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FLECK VIEH CHANGES

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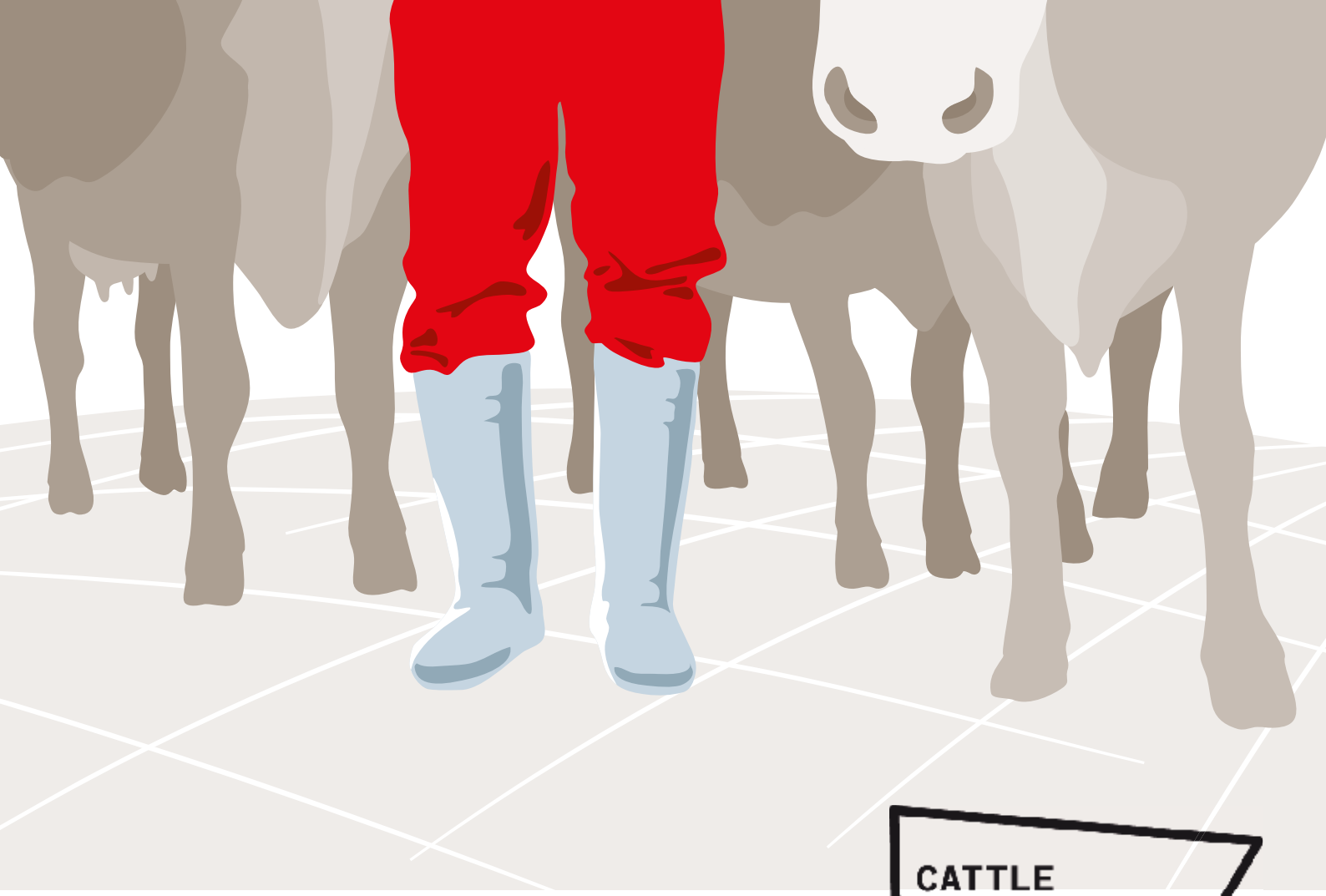

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In Austria, we are very fortunate to be able to offer our farmers a production basis with Fleckvieh breed that delivers the best results in all areas and also meets the requirements of sustainable agriculture. 75 % of Austrian farmers earn their income with Fleckvieh and also have robust, resilient and approachable animals at their disposal. Under a wide range of production conditions – from favorable locations to high alpine zones – Fleckvieh can achieve excellent performance over several years. This is not only a pleasure to work with, but also ensures economic success. All modern breeding methods – from embryo transfer to genomic selection – play a special role here, and Fleckvieh also prove their suitability and ability to regularly generate breeding progress at a high level.

The special aspects of dual purpose are particularly forward-looking. An important part of our success is also the close cooperation with science. There are numerous scientifically supported projects that prove the strengths of Fleckvieh breed time and again. We would like to share our enthusiasm for the potential of Fleckvieh with all interested parties in this international magazine.

It also gives us the opportunity to thank all our customers who work with Austrian Fleckvieh genetics for the trust they have placed in us. We are also happy to make our experience available in the form of consultancy services. I wish all readers many interesting insights into Austrian Fleckvieh breeding.

Ing. Sebastian Auernig
President Fleckvieh Austria, President World and European Fleckvieh Federation

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THANKS TO OUR SUPPORTERS

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Information for international cattle breeding through reports, contributions from science and practice, announcements, and tips.

Responsbaility
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Fleckvieh Austria – Results of Milk Recording 2024

Fleckvieh Produce Over 8000 KG Milk for the First Time

Ing. Reinhard Pfleger

The milk yield results for the current control year showed a moderate increase in performance for Austrian Fleckvieh. For the first time in history, the average performance of Austrian Fleckvieh cows exceeded 8,000 kg of milk.

However, with 328,719 controlled cows (-2,167) and 311,384 herdbook cows (-2,274), 2024 also brought a decline in the number of cows. At the same time, Austrian Fleckvieh breeding was able to maintain its dominant position within Austrian cattle breeding. The share of Fleckvieh cows in all Austrian dairy cows in organized herd book breeding is currently 75.7%.

Structural Change Continues

The ongoing trend towards falling farm numbers (-1.4%) also manifested itself this year in falling cow numbers (-0.7%). There are currently 11,858 (-162) farms with Fleckvieh cattle as their main breed in Austria. The number of breeding herds is 13,457 (-238). This means that the average Austrian Fleckvieh breeding farm keeps 26 cows.

Fleckvieh Cattle Exceed 8,000 KG of Milk for the First Time

The average milk yield of Austrian Fleckvieh herdbook cows is 8,077 kg of milk. This corresponds to an increase of 167 kg compared to the previous year. The absolute level of milk solids fell slightly in terms of fat content to 4.16% (-0.01), while there was a slight increase in protein content to 3.43% (+0.02). On average, the Fleckvieh cows achieved an average of 613 F+P-kg, an increase of 13 F+P-kg compared to the previous year. In the Fleckvieh young cows, this increase in performance was +143 kg milk at 553 F+P-kg and an increase of +12 F+P-kg.

Interpreting Absolute Performances Correctly

When looking at absolute performances, the genetic trend in the traits that can be worked on in breeding must always be considered at the same time. This has been clearly positive for Fleckvieh cattle in terms of milk quantity over the last few years, but slightly negative for milk solids. At the same time, the genetic trend in traits of the fitness complex and animal health is developing in the desired direction. This ensures economical milk production in the long term and also meets society's expectations.

Highlights in the Top Lists

The top lists of the 2024 performance results deliver impressive figures. In addition to the positive breeding development, these achievements are proof of the high standard of Austrian breeding farms in terms of management and animal care.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

Photo: Igor Petkovic

Table 1: Milk yield results 2024 of Fleckvieh in Austria – all herdbook cows all lactations

breed	standard l.	milk (kg)	diff. to prev. y.	fat (%)	fat (kg)	protein (%)	protein (kg)	f+p (kg)	diff. to prev. y.
Fleckvieh	**265,559**	**8,077**	**+167**	**4.16**	**336**	**3.43**	**277**	**613**	**+13**

Table 2: The best cows in fat and protein (Fleckvieh, herdbook A)

name	live number	sire	l.	milk (kg)	fat (%)	protein (%)	f+p (kg)	owner	org.
LOREEN	AT 56 2455 838	MINT	4	**18,940**	4.11	3.23	**1,389**	CT GesbR, Anger	RSTM
BLASI	AT 53 5369 629	WARRIOR	3	**15,806**	5.07	3.57	**1,367**	Steiner Manuel, Kremsbrücke	caRI
KOENIGIN	AT 22 3147 469	ETHOS	3	**17,763**	4.47	3.11	**1,348**	Schwarzelmüller Franz, Steinbach/Steyr	RZO
MONA	AT 39 5502 768	INDU Pp*	4	**15,865**	4.84	3.37	**1,303**	Dorfner Daniel, Oepping	RZO
FILIPA	AT 26 2372 238	MONTELINO	5	**15,362**	4.59	3.85	**1,296**	Rienesl Irmgard, Freistadt	RZO
HERRGOTT	AT 24 4072 138	GS PANDORA	5	**14,513**	5.22	3.55	**1,273**	Hirsch Robert, Vitis	NOEGEN
ASTORIA	AT 79 6635 968	PIACENZA	3	**16,132**	4.50	3.35	**1,266**	Reingruber R. u. G., Inzersdorf i. K.	RZV
LEONI	AT 44 1042 674	ORKA	2	**16,717**	4.12	3.43	**1,262**	Penninger Josef, Hernstein	NOEGEN
ROSALIE	AT 37 9841 568	GS VAIL	3	**15,817**	4.50	3.45	**1,257**	Pfaffeneder Marina u. Karl, Zeillern	NOEGEN
MILKIWAY	AT 16 4542 769	VERTIGO	3	**15,853**	4.21	3.70	**1,254**	CT GesbR, Anger	RSTM

Table 3: The best life performance cows in fat- and protein-kg (Fleckvieh, ≤ 50% RH)

name	lact.	sire	milk (kg)	fat (%)	protein (%)	f+p (kg)	owner	org.
RILLE	12	RECHBERG	**207,326**	4.02	3.30	**15,180**	Poscher Christoph, Schenkenfelden	RZO
BUDA	16	GS HORESTI	**197,621**	3.99	3.19	**14,192**	Seber Christian, Bramberg	RZS
ROLINA	12	FABER RED	**175,994**	4.48	3.55	**14,134**	Lanner Emmerich, Hofstetten-Grünau	NOEGEN
LADY	15	ROMEL	**181,338**	3.54	3.44	**12,651**	Bramböck Julia, Maier Hanspeter, Kramsach	RZT
FABIOLA	11	WEINOLD	**142,861**	5.04	3.51	**12,211**	Eberdorfer Peter, Spielberg	RSTM
GUSTI	10	VANSTEIN	**148,025**	4.53	3.55	**11,958**	Sigl Michael, Josef, Ottilie, Steinbach/Steyr	RZO
BALU	10	ERMUT	**140,369**	4.81	3.62	**11,825**	Hollaus-Rosenbaum E. u. R., Hofstetten-Gr.	NOEGEN
LUSTIG	13	ROMSEL	**159,273**	3.99	3.42	**11,801**	Dallinger Wolfgang, Timelkam	RZV
ROSE	12	MANITOBA	**146,332**	4.48	3.58	**11,799**	Weber Johannes, St. Michael/Lav.	caRI
WUNDER	13	VANDO	**129,925**	4.96	4.05	**11,699**	Vormayr Roswitha u. Johann, Pram	FIH

Table 4: The best herds (Fleckvieh, size of herd minimum ≥ 5 cows)

breeder	org.	cows (n)	milk (kg)	fat (%)	protein (%)	f+p (kg)
Resinger Franz, Matrei in Osttirol	RZT	17.5	**14,454**	4.20	3.70	**1,141**
Penninger Josef, Hernstein	NOEGEN	42.3	**15,239**	3.81	3.49	**1,114**
Schwarzelmüller Franz, Steinbach/Steyr	RZO	49.9	**13,073**	4.60	3.53	**1,063**
Bauer Matthias, Riegersburg	RSTM	93.7	**14,484**	3.79	3.46	**1,051**
Schlagbauer Peter, Weiz	RSTM	22.6	**13,598**	4.08	3.64	**1,050**
Haselmayr Gabriele u. Karl, Aschbach-Markt	NOEGEN	63.4	**12,935**	4.36	3.62	**1,032**
Aigner Erich, Turnau	RSTM	42.1	**13,579**	4.13	3.35	**1,016**
Friedl Christian, Unterlamm	RSTM	77.7	**13,242**	4.20	3.47	**1,015**
Stumbauer Eva, Reichenthal	RZO	16.0	**12,219**	4.66	3.61	**1,010**
Hartl Bernhard, Neumarkt in der Steiermark	RSTM	33.2	**13,238**	4.00	3.62	**1,009**

The Title "Fleckvieh Breeder of the Year in Austria" Goes to the Fürst Family, Verena and Michael, from Lasberg in Upper Austria

An Exciting Match

Ing. Reinhard Pfleger

For more than 20 years, Fleckvieh Austria has been organizing the "Fleckvieh Breeder of the Year" competition, which holds great emotional significance within Austria's breeding community. To compete at the top, exceptional breeding achievements are required. At the same time, herd fitness and management parameters must be maintained at a high level.

Who Is in the Competition?

All Austrian Fleckvieh breeding farms that meet the following minimum criteria are included in the evaluation: Fleckvieh must be the main breed, and at least one newly introduced young sire (with at least 30 inseminations), a progeny-tested sire (with at least 200 inseminations), or a genotyped male candidate (TMI ≥ 132 and feet&legs ≥ 205) must have been bred. This year, 303 farms across nearly all breeding regions in Austria met these criteria.

A Tight Race for the Podium

The coveted title of "Fleckvieh Breeder of the Year" once again went to a dominant force in the ranking of Austria's most successful Fleckvieh breeders: The breeding family Verena and Michael Fürst from Lasberg, in the RZO breeding region, secured the title for the fifth time—an achievement no other breeding farm has reached before. Their success was based on an impressive five genomic young sires at a top level, as well as five top candidates that scored the most points in the "Breeding" category among all evaluated farms.

As last year, the competition for the podium places was extremely close. The breeding farm of Heidemarie Günzinger from St. Georgen, in the FIH breeding area, secured second place, trailing by 18 points. Two strong progeny-tested sires and three promising genomic young sires contributed significantly to their high score in the "Breeding" category. The herd also impressed with its high breeding value level.

Third place went to Karin and Alois Schmidseder from Enzenkirchen, another farm from the FIH area. A progeny-tested sire and an impressive 13 candidates earned them significant points in the "Breeding" category. Their herd demonstrated a very high total merit index level and excelled in the "Fitness" category as well.

In fourth place was the Martin Zauner family from Münzkirchen, another FIH member farm. A remarkable six genomic young sires were sold to AI stations and scored many points. The high proportion of lifetime yield cows in the herd is also remarkable.

