVALL VDL	247
3rd	FEDARMAN B	105NL47	EUROCOMMERCE WASHINGTON	233
69th	HUBERTHUS AC	106TM05	DOUGLAS	88
82nd	GALILEO NIEUWMOED	105RK10	CARAMBOLE	82
85th	DHI KING NELSON	106XF62	NAMELUS R	81
88th	JARILLO	106YR98	DANTOS	80
			Total:	811



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2 Münster-Handorf (GER)
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For information – see previous entry

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7 Sundern-Hellefeld (GER)
Westfalian Mare Show
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Westfalian Mare Show
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14 Cappeln (GER)
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21-24 Le Mans (FRA)
Selle Français Dressage Championship
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29-31 Vilhelmsborg (DEN)
Danish Warmblood KRAFFT Elite Mare Show
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www.varmblod.dk

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4-7 Stragona Strzegom (POL)
Polish Eventing Championships for Young Horses
Tel: +48 (0)22 628 98 38
www.pzhk.pl

6 Warendorf (GER)
Westfalian 'Onlive' dressage foal auction
Tel: +49 (0)251 328 090
info@westfalenpferde.de
www.westfalenpferde.de

11 Münster-Handorf (GER)
Westfalian Mare Performance Test
Tel: +49 (0)251 328 090
info@westfalenpferde.de
www.westfalenpferde.de

19-20 Saint-Lô (FRA)
Selle Français Foal Championship
Tel: +33 (0)9 72 11 89 33
info@sellefrancais.fr
www.sellefrancais.fr

26-28 Katowice (POL)
Polish Dressage Championships for Young Horses at the Lider Radzionków Riding Club
Tel: +48 (0)22 628 98 38
www.pzhk.pl

OCTOBER

5 Münster-Handorf (GER)
Westfalian Autumn 'Onlive' Auction
Tel: +49 (0)251 328 090
info@westfalenpferde.de
www.westfalenpferde.de

10-14 Nottingham Road (RSA)
WBFSH General Assembly
www.wbfsh.com

11 Verden-Onlive (GER)
142nd Hanoverian Elite Sport Horse and Foals Auction
Tel: +49 (0)4231 6730
mkanz@hannoveraner.com
www.hannoveraner.com

16/17 Le Lion d'Angers (FRA)
Selle Français Eventing Championship
Tel: +33 (0)9 72 11 89 33
info@sellefrancais.fr
www.sellefrancais.fr

21-25 Münster-Handorf (GER)
Westfalian Stallion Pre-Selection
Tel: +49 (0)251 328 090
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29/30 Lyon (FRA)
Selle Français 3yo Jumping Final
Tel: +33 (0)9 72 11 89 33
info@sellefrancais.fr
www.sellefrancais.fr

30/10-2/11 Münster-Handorf (GER)
Westfalian Riding Horse Selection
Tel: +49 (0)251 328 090
info@westfalenpferde.de
www.westfalenpferde.de