Fifth place went to Martin Stückler's breeding family from Prebl in Carinthia, a regular in the top rankings of recent years. The farm collected significant points in both the "Breeding" and "Fitness" categories.

Among the top 10 breeders, in addition to established names in Fleckvieh breeding, there were also some promising new rising stars.

Standout Herds Among the Top 100

The farms Zauner Martin (FIH), Fürst Verena and Michael (RZO), Günzinger Heidemarie (FIH) and Schrems Katharina and Hubert (FIH) were able to sell the most genomic young sires for artificial insemination. Regarding progeny-tested sires, only the farms of Günzinger Heidemarie (FIH) and Auer Korbinian (RZT) had two sires included in the ranking.

The breeding of genetically valuable male and female candidates earns points for the evaluation. The farms Schmidseder (FIH), Schrems (FIH), and Waldenberger (FIH) had the most male candidates. Among the females, the farms Schweighofer Corina and Hannes (RSTM), Schafferhofer Daniela and Josef (RSTM) and Perschlingtalmilch (NÖGENETIK) came out on top.

The farms of Haberl Anna and Josef (RSTM), Gruber Josef/Andreas (RZT), and Sitka Engelbert (RSTM) have the herds with the highest genetic value, as expressed in their average total merit index.

In the 'fitness block', the farms Wimmer Maria and Helmut (NÖGENETIK), Eichberger Anna and Christoph (RSTM) and Kaiser Gerlinde and Johann (RSTM) scored the most points.

The farms Seber Christian (RZS), Bauer Johannes (RSTM) and Sommerauer Anita and Stefan (NÖGENETIK) achieved particularly high percentages of lifetime yield cows in their herds.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

1st place: Fürst family, *Lasberg, RZO*

The Fleckvieh breeding farm Fürst, vulgo 'Weiß auf der Wies', is located in the northern part of the province of Upper Austria. The Fürst family once again won the title of 'Breeder of the Year' in 2024 by a margin of 18 points. This makes them the first company in Austria to have won this competition five times (2012, 2018, 2019, 2023 and 2024). This underlines the outstanding quality and consistency of the farm, especially in view of the close competition among the best breeders in the country.

The farm currently has 55-60 dairy cows with an average TMI of 118 (+632-0.11-0.05, MI 112), making it one of the best Fleckvieh farms in Austria. The polled MAHANGO Pp* daughter TAUBE remains the most influential cow family on the Fürst farm. She was the number 1 polled cow in the world for many years. She has produced ten sons for artificial insemination, which are used at various AI centres in Austria and Germany. Promising young bulls and calves from her offspring are also being reared. In 2024, it is their grandsons and great-grandsons who will score the most points (366) in the genomic young bulls category and secure victory for the farm. From WAALKES daughter TERRI alone, GS HAG Pp* and GS SANDERS Pp* went to the AI center Genostar and HERZHAFT PS* in Hohenzell.

The homozygous polled MEVERIK Pp* son GS MYFUERST PP* also traces back directly to TAUBE via his VERDEN PS* dam TARA Pp*. He can convince with enormous milk production and good fitness values. The WIRBELWIND PS* son WIPRO PP* was also purchased by the Upper Austrian AI centre and used.

The farm achieved a total of 566 points in the breeding category, supplemented by 99 points in the fitness category, including a short calving interval (382 days) and a high lifetime yield of almost 42,000 kg from the cows that have left the herd. With a total score of 665 points, the title was successfully defended.

2nd place: Günzinger family, *St. Georgen/Obg., FIH*

It's the family that counts! For the Günzinger family, also from Upper Austria, this is meant in two senses. The whole family identifies with Fleckvieh breeding. They have come a long way in and with it. The second place in the Fleckvieh breeder of the year award is due without exception to bulls from the A-family. The early entry into breeding for polledness contributed significantly to this success. The daughter-tested bulls GS WEGA Pp* and HAMLET Pp* scored many points. The three interesting genomic young sires SALOMON PP* (see page 28), HAKIM PP* and WERNER Pp* rounded off the success. The herd also impresses with its high breeding value level. Further successes are inevitable. Among others, the current number 1 of HEISS sons with a total merit index of 151 is being bred. There are currently around 50 cows in the barn, of which around a third are already genetically polled.

3rd place: Schmidseder family, *Enzenkirchen, FIH*

After the Schmidseder family from Upper Austria was honoured as Breeder of the Year in 2022, this year's third place confirms their sustainable, intensive and successful breeding work. The Schmidseder breeding farm is also one of the pioneers in breeding for polled Fleckvieh cattle. The herd is built on several cow families, from which cows are often presented at shows and also sold. The daughter-tested HORAZIO P*S impressively demonstrates the hereditary strength of the I-line. The genomic young sire HUPFER, on the other hand, comes from the S-family. Outstanding in the current evaluation is the large number of young males and females with the best breeding values, which contributed 180 points to the success. This is no coincidence, as the herd is one of the best in Austria in terms of average total merit index. Further interesting candidates can be expected.

4th place: Zauner family, *Münzkirchen, FIH*

The Zauner farm is located in the Sauwald in the district of Schärding, Upper Austria. Fleckvieh cattle breeding has been practised for several generations. By far the most common breed on the farm is the H-family. The dedicated breeder is one of the first farms in the FIH region to have consistently favoured polled breeding. This has not affected the performance of the herd. The herd average is currently almost 13,000 kg of milk with 67 cows. 80 per cent of the cows in the barn are genetically polled. As many cows are already homozygous polled, there are many interesting options for polled breeding. The dehorning of calves is almost a thing of the past. The young bulls HOMTOR P*S, WUNDERBERG P*S, MORRISON PP*, IILTIS Pp*, WECKER Pp* and IKARIUS PP* in particular scored the necessary points for the outstanding place in the Breeder of the Year evaluation.

5th place: Stückler family, *Prebl, caRI*

The breeding farm from Prebl in the upper Lavanttal valley in Carinthia was once again able to impress this year. Farm manager DI Martin Stückler was once again placed in the top list of Austrian Fleckvieh breeders in 2024 and achieved 5th place. His progeny-tested bull WINTERTRAUM (see page 29) and the young bulls DUCKTALES and SONNBLICK scored valuable points. The large number of 12 outstanding candidates contributed to this result. The cows' average total merit index of 118.4 points is also impressive. The farm is also known for its pursuit of young, top genetics and the Z-line, which now consists of 31 cows. In 2024, 100 per cent young sires were used for inseminations. The farm works largely with embryo transfer in order to expand and improve its top genetics even faster.

6th place: Schrems family, *Mettmach, FIH*

The Schrems family in Upper Austria had a lot to celebrate last year. After a '10-year trial period', they got married in June. With so much commitment and expertise comes personal happiness as well as success in Fleckvieh breeding. After coming third in 2023, they achieved an excellent sixth place last year. The Schrems farm is a combined farm with milk production, bull fattening and bull rearing. The cows have been milked by a milking robot for years. The herd is essentially made up of three cow families. In the previous year, the polled young bulls WERICH Pp*, IMAGINE Pp* and INIESTA PP* were sold to AI centres. Additional points were earned by several candidates in breeding. The young, motivated breeders Hubert and Katharina are very keen to maintain the diversity of lines in Fleckvieh breeding. The group victory at the 'Fest der Kuh' cattle show with the freshly milking first-parity cow HERMINA rounded off a successful year.

7th place: Schweighofer family, *Pöllau, RSTM*

The Schweighofer family's farm, Corina and Hannes, is located in the beautiful Pöllau Valley in Styria. The breeding farm has been playing in the top league of international Fleckvieh cattle breeding for many years. This year, it has been ranked in the top 10 for the eighth time; in 2017 and 2021, the breeding-enthusiastic family received the 'Breeder of the Year' award. Not only Hannes and Corina, but also his parents are Fleckvieh breeders with a lot of passion. Hannes is constantly on the lookout for genetic tidbits and makes intensive use of top female genetics for breeding. He collected points for this year's placement with the GS DELUXE son DENZO (MV: GS Hofstatt), who is at the Greifenberg AI center, as well as with GS WEEKEND, an early homozygous polled WOOKIE son at Genostar. The Schweighofer herd is also characterised by fitness traits, especially udder health with a herd level of over 11,000 kg.

8th place: Sommersguter family, *Wenigzell, RSTM*

The traditional Styrian Fleckvieh breeding farm Sommersguter Tanja and Thomas is located in Wenigzell in north-eastern Styria. The Fleckvieh herd is not only characterized by a very high genetic level, but also repeatedly achieves great success at shows. The breeding farm is particularly active in the marketing of young cows. Thomas Sommersguter is open to purchasing additional genetics and also works together with professional colleagues. Of course, the two generations working together on the farm are conducive to the farm‘s success. Two young bulls contributed significantly to the top 10 ranking - incidentally the fifth since 2004. DAYTONA is a GS DELUXE son with strong conformation (dam's sire: Wobbler) and is located at the Greifenberg insemination station. GS SAU-STARK (GS Sputnik x GS Woiwode) has a very high genetic level and top udder quality and is located at Genostar in Gleisdorf.

9th place: Steinmann family, *Diersbach, FIH*

For the second time, the Steinmann farm from Diersbach in Upper Austria is among the top 10 in the Breeder of the Year evaluation. Since the beginning of genomic selection, the farm has consistently focussed on using the best available genetics via artificial insemination, embryo transfer and, when it has worked out, also on purchasing interesting cows. The first successes are now being harvested. The two young bulls GS STEINMANN and MAXIM P*S can be traced back to one such purchase. The farm has also made a name for itself as a source of young bulls for natural breeding, which are also marketed nationwide. The 50 or so high-performance cows are milked by a milking robot and the milk is delivered to Berglandmilch. This is mentioned because Johann Steinmann is a staunch delegate of ‘his’ Schärdinger Landmolkerei and always stands up for the dairy's concerns.

10th place: Seifried family, *Frankenburg a. H., FIH*

The Seifried farm in Frankenburg am Hausruck, Upper Austria, made it into the top ten for the first time in the 2024 Fleckvieh Breeder of the Year awards. With 25 cows, this dedicated breeding farm is the smallest farm in the top 10, making its success all the more remarkable. It is undisputed that the farm has achieved great success with the breeding of the bull WACHAU P*S (sire: Wirbelwind P*S), which is used extensively throughout the region. His half-brother MANZONI, a MAHOMES P*S son, also scored points in the evaluation. At present, successful attempts are being made to utilise the performance, conformation quality and fitness traits of the exceptional cow BAILEY (s: Sunrise) through further embryo transfers and to obtain many cow calves through the use of sexed semen in order to have an even broader basis for selection in the herd in the future. This will succeed. The next male and female candidates are already being bred.

Photo: agrarfoto.com

Breeding Program Fleckvieh AUSTRIA

The Successful Path Continues

Dr. Christian Fürst

As every year, the analysis of the Fleckvieh Austria breeding program is once again on the agenda. Although only minor changes usually occur from one year to the next, and in many cases, only numbers need to be updated, there are still some special aspects that deserve closer examination.

Significant Performance Increase

Table 1 (see page 12) shows the phenotypic performance in several key trait areas since 2010. It should always be kept in mind that these values can be influenced by factors such as weather conditions, feed and price situations, as well as data quality.

In terms of milk yield, the 8,000 kg threshold was surpassed this year, representing an increase of almost 100 kg per year since 2010. The genetic development of fat and protein content has been slightly negative in recent years, but thanks to improved management, the phenotypic values have remained stable.

Despite the high performance level and the largely negative genetic correlations, most meat and fitness parameters show a stable to slightly positive trend.

In the meat sector, the daily gains of fattening bulls have remained largely stable, dressing percentage shows a slightly positive trend, and the EUROP trade class score has not deteriorated at all; in fact, it is now clearly above the level of 15 years ago. The proportion of bulls classified as E or U was 8% higher last year than in 2010.

In the fitness sector, longevity has been slowly but steadily increasing again for about 20 years and reached 4.06 years in 2024, which is 4 months higher than in 2010. The average lifetime production of culled cows has increased by approximately 8,000 kg over this period, equating to more than 500 kg per year. Figure 1 shows the development of lifetime production and the number of calvings over the past 20 years. The average number of calvings of culled cows is currently 4.16, which is 0.43 calvings higher than 20 years ago.

Fertility parameters such as the insemination index and calving interval have remained largely stable in recent years. The average somatic cell count has been rising continuously. However, the median somatic cell count (half of the values are above and half below this figure) has decreased from 70,000 in 2010 to 61,000. This means that while the overall cell count level has improved, the number of extreme outliers („millionaires“) has slightly increased.

Genetic Development Very Positive

For the evaluation of long-term developments, genetic trends are used, reflecting the average breeding values per birth cohort. Figure 2 shows the genetic trends of the female population in the main areas: Total Merit Index (GZW), Milk Value (MW), Meat Value (FW), and Fitness Value (FIT).

Since 2010, the annual increase in GZW has been 2.5 points. The Milk Value has been experiencing an almost linear increase of 2.2 points per year for decades. In recent years, a slight upward trend has been observed in Meat Value, with an annual increase of 0.5 points since 2010.

Fig. 1: Phenotypic development of number of calvings and lifetime production in Fleckvieh in Austria over the last 20 years

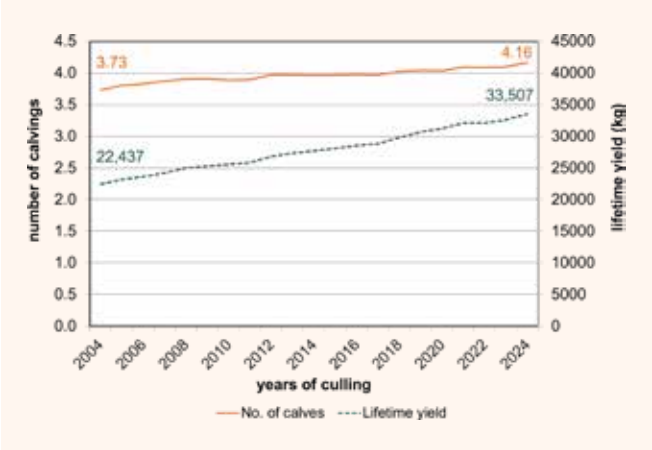


Fig. 2: Genetic trends for GZW, MW, FW, and FIT in Austrian Fleckvieh cows

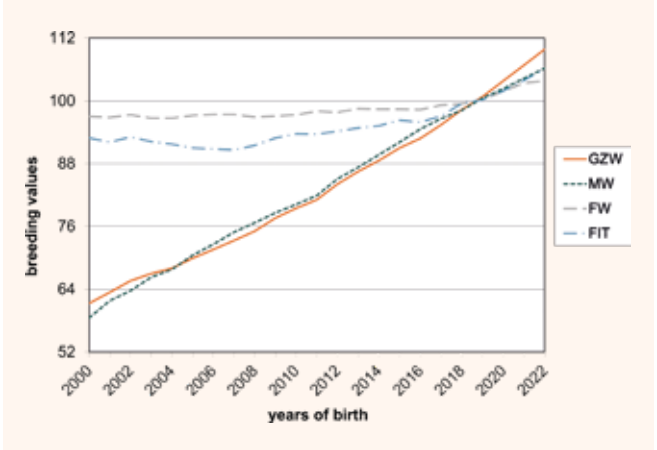


Fig. 3: Proportion of genotyped female cattle in Austrian Fleckvieh (ZuchtData Annual Report, 2022–2024)

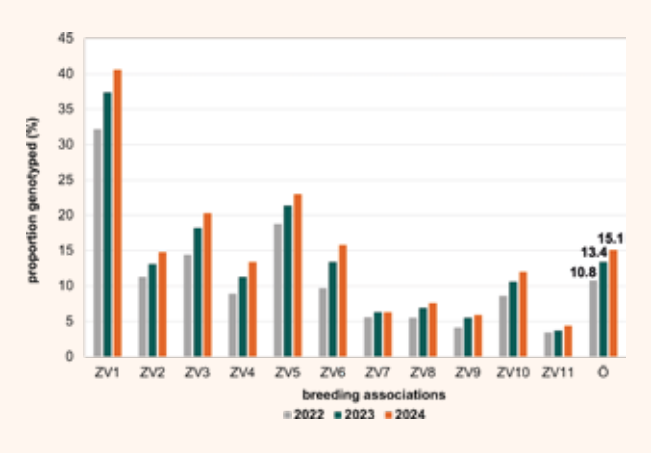
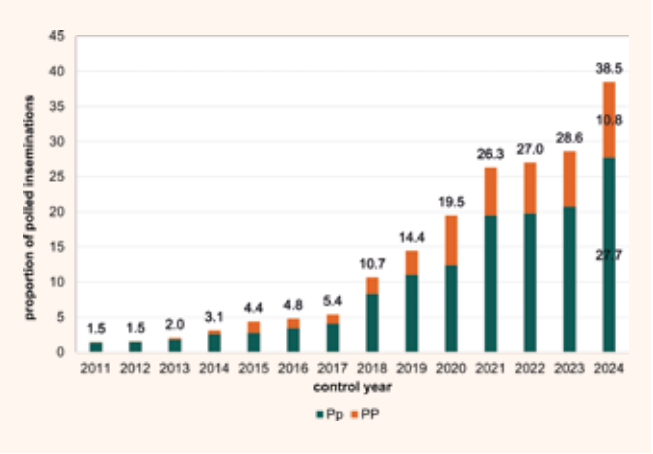


Fig. 4: Development of the proportion of inseminations with heterozygous (Pp) and homozygous (PP) polled Fleckvieh sires



The most significant increase is seen in the Fitness Value: The annual gain rose from 0.1 points (2000–2010) to 0.5 points (2010–2015) and further to 1.4 points per year in the period from 2015 to 2022.

Significant Improvements in Conformation

Clear improvements continue to be observed in the conformation sector, particularly in udder quality and feet & legs. Both trait groups are only indirectly represented in the Total Merit Index (GZW) through longevity, udder health, and claw health values. However, their high practical importance reflects this positive development. After a prolonged period of increase or decline, frame size and muscling have now largely stabilized.

Proportion of Genotyped Animals Continues to Increase

For the accuracy of single-step breeding values, the highest possible proportion of genotyped animals, which are included in the breeding value estimation with phenotypic performance, is decisive. Thanks to the herd genotyping project FOKUHS (HERDE), 15.1% of the living female Fleckvieh cattle in Austria are now genotyped (Fig. 3). While there are significant differences between breeding associations, all have recorded an increase compared to previous years. Among calves and young heifers, the average genotyping rate is 16.1%, while it reaches 18.3% in first-parity cows. Through FOKUHS HERDE and independent breeding initiatives, the genotyping rate is expected to continue rising.

A particularly important aspect is the combination of genotypes and phenotypes—meaning that genotyped animals should also contribute performance data to the breeding value estimation. In this regard, the reporting of veterinary diagnoses and claw health records is crucial. Unfortunately, in 2024, only about half (49.6%) of Fleckvieh farms with at least ten cows provided veterinary diagnoses in a quantity sufficient for breeding value estimation. For claw health evaluation, only 13.2% of all farms submitted valid data. There is still significant room for improvement in this area! Important Notice: If diagnoses are not reported by veterinarians or the Data Recording Association (LKV), or claw records are not submitted by claw trimmers via the RDV system, farms can enter this data themselves using various applications from Rinderzucht Austria/ZuchtData (RDV Mobile App, Klauenprofi App, LKV Herd Manager).

Significant Increase in Polled Cattle

The breeding program of Fleckvieh Austria aims to conduct 75% of all inseminations with genomic young sires (GJV). Last year, this goal was almost perfectly met at 74.9%, considering all Fleckvieh sire inseminations (excluding crossbreeds and natural service). The trend toward polled cattle remains strong and saw another significant increase last year (Fig. 4). Among purebred Fleckvieh inseminations, 38.5% were performed with genetically polled sires, with more than a quarter of these being homozygous polled (10.8%).

However, particular attention is paid to the genetic level of these inseminations. The average Total Merit Index (GZW) of all inseminations reached an impressive 132.0. Interestingly, polled sires (both heterozygous and homozygous) nearly matched this level with a GZW of 131.7, largely due to the widespread use of high-breeding-value sires such as MEGASTAR Pp* and WIRBELWIND P*S. However, homozygous polled sires had a noticeably lower GZW of 126.6.

The homozygous sires performed particularly below average in traits such as milk yield, fertility, udder health, and udder conformation. Additionally, polled candidates tended to show a slight deficit in milking speed, although this was not reflected in the overall insemination levels.

MEGASTAR Pp* Leads the Rankings

Table 2 lists the most widely used Fleckvieh sires in the 2024 control year. At the top of the list is the heterozygous polled MEGASTAR Pp*, truly living up to his name. Interestingly, his brother MONORON follows closely in second place. This remarkable success is a great achievement for the breeder family Hörmandinger from Peuerbach – congratulations!

Table 1: Development of selected phenotypic traits in Fleckvieh AUSTRIA since 2010
(ZuchtData Annual Reports, 2010–2024)

Trait	2010	2015	2020	2023	2024
Milk (kg) – herd book, all lact.	6,736	7,220	7,893	7,910	8,077
Fat (%) – herd book, all lact.	4.13	4.15	4.16	4.17	4.16
Protein (%) – herd book, all lact.	3.40	3.40	3.44	3.41	3.43
F+P (kg) – herd book, all lact.	508	545	599	600	613
Daily gain (g)	1,113	1,143	1,177	1,137	1,150
Carcass percentage (%)	57.1	57.3	57.3	57.4	57.6
EUROP trade class (E=5, P=1)	3.56	3.61	3.68	3.65	3.66
EUROP trade class share E+U (%)	57.5	61.3	67.5	65.0	65.5
Number of calvings	3.89	3.97	4.03	4.10	4.16
Longevity (years)	3.73	3.80	3.90	3.98	4.06
Lifetime yield (kg)	25,567	28,114	31,220	32,615	33,507
Calving interval (days)	392.0	390.0	390.1	389.8	390.2
Insemination index	1.9	2.0	2.2	2.1	2.1
Som. cell count (average, in 1000)	190.7	180.1	186.5	192.4	201.5
Som. cell count (median, in 1000)	70	64	64	61	61

Table 2: Most Frequently Used Fleckvieh Sires in the 2024 Control Year
(ZuchtData Annual Report, 2024)

Rank	Name	Birth Y.	No.AI	GZW	MW	FW	FIT	PT*	Line
1	**MEGASTAR Pp***	2022	**21,046**	143	134	104	119	N	MORELLO
2	**MONORON**	2022	**19,661**	140	125	109	125	N	MORELLO
3	**GS DEFACTO**	2018	**14,818**	128	113	118	110	Y	DIRIGENT
4	**HEISS**	2021	**14,787**	148	124	123	125	N	HUCH
5	**MCGYVER**	2018	**13,490**	135	118	108	118	Y	MORELLO
6	**WIRBELWIND P*S**	2021	**13,434**	142	123	103	129	N	HORROR
7	**MABUSO**	2018	**10,779**	127	121	99	109	Y	MORELLO
8	**GS DOTTORE**	2022	**8,787**	133	126	111	111	N	DIRIGENT
9	**EDELJOKER PP***	2022	**8,316**	133	116	111	121	N	EGEL
10	**HOKUSPOKUS**	2016	**8,123**	129	114	109	116	Y	HUCH
11	**WEISSENSEE**	2017	**7,708**	128	119	102	111	Y	HORROR
12	**GS WEBWUNDA**	2022	**7,377**	137	116	117	124	N	HORROR
13	**VIRGINIA**	2018	**7,133**	137	125	111	110	Y	RADI
14	**GS DER BESTE**	2016	**7,063**	114	116	100	98	Y	DIRIGENT
15	**GS WUHUDLER**	2018	**6,191**	133	125	94	115	Y	HORROR
16	**MIRACLE Pp***	2021	**6,164**	138	122	113	123	N	MORELLO
17	**WUNDAWERK**	2022	**5,957**	141	121	108	130	N	HORROR
18	**INSTYLE PP***	2022	**5,950**	128	118	106	115	N	RENNER
19	**HERZPOWER**	2021	**5,944**	128	119	113	110	N	HUCH
20	**MARWIN**	2022	**5,626**	134	118	102	129	N	MORELLO

* PT ... progeny-tested; Y=yes, N=no

They are followed by the progeny-tested GS DEFACTO and HEISS, the latter of which has already produced several promising sons now in use. Rounding out the top five is MCGYVER, another progeny-tested sire.

Overall, five polled sires are among the Top 20, including two homozygous polled bulls: EDELJOKER PP* and INSTYLE PP*.

On the paternal side, the Top 20 trace back to seven different founding sire lines, with the MORELLO line dominating with six representatives, followed by HORROR with five. Last year, STREIK had five top-ranking sons, but this year, the highest-ranked representative of this line (GS SUPPORT) only reached 47th place.

Conclusion

The analysis of phenotypic and genetic developments demonstrates that it is possible to improve multiple trait areas simultaneously in the desired direction. The overall progress in milk, meat, fitness, and conformation is highly encouraging.

However, the development of fitness and health traits could be even more positive if greater emphasis were placed on comprehensive and accurate data collection (e.g., veterinary diagnoses and claw health records). Since these traits have lower heritabilities, extensive data collection is crucial.

Even the most advanced breeding value estimation (Single-Step) is only as good as the data it is based on!

Dr. Christian Fürst,
ZuchtData, Vienna, Austria

100,000 kg cow RIANA (s: GS Rave) from Franz Auer, Wildschönau, Tyrol

3 Years Single-Step
How Well Do the Breeding Values Fit?

Dr. C. Fürst, Dr. H. Schwarzenbacher und Dipl.-Ing. J. Himmelbauer, MEd

In April 2021, the genetic evaluation was switched to the currently best possible method, the so-called single-step method. What is the first assessment after 3 years? How well do the breeding values hold up and how meaningful are they?

What Is Single-Step?

The single-step genomic evaluation is the most modern international genetic evluation procedure, which was introduced by the joint DE-AT-CZ genetic evaluation as one of the first ‚countries'. In the single-step evaluation, all available information, i.e. performance, pedigree and genome information, is considered simultaneously and thus in one step and combined in the best possible way. This means that all genotyped bulls and cows with performance are part of the so-called learning sample and thus contribute to higher reliability. In April, 720,947 genotypes were already available, for example 276,986 from cows with milk yield or from 617,068 calves for the vitality index. This underlines the importance of cow genotyping projects such as FoKUHs in Austria.

How Well Do the Breeding Values Hold Up?

All 998 Austrian and German Fleckvieh bulls that were still genomic young bulls (GYB) in April 2021 (first single-step evaluation) and were already progeny-tested bulls at the evaluation in April 2024 were used for the analysis of the estimated bull breeding values (EBVs). A bull is officially progeny-tested if the reliability of the total merit index (GZW) is at least 82%, daughters in at least 10 herds have a milk yield and 20 daughters have already been included in the conformation evaluation. As an additional criterion, the daughters must have at least 10 completed first lactations in the current evaluation.

Figure 1 shows the average total merit indices (GZW) of these bulls from April 21 and April 24, grouped according to the old GZW from April 21. It can be seen that the breeding values in all groups have declined to a similar extent. This decline is mainly due to the base adjustment of

-7.3 GZW points since April 21. If the base adjustment is taken into account, the differences for the groups are between -0.9 and -2.6 points, in the top group above GZW 135 it is only -1.1. This means that the breeding values are holding up very well on average, even in the top group, which is particularly interesting from a breeding point of view.

For the individual traits in the GZW or also for conformation, the situation is very similar to that shown here for the GZW. Compared to the current breeding values, there is an over/underestimation of individual EBV points for one or the other trait, but no fundamental distortions can be observed. However, we are of course constantly working on further improvements.

Figure 2 shows the base-adjusted GZW changes of the 41 bulls in the top group with an old GZW of at least 135. It can be seen that there are roughly the same number and the same amount of changes upwards and downwards. The two bulls VISION1 and SPARTACUS are currently at the lower end. VISION1 has fallen from GZW 136 in April 21 to 117 in April 24, i.e. a total of -19, of which -7.3 points are due to the base adjustment alone. GS WABANGO shows the most positive change, rising from 135 to 138 despite the base adjustment.

What Do the Bull Breeding Values Mean?

The stability of the breeding values is of course important, but even more important is the predictive quality of single-step breeding values on the later production of the offspring or on their own production. Figure 3 shows the relationship between the single-step EBV for milk yield as GYB in April 21 and the later production of their daughters in the 1st, 2nd and 3rd lactation. It is easy to see that higher breeding values are also associated with significantly higher daughter production. However, daughters are known to produce at different herd levels and come from genetically very different cows, so that this simple representation of purely phenotypic performance only allows a limited statement to be made. It is more accurate to show the performance after correction for environmental influences and mating level (corrected performances, technical term: yield deviations YD). The illustration in Figure 4 clearly shows that the prediction of average daughter performances based on the single-step-EBV as GYB works excellently. The blue columns show the theoretically expected differences across all lactations compared to the lowest group (≤399 kg), based on the EBV differences as GYB. In

Fig. 1: GZW of Fleckvieh bulls that have changed from "young bull" (April 21) to "progeny tested" (April 24), grouped by old GZW. The base adjustment was -7.3 points in this period and was not included in this figure

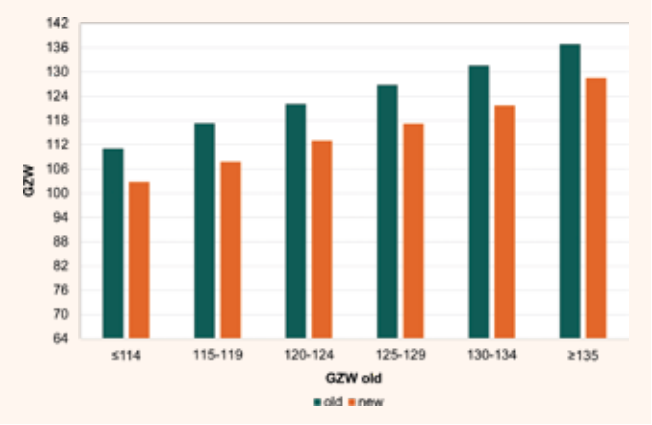


Fig. 2: GZW changes (base-adjusted) of the top group by old GZW (at least 135 in April 21).

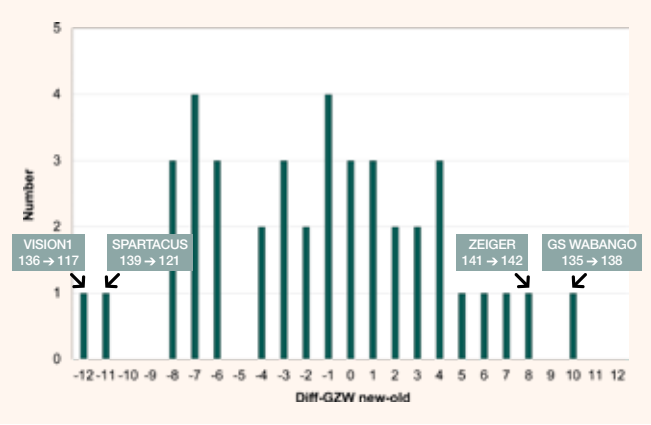


Fig. 3: Average daughter milk yields (as of Apr. 24) grouped by old single-step EBV from Apr. 21 as GYB.

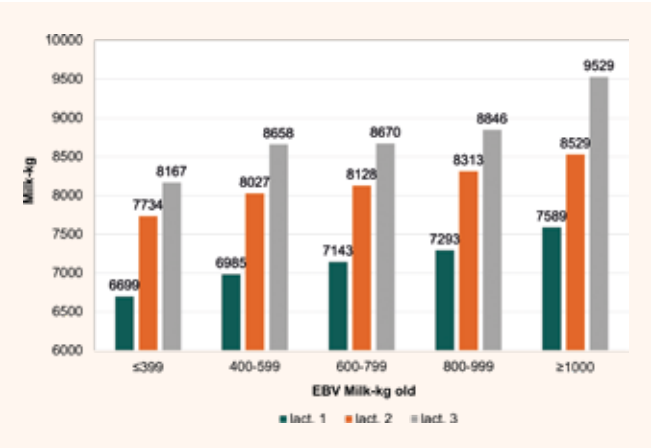


Fig. 4: Average or theoretically expected daughter milk yields (as of Apr. 24) according to old single-step EBV from Apr. 21 as GYB (environmentally corrected as deviation from lowest group).

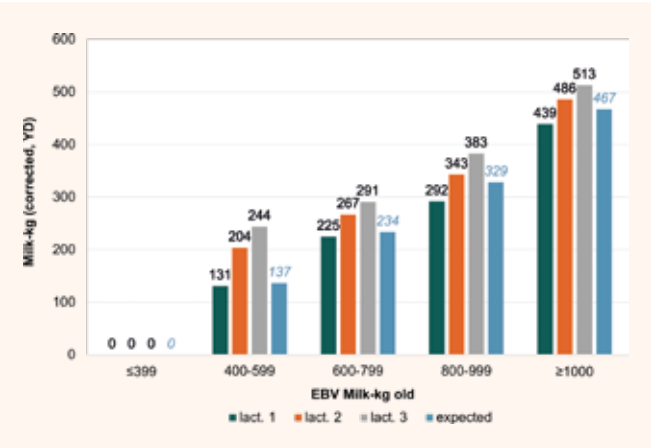


Fig. 5: Average milk yields (as of Apr. 24) grouped by old single-step EBV from Apr. 21 as a calf/heifer.

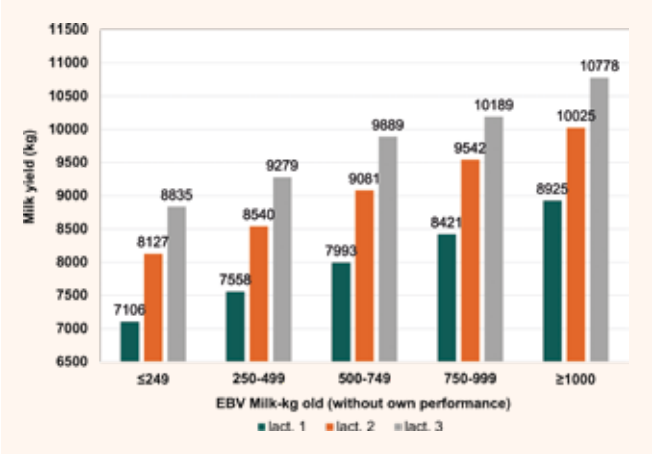


Fig. 6: Average or theoretically expected environmentally corrected milk yields (as of Apr. 24) grouped by old single-step EBV from Apr. 21 as calf/heifer.

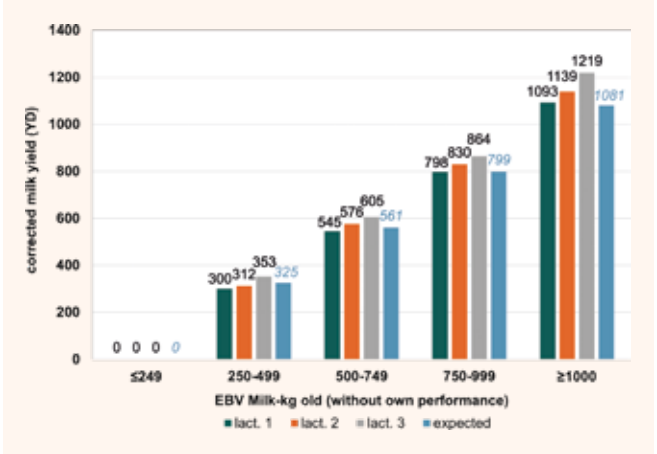
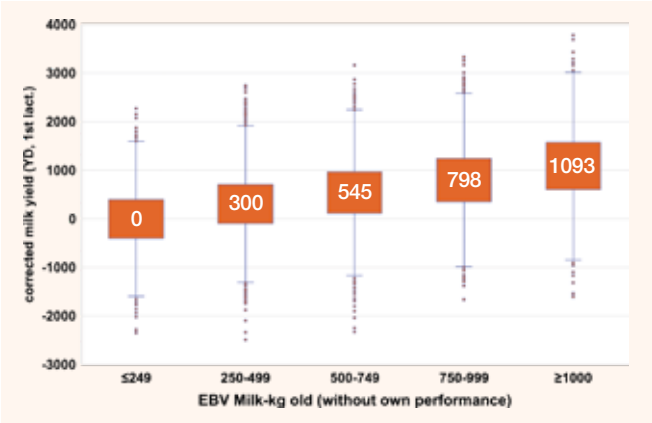


Fig. 7: Relationship between genomic milk EBV as a young animal (Apr. 21) and environmentally corrected first lactation performance as a cow (as of Apr. 24) as a boxplot representation (the orange box contains the middle 50% of the data, the antennas and dots show the scatter range).



the highest group (over 1000 kg EBV for milk yield), an average superiority of +467 kg per lactation is expected compared to the lowest group. The values actually achieved (+439 in the 1st, +486 in the 2nd and +513 kg in the 3rd lactation) therefore match the theoretical expectation almost perfectly. This also fits exactly with the assumption that bulls with an EBV of +1000 kg milk can be expected to have daughters (when bred to an average sample and in an average environment) with a milk yield per lactation that is 500 kg above average.

Can You Rely on the Breeding Values of Heifers?

Interesting is not only the correlation between bull EBVs and daughter performance, but also the relationship between the EBVs as a female calf or heifer and the later performance as a cow.
Figure 5 shows the relationship between the single-step EBV for the milk yield of 31,639 calves or heifers from April 21 (without own production) and the (uncorrected) absolute production of these animals available to date. Cows that had a single-step index for milk yield of at least +1000 in April 21 (as a calf/heifer) have an average yield of 8,925/10,025/10,778 kg in the 1st/2nd/3rd lactation. This puts them 1800 to almost 2000 kg above the group with an average EBV for milk yield. Since animals with high breeding values are on average on farms with better management, it is also necessary to correct the performance to comparable or average environmental conditions. Figure 6 shows these environmentally corrected performances. As with the bulls, the superiority in the individual groups corresponds exactly to the theoretical expectations. For example, the young calves/heifers with an EBV of at least +1000 kg milk show on average over 1000 kg higher yields.
Of course, this very good agreement with the theory cannot be applied to every individual animal. For individual cows, the deviations from the theoretical expectation can be serious, as can be seen in Figure 7, a boxplot representation for the first lactation. In the +1000 group, for example, there are individual animals that are even below -1000 kg, while on the other hand there are also a few animals from the lowest group that even show over +2000 kg environmentally corrected performance.

Single-Step Works!

The analyses after 3 years of single-step selection show that the breeding values are stable according to the theoretical expectations and that the expected higher daughter and own performances are actually realized. The single-step breeding values are not only suitable for the selection of AI bulls, but also enable better differentiation on the female side and thus a more reliable selection decision. On the one hand, this applies to the top breeding sector, but also for on-farm selection. The genotyping of female animals (e.g. FoKUHs) is therefore a sensible investment to optimize selection and mating. In this article, the focus has been placed on milk yield; the equally important fitness and health traits will be examined in more detail in the following article.

Dr. Christian Fürst, Dr. Hermann Schwarzenbacher und
Dipl.-Ing. Judith Himmelbauer, MEd, ZuchtData, Vienna, Austria

LIMAS (bred by Monika and Hannes Bauer, Heidenreichenstein), a daughter of WINTERTRAUM, who already impressed as a young sire with high breeding values for udder and udder health

Fit With Genomics

The Single-Step Breeding Values For Fitness on the Test Stand

Dr. C. Fürst, Dr. H. Schwarzenbacher und Dipl.-Ing. J. Himmelbauer, MEd

In the single-step genetic evaluation, which was introduced in April 2021, performance, pedigree and genome information are considered simultaneously and thus in one step and combined in the best possible way. Almost 800,000 Fleckvieh genotypes are now available for the genetic evaluation. As with the analyses presented in the previous article, the fitness traits also show how well the old single-step breeding values (EBVs) from April 2021 predicted the differences in performance in terms of fitness, health and conformation, i.e. how well the genomic EBVs without progeny information match the later progeny performance. As the fitness complex is very extensive, only individual traits can be presented as examples.

Longevity

The longevity is an extremely important trait, but difficult for this analysis because the daughters of a bull that was still a genomic young bull (GYB) in April 21 had not yet had the chance to show their full longevity. Therefore, the proportion of daughters that have already reached at least a 2nd or 3rd calving since then was chosen as a characteristic. This shows that about 5% and 7% more daughters of a GYB with a longevity EBV of at least 120 have reached the 2nd and 3rd lactation respectively than daughters of bulls with a slightly below average old longevity EBV (Fig. 1).

Calving Ease

The paternal/direct dystocia rate was selected as a characteristic for calving ease. In general, it can be seen that the

rate of difficult calvings is already very low, certainly also thanks to the genomic selection. In the calvings of GYB with a paternal calving ease EBV of at least 115, there were less than half as many difficult births as in bulls with a slightly below-average paternal calving ease (Fig. 2). The difference is even somewhat underestimated because bulls with moderate calving ease EBV tend to be used on unproblematic, framy heifers/cows and vice versa. From this, it can be concluded that you can rely on these breeding values and also use GYB on heifers. Even with slightly below-average paternal calving ease breeding values, the risk is limited.

Health

The udder health index (EGW) is calculated from 70% cell count and 30% mastitis. The daughters of bulls with an EGW below 94 in April 21 (without daughter performance in the genetic evaluation) have an average cell count of approx. 150,000 in the 1st lactation and 200,000 in the 2nd lactation (Fig. 3). For the daughters of the best GYB according to EGW, the values are 90,000 and 120,000, i.e. a cell count that is 60,000 and 80,000 lower respectively. The mastitis rate (up to the 150th day of lactation) is 5.4 and 3.8% for old EGW below 94 and above 115 respectively (not shown), which is also a clear difference in the expected direction.

If you look directly at the relationship between the old mastitis EBV as GYB and the later mastitis rate of the daughters (up to 150th day of lactation) (Fig. 4), there is a difference of 2 percentage points between the highest and lowest EBV classes. Despite low heritability and thus comparatively lower reliability, the absolute figures are clearly more favorable with higher breeding values.

Conformation

Conformation is of great interest, not least because of its connection to functionality, fitness and health. Due to the special importance of the udder, the udder score is taken as an example from the multitude of conformation traits. Figure 5 shows the relationship between the purely genomic single-step EBV for overall udder score from April 21 (i.e. without daughter information) and the later average udder score of the Austrian daughters. At first glance, this shows a seemingly illogical relationship with approximately average udder breeding values. However, this correlation simply results from the fact that bulls with modest udder breeding values around 100 are predominantly used on cows with good udders or with higher udder breeding values, so that the offspring perform relatively well. This also results from the use of mating programs, where

Fig. 1: Proportion of daughters that have already reached at least the 2nd or 3rd calving (as of Apr. 24), grouped by old single-step EBV for longevity from Apr. 21 as GYB.

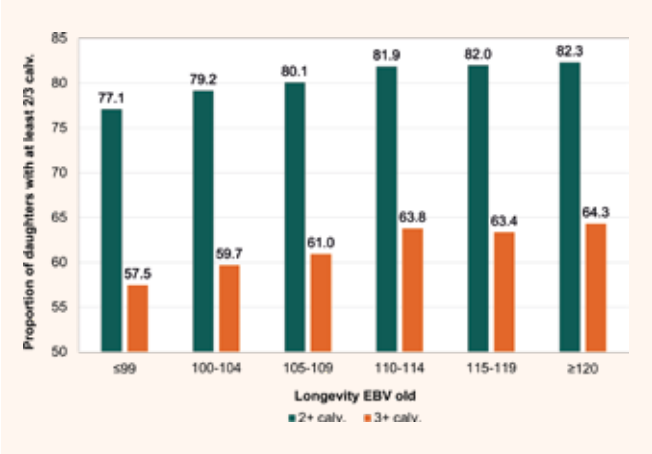


Fig. 2: Average dystocia rate (as of Apr. 24) grouped by old single-step EBV for the paternal/direct calving ease of Apr. 21 as GYB.

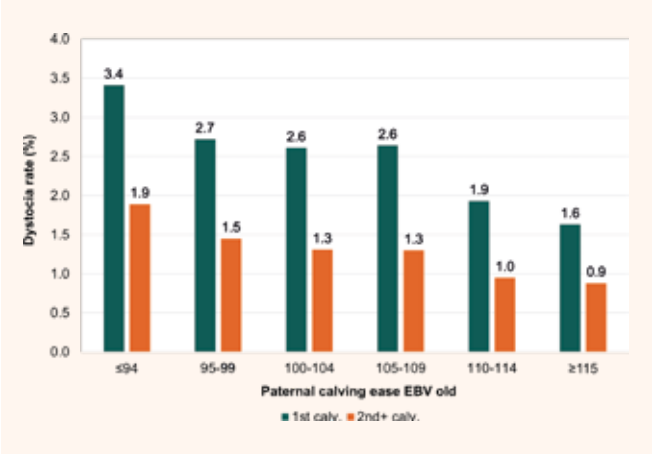


Fig. 3: Average cell count (as of Apr. 24) grouped by old single-step EBV for the udder health index (EGW) of Apr. 21 as GYB.

Fig. 4: Average mastitis rate up to 150th day of lactation (as of Apr. 24) grouped by old single-step EBV for mastitis from Apr. 21 as GYB.

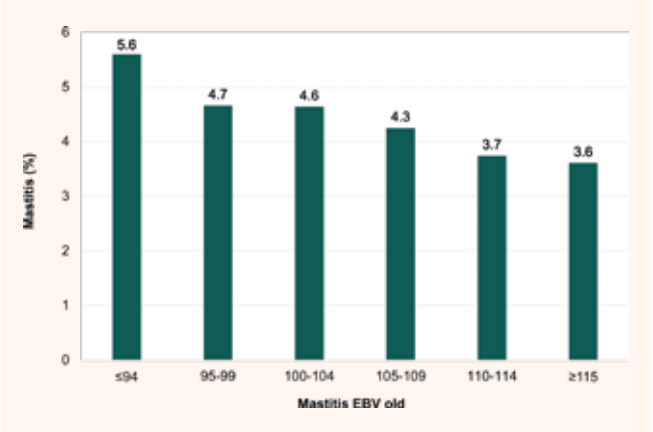


Fig. 5: Average udder score (Austrian data only, as of Apr. 24) grouped by old single-step EBV for the udder of Apr. 21 as GYB.

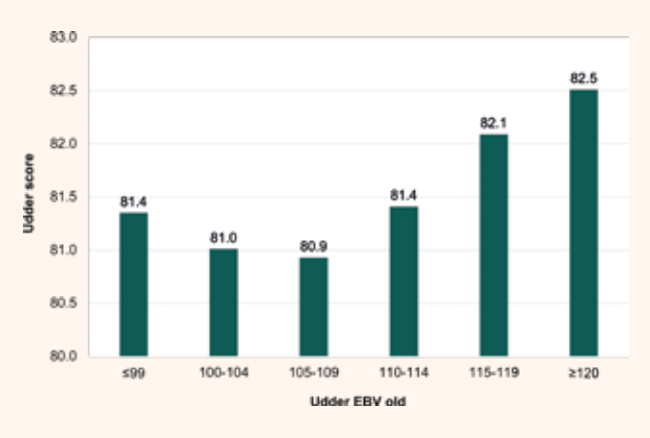
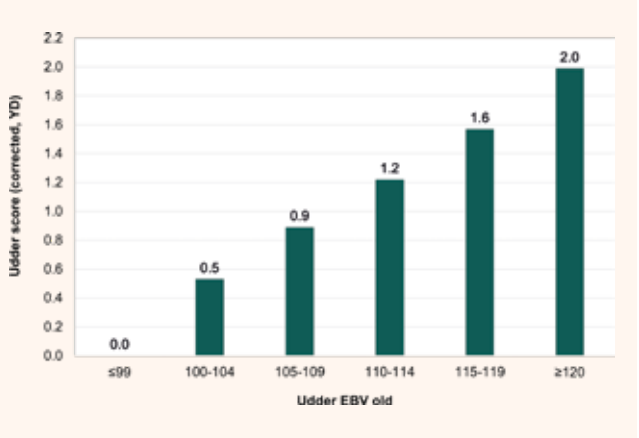


Fig. 6: Average corrected udder score (as of Apr. 24) grouped by old single-step EBV for the udder of Apr. 21 as GYB (environmentally corrected as deviation from lowest EBV group).



the udder has a correspondingly high weight. In order to avoid this distortion, it is necessary to correct for such influencing factors as mating level or farm and evaluator influences. These scores, corrected for various influencing factors, are shown as a deviation from the lowest EBV class in Figure 6. There is an almost linear increase in the udder score of daughters with higher udder EBV as GYB. The correlations are also very similar for feet&legs, but with a narrower range (not shown).

Conclusion

As with the analyses for milk and total merit index (GZW), an absolutely positive conclusion can be drawn on the predictive quality and reliability of the single-step breeding values for fitness and conformation. The use of bulls with higher breeding values, both from genomic young bulls and from progeny-tested bulls, pays off in all trait areas. The single-step system works very well, but it is still necessary to work on further improvements. However, the best genetic evaluation system does not help much if data is incomplete, especially in the health area. Single-step can do a lot, but without the appropriate quality and quantity of data, it will be difficult to achieve greater progress in the areas of fitness and health!

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Dipl.-Ing. Judith Himmelbauer, MEd,
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Photo: Julia Klammer

New: Genetic Evaluation Claw Health

Dr. C. Fürst, Dr. H. Schwarzenbacher und Dipl.-Ing. J. Himmelbauer, MEd

In the joint genetic evaluation Germany-Austria-Czech Republic, there has been a very wide range of traits in the area of fitness and health that have been successfully worked on in breeding for many years. There is no doubt that claw health is a very important complex of traits in terms of animal welfare and profitability, for which breeding values have so far only been published for the Holstein breed, and since December 2023 this has also been the case for Fleckvieh and Brown Swiss.

Claw Findings And Diagnoses Are Decisive

In recent years, a lot of data has been collected by claw trimmers but also by farmers, e.g. as part of various projects (e.g. Klauen-Q-Wohl, FoKUHs, D4Dairy, FleQS, Fleckfficient, etc.). From the data of claw trimmers and farmers, 6 traits with higher frequency and usable heritability were selected from the large number of individual traits for the breeding value estimation. These are Digital dermatitis (DD), Interdigital hyperplasia (IH), White line fissure (WL), Claw ulcer (CU), Heel horn erosion (HE), Laminitis (LA) and other findings (OF).

Although some veterinarian diagnoses have been available for some time (in Austria since 2006), they only represent the tip of the iceberg. In the case of veterinarian diagnoses, a distinction is only made as to whether or not there is any claw diagnosis at all.

After appropriate validation, approximately 250,000 Fleckvieh cows with claw trimming information and 380,000 cows with veterinarian data are included in the genetic evaluation.

The following environmental factors are taken into account in the evaluation model: Region, calving year, calving month, lactation, calving age, stage of lactation, claw trimmer/veterinarian, recording type and farm.

The heritabilities for the individual traits are between about 2 and 9 % (Table 1). By combining the individual traits according to the economic weighting, the heritability for the claw health index KGW in Fleckvieh cattle is calculated at 6.3%.

Table 1: Heritabilities and economic weights to calculate the claw health index KGW.

	Heritabilities (%)		Weights
Traits	**Fleckvieh**	**Brown Swiss**	**(%)**
Digital Dermatitis	4.8	8.5	20
Interdigital hyperplasia	9.1	5.9	5
White line fissure	3.7	6.4	15
Claw ulcer	4.0	6.6	15
Heel horn erosion	6.6	9.0	5
Laminitis	2.1	4.2	10
Other findings	3.0	3.8	10
Veteriarian diagnoses	1.5	1.9	20
KGW	**6.3**	**10.6**	**–**

Cause of Culling as Important Auxiliary Information

Since the period with sufficient data collection is very short and there is still little or no claw data available from some regions in the common evaluation, auxiliary traits are used to increase the reliability of the breeding values. A very important auxiliary trait is the culling reason for claw and feet diseases. The great advantage of this trait is that it is also available from regions or farms without claw health data and without additional effort. A separate genetic evaluation was developed for the culling reason analogue to the longevity evaluation (heritability 2.2%). The importance of claw and feet diseases as a cause of culling is explained by the high genetic correlation of 0.68.

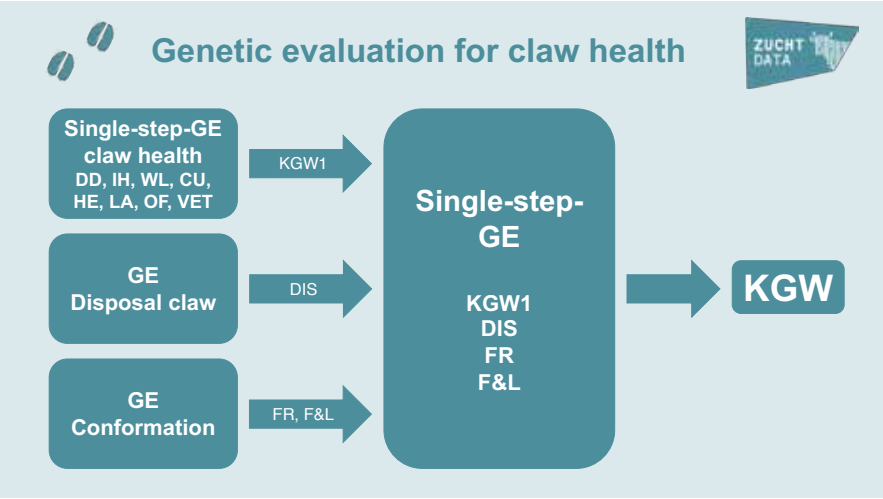
In addition to the reason of culling, the main scores for frame and feet & legs have proven to be informative auxiliary traits for claw health. On the one hand, framier and thus heavier cows show more claw problems (genetic correlation -0.17), on the other hand, a higher feet & legs score tends to indicate fewer claw problems (genetic correlation +0.17).

Single Step in Several Steps

As can be seen in Figure 1, the genetic evaluation for claw health is carried out in several steps. The first step is a multi-trait single-step evaluation with the claw trimming traits and veterinary diagnoses, which results in the original KGW1. At the same time, the newly developed evaluation for the disposal of claw and feet diseases (DIS) is carried out in the form of a multivariate BLUP animal model. Similarly, environmentally corrected phenotypes from the routine evaluation for conformation for frame (FR) and feet & legs (F&L) are also used.

These four traits – KGW1, culling reason, frame and feet & legs – are included as phenotypes in the final step, also a multi-

Fig. 1: Schematic representation of the genetic evaluation for claw health.



trait single-step BLUP (ssGBLUP). The final breeding value from this single-step run is the claw health index KGW, which on the one hand contains all direct claw health traits, but also includes information on the auxiliary traits. The KGW is the only breeding value published from this new genetic evaluation system.

The claw health index KGW are, as usual for the relative breeding values, approximately in the range between 70 and 130 and are published for bulls and cows (condition: reliability at least 30%). For the genotyped candidates, reliabilities of approx. 65% are achieved. The genetic trend for KGW is slightly negative in Fleckvieh cattle.

In general, there are few traits for which a stronger correlation of the breeding value KGW can be observed. The highest positive correlation is with longevity (approx. +0.25) and the highest negative correlation (-0.20) is with frame. There is a slightly negative correlation with the milk index and milk yield.

Table 2 shows a few examples with the highest and lowest KGWs. In general, the differences shown in Figure 2 can be recognised, but it should be borne in mind that these are purely phenotypic, uncorrected values, which of course cannot fully reflect reality from a genetic point of view. In addition, the auxiliary traits, in particular the cause of claw disposal, also have an effect, so that deviations from expectations may occur in individual cases. For Fleckvieh cattle, the internally calculated breeding value for reason of culling is 113 for the top 5 according to KGW listed in Table 2 and 89 for the flop 5.

Conclusion

After appropriate validation, the claw findings of claw trimmers or farmers and the veterinarian claw diagnoses are included in the genetic evaluation and weighted according to their economic importance. As auxiliary traits, the disposal reason claw and limb diseases and the conformation traits frame and feet & legs are also taken into account in a single-step evaluation. The resulting breeding value is the so-called claw health index KGW, which has been published in the fitness block for the Fleckvieh and Brown Swiss breeds since December 2023, but is not included in the fitness value FIT or the total merit index GZW for the time being. Adjustments to the breeding goal (GZW) are only planned after the introduction of further breeding values (metabolic stability, energy efficiency, ...) that are currently in progress.

The new genetic evaluation for claw health closes an important gap in the fitness and health area and should also motivate more claw trimming and health data to be recorded. Many thanks to all those who document claw data and make it available for the genetic evaluation, thereby providing the basis for these important breeding values.

Dr. Christian Fürst,
Dr. Hermann Schwarzenbacher und
Dipl.-Ing. Judith Himmelbauer, MEd,
ZuchtData, Vienna, Austria

Fig. 2: Relationship between EBV and proportion of claw findings and veterinary diagnoses in Fleckvieh cattle.

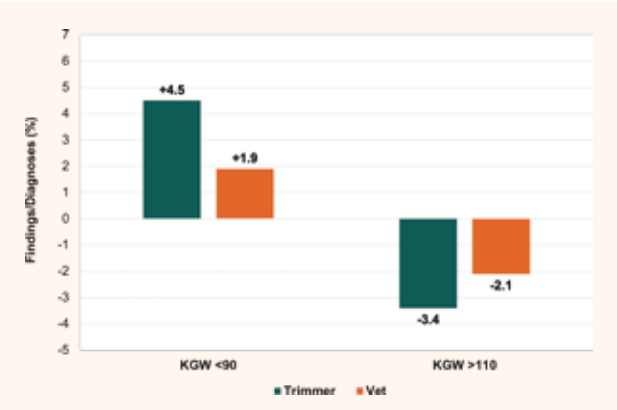


Table 2: Fleckvieh bulls with highest or lowest EBV (from 2012, at least 100 daughters with claw trimming data and 50 daughters with veterinary data).

Name	Y.	KGW	rel.	nKP	nTA	KP%	TA%
WISCHER P*S	2012	**121**	*95*	112	196	24.2	2.8
WINDSTONE	2012	**119**	*95*	152	150	21.9	4.1
GS DER BESTE	2016	**115**	*97*	368	706	29.4	3,6
INCREDIBLE PP*	2013	**114**	*98*	631	561	23.1	4.5
WATZMANN	2013	**114**	*93*	101	106	22.7	2.3
GS MAHATMA Pp*	2016	**79**	*93*	183	174	32.5	8.4
MAHANGO Pp*	2013	**78**	*99*	2,565	1,112	34.1	8.3
MAJESTAET PP*	2017	**74**	*95*	388	82	35.6	7.0
GUCCI	2015	**73**	*95*	208	260	30.2	7.3
VOTARY P*S	2012	**69**	*99*	1,255	258	33.5	10.5

nKP = number of daughters with claw care data, nTA = number of daughters with veterinary data
KP% = proportion of daughters with claw care findings, TA% = proportion of daughters with veterinarian claw diagnosis

Resilient Livestock
Are Our Dairy Cows Resilient?

Franziska Keßler, Jörn Bennewitz

Through extensive expertise and ongoing new insights, we can support our dairy cows with optimized feeding, good farm management, and modern housing facilities. However, external short-term disturbances, such as heat waves and weather changes due to climate change, are increasing. This raises the question of whether adjustments to our dairy cows are also possible from a breeding perspective.

Resilience – More Than Just a Buzzword

Here, the concept of resilience becomes important. Often dismissed as a buzzword these days, resilience research began in the field of human psychology in the 1950s and has expanded into many scientific fields since then. In livestock breeding, it also has gained importance in recent years. Resilience refers to the ability of livestock to recover quickly from short-term disturbances, and perform as before with equilibrium restored.

Resilience in Pictures

You can visualise this better by looking at a tree: During a storm, the wind shakes the branches of the tree. These bend under the disturbance, but straighten up again as soon as the gust is over. The tree therefore returns to its original state. If the gust - or the disturbance - is too strong, the branch breaks, which indicates that the tree was not resistant enough.

Measuring Resilient Behaviour

The key question is how to measure resilience, especially given the possible existence of unknown or unmeasurable disturbances. For dairy cows, daily milk yield is used as an indicator. Within a lactation period, the variance—or fluctuation—in performance can be calculated. A cow that shows significant fluctuations in daily milk yield throughout lactation is likely to have experienced numerous or severe drops in yield, indicating low resilience. Conversely, low variance indicates stable performance and thus greater resilience.

Another indicator is autocorrelation, which measures the relationship between today's and yesterday's milk yield. A weak autocorrelation indicates a constant daily performance, while a strong autocorrelation indicates that changes in performance persist over several days, pointing to recovery periods after disturbances.

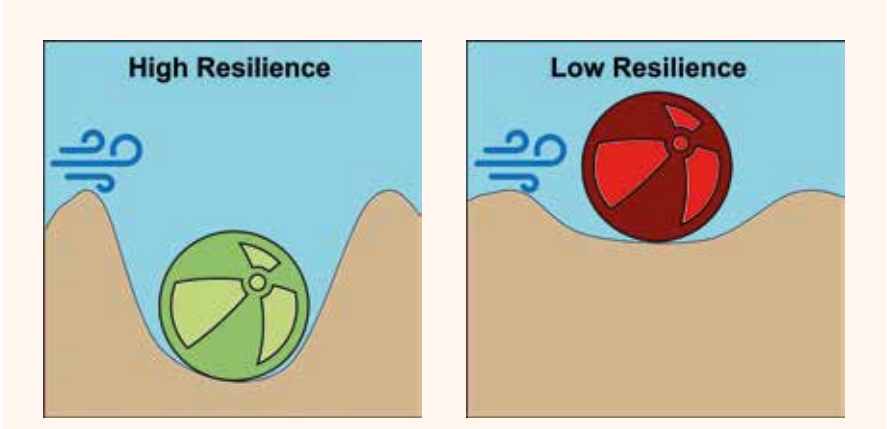
Can We Breed For Resilience?

Statistical analyses of about 3,200 Fleckvieh cows revealed that approximately 15% of performance variance and around 5% of autocorrelation can be attributed to genetic factors. This indicates that resilience is heritable, and genetic improvement is possible. However, these findings also show a substantial environmental influence, accounting for the remaining 85% and 95%, respectively.

Fleckvieh Tends To Recover Faster

In addition to Fleckvieh, similar evaluations were conducted with German Holsteins and Brown Swiss cows from herdbook farms in Baden-Württemberg, which are partners in the KlimaFit project. All animals are genotyped. Across breeds, resilience levels were comparable. While Brown Swiss and German Holsteins showed slightly fewer performance fluctuations, Fleckvieh tended to recover more quickly. Further research is required for more precise conclusions.

Fig. 1: An organism is resilient if a disturbance makes it difficult to bring it out of its resting state. This is comparable to a water ball in the sand dunes. If the dunes are high (left), the beach ball is protected from the wind for much longer than if it lies almost flat on the sand (right). The red ball is forced to leave its resting state more quickly. Resilience is the inner ability of an organism (e.g. a higher weight of the green ball leads to a higher resistance to a gust of wind), which can be supported by external conditions (in this case the height of the dunes).

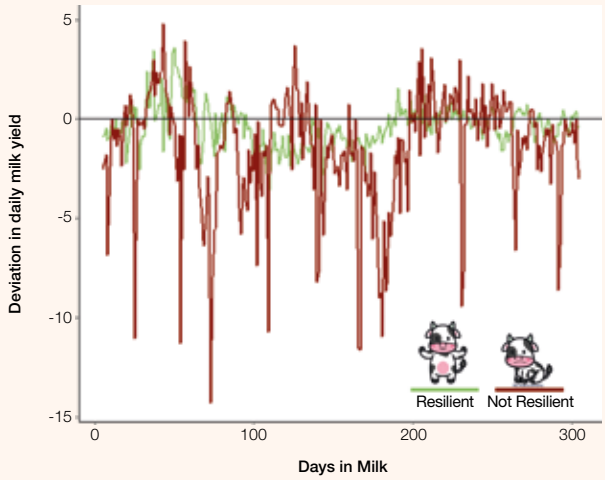


How Can I Minimize Disturbances for My Dairy Cows?

Breeding for resilience is feasible due to its heritability, but it is a highly environmentally influenced trait, requiring time for genetic improvement within a population. Further studies are needed to identify the most informative resilience indicators for farmers and how these can be integrated into breeding value estimations.
Farmers can also enhance their livestock's ability to cope with environmental conditions through effective herd and farm management. Potential measures include performance-optimised feeding, proper stocking density, and regular animal monitoring to detect health issues early. To address the growing challenge of heat stress, sprinklers or fans in barns can help. Dairy cows are most comfortable at temperatures between 4 and 16 degrees Celsius; combined with high humidity, higher temperatures quickly become uncomfortable.

The work on resilience was carried out as part of the KlimaFit project in Baden-Württemberg, which was funded by the European Union (EIP-Agri) and the state of Baden-Württemberg.

Fig. 2: The graph shows the variance of two cows during a lactation. The resilient cow (green graph) fluctuates less in her performance than the non-resilient cow (red graph), which regularly shows drops in performance.



Franziska Keßler, Jörn Bennewitz – Institute of Animal Science University of Hohenheim, Germany

Zuchtwert Austria – zuchtwert.at

The New Breeding Value Database!

Dr. Christian Fürst

The previous breeding value database of Rinderzucht Austria, which had been used successfully since 1999, was technically somewhat outdated and therefore had to be completely reprogrammed. At the same time, however, some innovations were to be implemented. Since 10 January 2023, the new breeding value database Zuchtwert Austria has been available under the link **https://zuchtwert.at**.

In addition to the already proven functionalities, Zuchtwert Austria offers the following new features:

- The result list can be sorted as desired by clicking on the respective characteristic in the header.
- Additional characteristics can be added to the result list by clicking on them (Show additional traits).
- The (extended) result list can be downloaded as a csv file (Export results (CSV))
- You can scroll from one bull to the next directly
- Filter by sire line
- For the grandsons of a bull you can choose between 'as sire' sire' and 'as dam's sire'.
- Print/save version (pdf-file) of the bull single page
- Option to compare bulls graphically (compare bulls, see picture)
- continuous updating of semen availability
- display better adapted to screen size (responsive design), which is particularly advantageous for mobile phones (see fig.)
- Language versions: German, English, Czech, Romanian, Spanish and French are already available from the start, other languages will follow as required.

In the footer of the application there is a short help on important functions, a compact description of the individual breeding value estimations and a feedback option in case there are errors or suggestions for improvement.
As usual with major changes, you will certainly have to get used to the new environment at the beginning. However, we are convinced that Zuchtwert Austria will be an even better tool to sift through the abundance of bulls and find the best ones!

Dr. Christian Fürst, ZuchtData, Vienna, Austria

Photo: RZT / Leitner

Those responsible and participants are delighted with the successful judge training programme

Judge Training – New Judging Pool for Fleckvieh

Ranking And Commenting Correctly

Ing. Reinhard Pfleger

Fleckvieh Austria, in cooperation with the Association of Southern German Cattle Breeders (ASR), resumed the professional training of Fleckvieh judges after a 5-year break. The aim was to organise a high-quality seminar which, in addition to the important theoretical content, would offer sufficient space for practical judging work.

At the same time, a challenging examination situation was to be created according to standardised, comprehensible criteria, which would result in the new Fleckvieh judging pool. Recognised experts from the international show scene were recruited as speakers and jury members for the specialist areas of "Ranking" and "Commenting".

With Rinderzucht Tirol, an excellent local host was found to organise the two-day event. The theoretical part of the training took place at the traditional Tyrolean inn Rainer in Strass im Zillertal, where the host, ÖR Kaspar Ehammer, welcomed a total of 17 participants. The participants were selected by the member organisations in Austria and Germany. The aim was to nominate people who are active cattle breeders and have already gained experience in the show ring. Reinhard Pfleger, Fleckvieh Austria, spoke on the topic of "Breeding goal and ideal type" and presented the newly defined "Guidelines for the judging of Fleckvieh cattle". Bruno Deutinger, Director of Animal Breeding at LK Salzburg and an internationally active show judge for many years, gave valuable tips from his experience on the right way to work in terms of methodology and rhetoric in the show ring.

The Rotholz marketing centre offered almost ideal conditions for the practical sessions. 24 selected show cows from a total of 20 different breeding farms of Rinderzucht Tirol were presented perfectly prepared in four judging groups in the ring of the auction hall. Two groups of young cows and two groups of second-calf cows were prioritised as a panel by the "Ranking" jury consisting of Mario Nydegger from Switzerland and the two experienced Austrian judges Rupert Viehhauser from Salzburg and Johann Ratzberger from Lower Austria. The rankings of the individual participants were compared with the jury's rankings using a computer programme that is successfully used in Switzerland and the deviations of all four judging groups were evaluated. In the test unit, the participants also had to comment on two groups in front of the "Commentary" jury consisting of Bruno Deutinger and Christian

Straif, Managing Director of Rinderzucht Tirol, according to their chosen ranking. The participants' assessments in the "ranking" and "commentary" categories were combined using the IT programme, resulting in the final ranking list of participants. Two thirds of the weighting was placed on "correct ranking" and one third on "methodically correct, accurate commentary", whereby a fixed points threshold had to be met in both assessment criteria in order to be included in the final pool.

The members of the jury were unanimous in their praise for the high standard of all participants, and the people selected for the pool were able to stand out from the crowd.

All organisers of shows with Fleckvieh participation in German-speaking countries are hereby requested to place their trust in these persons in the future as judges. The umbrella organisations Fleckvieh Austria and ASR are planning to offer both the training of new people interested in judging and the re-run of an examination seminar for admission to the Fleckvieh judging pool at regular intervals.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

The new Fleckvieh judging pool is made up of the following people:

Name*	Location	Country
Ammann Tobias	Röns, Vorarlberg	Austria
Bacher Thomas	Ranten, Steiermark	Austria
Hörmandinger Alexander	Peuerbach, Oberösterreich	Austria
Lenk Hannes	Kramsach, Tirol	Austria
Neuner Hannes	Schwendau, Tirol	Austria
Ratzberger Johann	St. Peter i. d. Au, Niederösterreich	Austria
Sauter Nikolas	Bad Wurzach, Baden-Württemberg	Germany
Schreder Hannes	Kössen, Tirol	Austria
Viehhauser Rupert	Kleinarl, Salzburg	Austria
Wieneroither Matthias	Attnang-Puchheim, Oberösterreich	Austria

* The list of persons is in alphabetical order and therefore has no relation to the final result of the judges' examination.

LORELEI – New World Record For Fleckvieh

Ing. Reinhard Pfleger

LORELEI (s: Hortler) from the breeding farm of Johannes Weber from St. Michael im Lavanttal in Carinthia sets a new record. By 2023, no Fleckvieh cow in the world will have produced more fat and protein kilograms in her lifetime!

LORELEI was born on 2 November 2003 and spent 20 years at the Weber farm until her departure. She gave birth to 16 calves. LORELEI achieved a total of 15,196 kg of fat and protein in 4,737 milking days. With a lifetime milk yield of 202,701 kg, this corresponds to a daily milk yield of 35 kg.

After the MORROR daughter ERLE from the Schirnhofer farm in Styria, LORELEI is only the second Fleckvieh cow in the world to exceed 200,000 kg lifetime production. She thus goes down in the history books of cattle breeding with the highest amount of fat and protein ever produced by Fleckvieh cattle.

Such an exceptional performance is only possible thanks to the combination of exceptional genes and years of excellent animal care by the breeder family.

Fleckvieh Austria congratulate the Weber family on the world record and this exceptional achievement.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

LORELEI set a new world record for Fleckvieh with her lifetime production of 202,701 kg of milk with 15,196 kg fat and protein kilograms

A New Hit
The Fleckvieh Song

Ing. Reinhard Pfleger

The year's Fleckvieh World Congress 2024 in Canada also marked the 50th anniversary of the World Fleckvieh Association.

As a personal gift to the World Association, Richard Pichler, AGÖF's long-standing Managing Director and Ring of Honour recipient, commissioned the composition of his own Fleckvieh song. He created the lyrics of the 4-verse song himself.

The English version of the 'Simmental Fleckvieh Song' was premiered in Calgary and delighted the country representatives present.

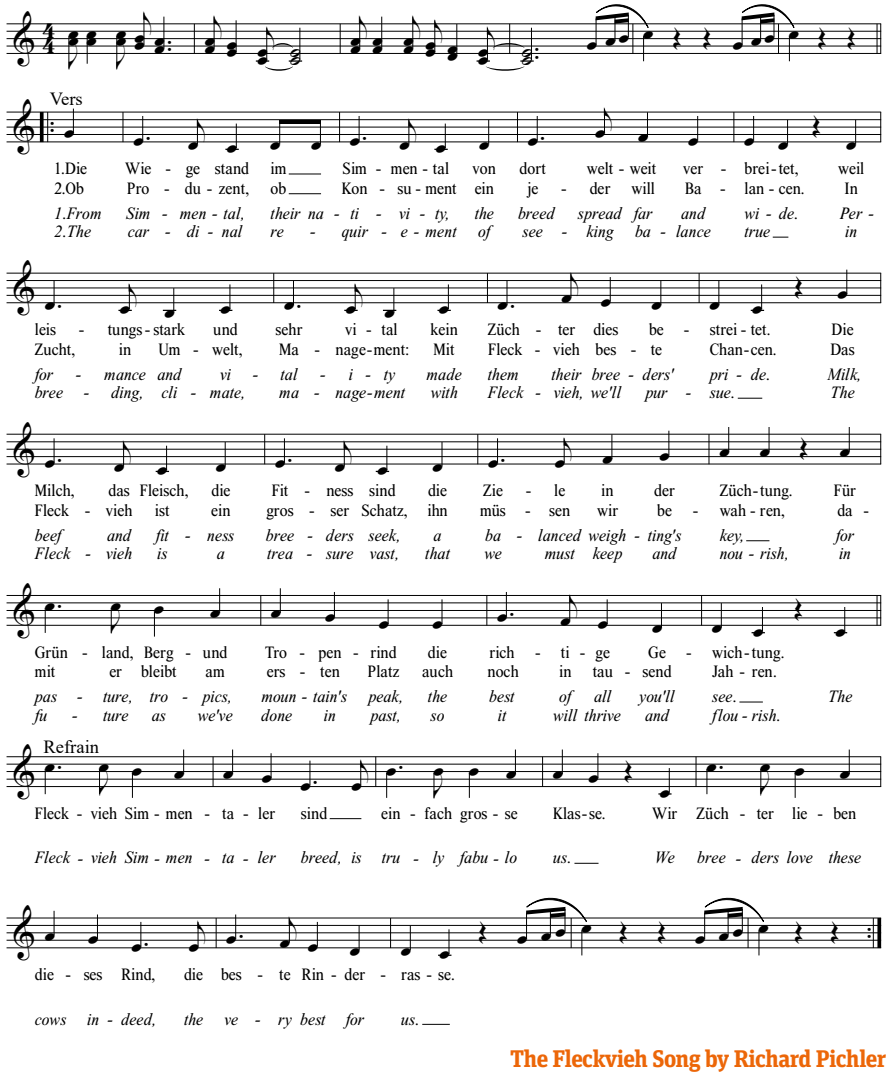
The World Simmental Fleckvieh Federation and Fleckvieh Austria would like to thank Richard Pichler for this extraordinary gift and his historic review of 50 years of association work.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

Richard Pichler received a special honour from the WSFF

SIMMENTALER
FLECKVIEH SONG

Text: Richard Pichler
Musik: Johannes Teuschl
Übersetzung: Birgit Fürst-Waltl
Aufnahme: Poldi Denk



The Fleckvieh Song by Richard Pichler

Scan to get to the mp3-files

The Fleckvieh song in German

The Fleckvieh song in English

8 Tons and Double Effect

Ing. Reinhard Pfleger

The aim of Fleckvieh breeders in Austria is to think and breed holistically and sustainably. That is why we would like to introduce you to these exceptional six Fleckvieh cows from Austria, which can combine the following remarkable achievements:

1. A total lifetime yield of at least 100,000 kilograms of milk – a standard that is common in cattle breeding worldwide and is synonymous with sustainable performance.

2. A total lifetime yield of at least eight tonnes (8T) of fat and protein. The amount of fat and protein is our actual selection criterion for milk and thus also the ranking criterion for lifetime yield. In Fleckvieh breeding, we deliberately focus on high protein and fat content in the milk.

3. The special advantage of Fleckvieh cattle is the so-called 'double effect': the naturally elegant muscling of our cows not only stabilises them, but also ensures that purebred animals can produce beef of the best quality and quantity in addition to their milk. Every calf, whether male or female, that is not used for breeding is therefore ideally suited for the production of beef.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

Fleckvieh from Austria

Robust – Efficient – Sustainable

The breed of the future in economy and ecology

BIRKE **AT 57 4238 719**

Waldbrand x GS Rau, Birth: 12.07.2012
9/8 12,554-3.82-480-3.22-404
HL 5. 14,378-3.80-547-3.23-465
LP: 127,600 kg / 9.1 t F+P

SIRENE **AT 00 6635 822**

GS Vogt x Manz, Birth: 04.08.2012
7/7 11,116-5.25-584-3.58-398
HL 5. 11,842-5.81-688-3.64 431
LP: 100,734 kg / 9.1 t F+P

LAGUNE **AT 43 7772 922**

Reumut x Wal, Birth: 07.01.2013
7/7 11,116-5.25-584-3.58-398
HL 5. 11,842-5.81-688-3.64-431
LP: 100,734 kg / 9.1 t F+P

ALMA **AT 64 6049 118**

Vorteil x Horito, Birth: 09.01.2012
10/9 10,393-4.47-465-3.43-356
HL 5. 10,938-4.66-510-3.50-383
LP: 109,161 kg / 8.7 t F+P

SELINA **AT 28 0893 719**

GS Rave x GS Hetoro, Birth: 25.10.2011
10/10 9,571-4.26-408-3.60-345
HL 5. 11,582-4.67-541-3.47-402
LP: 101,201 kg / 8.0 t F+P

BRUNI **AT 13 8294 219**

GS Oedstein x Webal, Birth: 11.12.2011
12/10 9,562-4.40-421-3.88-371
HL 3. 11,660-4.73-552-3.86-451
LP: 108,866 kg / 9.1 t F+P

HL: Highest lactation; LP: Life performance; kg: Milk yield in kg; t F+P: Tons of fat + protein

SALOMON PP*
Sets New Standards In Polled Breeding!

Andreas Selker

SALOMON PP* is a young, highly regarded bull who is causing quite a stir in Fleckvieh breeding. With his outstanding breeding values, this homozygous polled sire offers the complete package that many breeders and dairy farmers are currently looking for in their herds. His polled genetics, combined with impressive fitness and performance traits, provide a promising perspective for breeding long-lived, healthy, and, above all, 100% polled Fleckvieh cattle.

Increasing Quality In Polled Sires

The quality of polled Fleckvieh cattle sires is continuously increasing and SALOMON PP* is impressive proof of this. SALOMON PP* (Sahne Pp* x Waalkes Pp* x Hermelin) comes from the renowned and successful A-cow line of the Günzinger family from St. Georgen near Obernberg, which has already produced the reliable progeny-tested polled sires HAMLET Pp* and GS WEGA Pp*.

This exceptional bull is a real option for breeding genetically polled Fleckvieh cattle not only in Upper Austria, where over 50 percent of Fleckvieh inseminations are now carried out with genetically polled bulls, but also nationwide. SALOMON PP* combines the highest standards of performance, fitness and functionality in a complete package.

A True All-Rounder

SALOMON PP* is one of the few purebred polled Fleckvieh cattle bulls with a high breeding value that is absolutely on a par with its horned or polled conspecifics from a breeding point of view. With SALOMON PP* you do not have to compromise on performance and other important traits. In addition to his outstanding milk production and balanced inheritance of components, SALOMON PP* impresses with above-average fitness values, especially for fertility, udder health and longevity. With his high beef value, he embodies the typical and advantageous dual-purpose traits of Fleckvieh cattle. SALOMON PP* is excellently suited for inseminating heifers and promises very vital calves. His offspring are characterized by excellent milkability and optimal front teat placement.

SALOMON PP* is a first-class choice for breeders looking for a versatile, homozygous polled sire with high breeding value. His lineage and balanced breeding values make him a valuable sire for the future of Fleckvieh breeding. As the best homozygous polled representative of the Streik line, SALOMON PP* documents the balance between polledness and many other important traits at a high level.

We wish you much success and pleasure with the offspring of SALOMON PP*!

Andreas Selker,
Oö. Besamungsstation GmbH

AFRIKA PP*, the dam of SALOMON PP*, inspires like her full sisters with outstanding conformation in addition to the highest willingness to perform! 1st lactation 10,485 kg milk at 4.55 F% and 3.79 P%

The shapely SALOMON PP* is enjoying excellent health at the Hohenzell AI center

WINTERTRAUM

The Performance and Conformation Specialist

Thomas Bacher

WINTERTRAUM carries the genes of the stamping bulls GS WOIWODE and GS DER BESTE, who have set standards in Fleckvieh breeding, especially in terms of willingness to perform and conformation quality.

The WINTERTRAUM offspring are very youthful with development potential and durable conformation.

Thomas Bacher,
Rind Steiermark und GENOSTAR

A total of 22 bulls from GS WOIWODE were selected for insemination, including well-known names such as GS WHITESTAR, GS WLADI, WILKO and GS WECHSEL. There are currently 1,377 WINTERTRAUM cows in milk. The offspring are very uniform in medium-framed type with very fine, correctly angled feet & legs and long udders, which has a positive effect on longevity.

WINTERTRAUM was bred by the DI Martin Stückler breeding farm in Prebl in the Carinthian Lavanttal. His exceptional genomic values in the areas of willingness to perform, fitness and conformation were already impressive when he was purchased.

The lineage with GS WOIWODE x GS DER BESTE x HURLY and the outstanding genomic values prompted the AI centres GENOSTAR, CRV Germany and Greifenberg to secure this exceptional sire.

WINTERTRAUM currently has a GZW of 130, which is based in particular on his impressive fitness inheritance.

Performance Reliability and Udder Health

Of the 1,377 calved daughters, the production rate is 29.6 kg. In addition to the high production rates, the low somatic cell count of 101,000 and a high milkability of 2.75 kg/min should also be emphasized. The 100-day yield of 628 daughters is 3,044 kg.

Longevity and Fertility

Another strength of WINTERTRAUM is the high breeding value for longevity, influenced by excellent feet & legs and udder as well as female fertility with a value of 114. With a paternal calving ease of 117, WINTERTRAUM can be used for heifer insemination without any problems.

Feet & Legs and Udder Specialist

The young cows presented themselves medium-framed and very uniform in type. Particularly impressive were the correctly angled feet & legs and the high attached, well attached udders, which show length in the fore udder and rear udder area. The teats are on the thinner and shorter side in terms of length and thickness.

WINTERTRAUM daughter BBBW in 1st lactation

WINTERTRAUM daughter LIMAS in 1st lactation

WINTERTRAUM daughter ROSE in 1st lactation

Commentary on the December 2024 Breeding Value Estimation

Systematic Breeding *Leads to Success*

Ing. Reinhard Pfleger

Docile, robust and fit cows that achieve high lifetime yields are the goal of every breeder and milk producer - here in Austria as well as in many of our customers' countries. Nothing should be left to chance when laying the genetic basis of the herds. The current Austrian Fleckvieh genetics offer an extensive range of bulls with different hereditary specialties. Every insemination should be preceded by targeted mating. We therefore recommend all our customers to make use of the breeding and mating advice of Genetic Austria and the Austrian breeding- and AI companies in addition to their own breeding instinct.

Daughter – Proven Bulls – Strong Genetics in Reuse

The heterozygous polled **GS WEGA Pp*** made it to the top of the list of bulls with daughter performance and scores with fertile daughters who are willing to perform. The udder-strong **GS WUNDAWUZI** was also able to take up a position at the top of the list. The daughters of **GS WUHUDLER** are characterized by high milk production and the best feet & legs. **GS DELUXE**, like his sire **GS DEFACTO**, produces framy, udder-strong cows and can score with good milk solids. **HORAZIO P*S** also breeds large cows with high milk solids. **WINTERTRAUM** consolidates his reputation as a fitness and feet & legs specialist. **MABUSO** can unite the sought-after combination of correct conformation and high milk solids.

Genomic Young Sires for the Highest Demands

At the top of the list is **GS WILDTRAK Pp***, who combines the highest performance potential with heterozygous polled. **GS HONORAR** impresses with a balanced profile and a high value for claw health. **WACHAU P*S** promises to combine the best production performance of his daughters with very good udder quality. **HOCHOBIR** convinces with high values for milk and beef production. Also new is **GS HINBLICK**, who promises to improve the milk fat value of his daughters. **MEGASTAR Pp*** convinces with the combination of best conformation traits paired with high milk solids. **GS HOCHTIROL** stands out with udder strength and a well-balanced profile. **GS ITALO** is an answer to the search for bulls that improve milk solids and frame.

From the less frequent DIRIGENT-bloodline, the high milk performer **GS DUPLEX** and **DUCKTALES**, whose strengths lie in the conformation traits, stand out. The quality of Austrian bulls that inherit homozygous polled is also improving. **HOCHKARAT PP*** is a new homozygous polled sire with a linear profile that leaves nothing to be desired. With **GS MIR NACH PP***, **SALOMON PP*** and **MENZARO PP***, further homozygous polled bulls are being offered that promise performance and fitness strength in a package with remarkable udder quality.

Fleckvieh for Today and Tomorrow

The power of the Fleckvieh Austria breeding program delivers bulls of high quality in all selection levels. The listed bulls can fulfil our vision of Fleckvieh for today and tomorrow. With Fleckvieh genetics from Austria, you are ideally positioned for future breeding and production requirements.

Ing. Reinhard Pfleger,
director Fleckvieh Austria

Daughters of GS WUHUDLER

Daughters of MABUSO

Single Traits Main Focus – *December 2024*

The schedule contains the best 10 bulls, assessed on the basis of individual traits, from a joint list of proven bulls (in brown) and genomic bulls (in blue). The lists are arranged in accordance with relative breeding values as associated with individual traits, total merit index and milk index. The two best proven bulls have been listed in any event, even if they have not been counted among the top ten.

Rg	Name	Diff. TMI
5	GS HOERI	+2
25	MALUS	+2
21	DESITERIO	+1
33	GS HALLEY Pp*	+1
1	GS WEGA Pp*	+1
47	GS SIGNA Pp*	+1
11	HORAZIO P*S	+1
22	GS MY BEST Pp*	+1
27	GS MEDWED P*S	+1
4	HOCHOBIR	0

Rg	Name	TMI
1	GS WILDTRAK Pp*	147
2	GS HONORAR	147
3	WACHAU P*S	147
4	HOCHOBIR	147
5	GS HINBLICK	145
6	GS WAIERDORF Pp*	145
7	HERNESTO	144
8	GS SAUSTARK	144
1	GS WEGA Pp*	138
2	GS WUNDAWUZI	137

Rg	Name	MI
9	MEGASTAR Pp*	134
25	INVERNESS	133
1	GS WILDTRAK Pp*	132
15	GS DUPLEX	132
5	GS HINBLICK	130
32	GS SETZBERG Pp*	130
50	GS HASHBEST	130
2	GS HONORAR	129
8	WUNDERLING	127
6	GS WUHUDLER	125

Rg	Name	BI
17	VILIUS	126
59	ZAUBERER	125
62	EUSEBIO	124
46	GS ISOBAR	123
25	MALUS	123
20	GS STEINMANN	122
27	GS MEDWED P*S	122
30	GS ECONOMIC Pp*	122
4	HOCHOBIR	120
8	GS SAUSTARK	120

Rg	Name	FIT
3	WACHAU P*S	139
38	GS SABIAN	136
6	GS WAIERDORF Pp*	131
23	GS SUPPORT Pp*	130
31	SILAS Pp*	130
14	WIRBELWIND P*S	129
24	HUPFER	129
47	GS SIGNA Pp*	129
2	GS WUNDAWUZI	128
1	GS WEGA Pp*	127

Rg	Name	Mkg
1	GS WILDTRAK Pp*	+1468
34	GS MYFUERST PP*	+1457
3	WACHAU P*S	+1350
15	GS DUPLEX	+1328
33	GS HALLEY Pp*	+1301
58	GS HABITUS PP*	+1297
65	GS HAMOR	+1272
2	GS HONORAR	+1256
8	WUNDERLING	+1233
27	GS MEDWED P*S	+1169

Rg	Name	F%
5	GS HOERI	+0.43
9	MEGASTAR Pp*	+0.42
24	MABUSO	+0.38
39	GS HANSI	+0.37
9	GS ZERO ONE	+0.33
11	HORAZIO P*S	+0.30
10	GS DELUXE	+0.26
25	MALUS	+0.26
23	GS SUPPORT Pp*	+0.24
5	GS HINBLICK	+0.23

Rg	Name	Fkg
9	MEGASTAR Pp*	+66
5	GS HINBLICK	+56
39	GS HANSI	+54
5	GS HOERI	+53
1	GS WILDTRAK Pp*	+51
13	HOCHKARAT PP*	+49
35	HILLINGER	+49
15	GS DUPLEX	+48
16	GS ITALO	+48
10	GS DELUXE	+48

Rg	Name	P%
25	INVERNESS	+0.17
22	MONORON	+0.13
9	MEGASTAR Pp*	+0.12
9	GS ZERO ONE	+0.11
11	HORAZIO P*S	+0.11
57	GS HAPPY MAN	+0.10
25	MALUS	+0.10
66	GS HOCHKOGEL	+0.09
23	GS SUPPORT Pp*	+0.08
17	VILIUS	+0.08

Rg	Name	Pkg
25	INVERNESS	+47
15	GS DUPLEX	+42
1	GS WILDTRAK Pp*	+41
32	GS SETZBERG Pp*	+40
2	GS HONORAR	+39
3	WACHAU P*S	+39
7	HERNESTO	+39
8	GS SAUSTARK	+39
6	GS WUHUDLER	+38
8	WUNDERLING	+36

Rg	Name	TOI
2	GS HONORAR	144
10	GS HOCHTIROL	143
3	WACHAU P*S	142
7	HERNESTO	142
5	GS HINBLICK	140
11	GS HIEBLER	140
13	HOCHKARAT PP*	140
23	GS SUPPORT Pp*	140
2	GS WUNDAWUZI	138
12	WINTERTRAUM	136

Rg	Name	Long
3	WACHAU P*S	132
38	GS SABIAN	131
6	GS WAIERDORF Pp*	130
31	SILAS Pp*	130
23	GS SUPPORT Pp*	129
61	MERLE	128
14	WIRBELWIND P*S	127
45	WIRBEL P*S	127
2	GS WUNDAWUZI	125
30	GS ECONOMIC Pp*	125

Rg	Name	Pers
6	GS WUHUDLER	125
32	HARRO	121
1	GS WEGA Pp*	120
36	HOCHFEILER	116
4	GS WABANGO	116
7	GS WINTEN	116
57	GS HAPPY MAN	114
16	WEISSENSEE	114
26	WILKO	114
11	GS HIEBLER	113

Rg	Name	Perf
6	GS WUHUDLER	121
16	GS ITALO	120
33	GS WOIWODE	118
2	GS HONORAR	117
52	GS ZIO	117
58	GS HABITUS PP*	117
32	HARRO	116
7	HERNESTO	115
51	GS WUNDAKIND	115
25	MALUS	115

Rg	Name	UDH
15	GS WHIRLPOOL	130
3	GS WUNDERINO	129
46	GS ISOBAR	128
48	GS WEBWUNDA	128
3	WACHAU P*S	127
8	GS SAUSTARK	127
14	WIRBELWIND P*S	127
27	GS SANDERS Pp*	127
51	GS WUNDAKIND	127
57	GS HAPPY MAN	127

Rg	Name	CVL p
26	WALDENBERG	120
39	GS HANSI	120
12	GS HAG Pp*	119
38	GS SABIAN	119
20	GS STEINMANN	118
31	SILAS Pp*	117
12	WINTERTRAUM	117
32	GS SETZBERG Pp*	115
5	GS HINBLICK	113
22	GS MY BEST Pp*	113

Rg	Name	CVL m
3	WACHAU P*S	116
14	GS WEG FREI	115
22	MONORON	114
4	GS WABANGO	114
4	HOCHOBIR	113
43	SALZBURG	113
52	GS ZIO	113
56	GS WILD BOY	113
10	GS HOCHTIROL	112
14	WIRBELWIND P*S	111

Rg	Name	VIT
47	GS SIGNA Pp*	117
49	GS WINNIE PU	117
66	GS HOCHKOGEL	116
28	SALOMON PP*	115
7	HERNESTO	113
32	GS SETZBERG Pp*	113
45	WIRBEL P*S	113
6	GS WAIERDORF Pp*	112
12	WINTERTRAUM	110
22	GS MY BEST Pp*	110

Rg	Name	MSp
12	GS HAG Pp*	130
43	SALZBURG	128
1	GS WILDTRAK Pp*	126
34	GS MYFUERST PP*	126
19	GS DEFACTO	125
23	ENRICO	125
61	MERLE	122
8	WUNDERLING	122
10	GS HOCHTIROL	121
7	GS WINTEN	121

Rg	Name	FEI
38	GS SABIAN	135
23	GS SUPPORT Pp*	130
3	WACHAU P*S	129
62	EUSEBIO	128
6	GS WAIERDORF Pp*	126
60	GS MACH MIT Pp*	126
28	HABAKUK	125
24	HUPFER	124
35	HILLINGER	124
18	WESTEN	121

Rg	Name	KGW
12	WINTERTRAUM	113
6	GS WAIERDORF Pp*	111
10	GS HOCHTIROL	111
12	GS HAG Pp*	111
2	GS HONORAR	110
11	GS HIEBLER	110
49	GS WINNIE PU	109
21	DESITERIO	107
24	HUPFER	107
34	GS JEDERMANN	106

Rg	Name	MiBe
10	GS DELUXE	112
23	ENRICO	112
22	MONORON	111
4	HOCHOBIR	110
17	GS HUNGARO	110
57	GS HAPPY MAN	110
31	GS HERZTAKT	110
21	DESITERIO	109
18	GS MIR NACH PP*	108
31	SILAS Pp*	108

Rg	Name	Mas
61	MERLE	129
8	GS SAUSTARK	128
48	GS WEBWUNDA	127
46	GS ISOBAR	125
42	GS DORADO	124
9	MEGASTAR Pp*	123
24	MABUSO	123
64	DAVINCI P*S	121
12	WINTERTRAUM	121
15	GS WHIRLPOOL	121

Rg	Name	EFD
23	GS SUPPORT Pp*	120
8	GS SAUSTARK	118
35	HILLINGER	117
34	GS MYFUERST PP*	116
9	MEGASTAR Pp*	115
38	GS SABIAN	115
18	GS MIR NACH PP*	114
19	SEEBODEN	114
11	HORAZIO P*S	113
33	GS WOIWODE	113

Rg	Name	Cyst
24	HUPFER	119
38	GS SABIAN	118
2	GS WUNDAWUZI	115
62	EUSEBIO	114
19	SEEBODEN	113
23	GS SUPPORT Pp*	113
3	WACHAU P*S	112
20	GS STEINMANN	112
30	SUPERMARIO	112
19	GS DEFACTO	112

Rg	Name	Fert
46	GS ISOBAR	+6%
62	EUSEBIO	+5%
4	HOCHOBIR	+3%
35	HILLINGER	+3%
57	GS HAPPY MAN	+3%
25	MALUS	+3%
28	HABAKUK	+3%
14	WIRBELWIND P*S	+2%
3	GS WUNDERINO	+2%
52	GS ZIO	+2%

Rg	Name	FR
13	HOCHKARAT PP*	125
28	HABAKUK	124
21	WOMBAT	121
15	GS DUPLEX	120
25	INVERNESS	120
11	HORAZIO P*S	119
19	GS DEFACTO	118
10	GS DELUXE	116
16	GS ITALO	115
54	MAMBA	115

Rg	Name	MU
46	GS ISOBAR	114
30	SUPERMARIO	113
48	GS WEBWUNDA	113
13	HOCHKARAT PP*	112
2	GS WUNDAWUZI	112
30	GS ECONOMIC Pp*	112
59	ZAUBERER	111
19	SEEBODEN	110
20	GS STEINMANN	110
45	WIRBEL P*S	110

Rg	Name	FL
12	WINTERTRAUM	136
33	GS WOIWODE	122
24	MABUSO	121
6	GS WUHUDLER	120
10	GS HOCHTIROL	118
41	GS HITORI	118
60	GS MACH MIT Pp*	116
12	GS HAG Pp*	115
29	DUCKTALES	115
38	GS SABIAN	115

Rg	Name	UD
38	GS SABIAN	132
60	GS MACH MIT Pp*	131
57	GS HAPPY MAN	130
13	HOCHKARAT PP*	129
2	GS WUNDAWUZI	129
19	GS DEFACTO	129
51	GS WUNDAKIND	126
48	GS WEBWUNDA	125
10	GS HOCHTIROL	123
8	GS SAUSTARK	122

Toplist by Total Merit Index – *Proven Bulls*

This top list contains all available proven bulls that are owned/co-owned by the Austrian insemination centers, meet minimum criteria defined by Fleckvieh Austria and are allowed to be exported by geneticAUSTRIA.

Rg	Identification data	Partial breeding values					Milk / Conformation			Beef		Fitness								Absolute performances indicators							
	Name ID Sire / Dam's sire YoB. Foreign Genet. def. AI center Avail. Fert.	TMI *Re* *Diff*	MI *Re* *Diff*	BI *Re* *Diff*	FIT *Re* *Diff*	TOI *Re* *Diff*	Mkg Ext-Dau FR-MU-FL-UD-(ADD)	F% Fkg	P% Pkg	CCI NDG CARC TRC		Long Pers Perf Msp		UDH FEI CLV p VIT		SCC KGW CLV m MiBe		Mas EFD Cyst MiFe		Int-Dau in 1.L in 2.L in 3.L	Farm MP1 MP2 MP3	D100 D1 D2 D3	Mkg	F%	P%	ØHd Mat
1	**GS WEGA Pp*** AT 23 7794 869	**138**	**112**	**115**	**127**	**135**	+995	-0.28	-0.17	116	*99*	121	*84*	114	*96*	113	*97*	113	*78*	535	413	302	2914	3.76	3.09	8716
	WEISSENSEE / MAHANGO Pp*	*95*	*99*	*99*	*94*	*96*		+16	+20	113	*99*	120	*98*	120	*89*	93	*88*	105	*87*	535	4	11	8063	3.66	3.32	99.9
	2019	*+1*	*0*	*-2*	*+1*	*+1*	167 Dau:			115	*98*	103	*81*	101	*99*	106	*96*	107	*83*	1	1	0				
	A1, 17, 2 J +1%						101-100-98-104-(104)			107	*99*	103	*98*	107	*98*	100	*85*	105	*83*	0	0	0				
*2	**GS WUNDAWUZI** AT 19 5270 174	**137**	**115**	**111**	**128**	**138**	+641	-0.03	-0.02	112	*99*	125	*78*	125	*90*	123	*87*	118	*73*	43	37	0				
	WESTWIND / GS DER BESTE	*87*	*92*	*99*	*89*	*91*		+24	+21	101	*99*	106	*89*	115	*81*	98	*82*	103	*76*	43	1	0				
	2020	*-4*	*-5*	*-2*	*+1*	*-2*	33 Dau:			114	*99*	111	*80*	110	*99*	109	*95*	115	*74*	0	0	0				
	A1, 17 J, V -6%						101-112-95-129-(102)			107	*99*	103	*93*	106	*98*	102	*74*	111	*44*	0	0	0				
3	**GS WUNDERINO** AT 09 7146 569	**137**	**114**	**117**	**124**	**130**	+333	+0.15	+0.06	115	*99*	115	*80*	129	*94*	130	*94*	119	*73*	185	147	78	2740	3.85	3.21	8879
	WEISSENSEE / REUMUT	*92*	*97*	*98*	*91*	*94*		+27	+17	109	*99*	103	*96*	115	*84*	94	*82*	106	*81*	185	3	0				102.5
	2019	*-3*	*-3*	*-1*	*-3*	*-2*	58 Dau:			119	*98*	106	*82*	102	*99*	104	*93*	100	*77*	0	0	0				
	A1 J +2%						105-106-91-106-(95)			110	*98*	95	*96*	100	*95*	104	*84*	112	*68*	0	0	0				
4	**GS WABANGO** AT 88 5925 968	**136**	**117**	**108**	**124**	**130**	+763	-0.16	+0.03	104	*98*	115	*83*	119	*95*	120	*95*	111	*76*	186	164	173	2630	3.96	3.23	7944
	WABAN / MAHANGO Pp*	*93*	*98*	*97*	*92*	*94*		+17	+29	103	*98*	116	*97*	118	*87*	89	*83*	108	*84*	186	7	135	7423	4.14	3.45	96.0
	2018	*-1*	*-1*	*0*	*+2*	*0*	68 Dau:			106	*97*	105	*89*	95	*98*	114	*92*	106	*82*	79	3	3				
	A1 J 0%						110-107-92-100-(103)			107	*97*	104	*97*	97	*89*	106	*84*	110	*76*	0	0	0				
5	**GS HOERI** AT 19 6383 369	**134**	**122**	**102**	**118**	**130**	+392	+0.43	+0.04	105	*99*	111	*82*	110	*95*	107	*96*	116	*73*	537	398	90	2925	4.15	3.20	9130
	HOKUSPOKUS / RUKSI	*94*	*98*	*99*	*93*	*95*		+53	+17	95	*99*	103	*97*	118	*88*	100	*87*	111	*86*	537	2	1				104.1
	2019, 4 % RF	*+2*	*-2*	*-1*	*+1*	*+4*	200 Dau:			101	*99*	101	*79*	112	*99*	100	*97*	98	*79*	0	0	0				
	A1, 17, 2 J, V, J -3%						100-99-114-112-(99)			105	*99*	95	*98*	106	*99*	80	*86*	101	*80*	0	0	0				
6	**GS WUHUDLER** AT 26 7174 169	**133**	**125**	**94**	**115**	**133**	+1121	-0.16	-0.01	93	*99*	115	*89*	118	*98*	121	*98*	106	*85*	1052	679	791	2883	3.99	3.27	9132
	WABAN / MANIGO	*97*	*99*	*99*	*96*	*97*		+32	+38	94	*99*	125	*99*	102	*93*	102	*93*	98	*91*	1052	6	358	8103	4.17	3.54	99.3
	2018	*-1*	*-1*	*0*	*0*	*-2*	376 Dau:			93	*97*	121	*91*	98	*99*	97	*97*	97	*90*	188	3	2				
	A1, 2, 17 J 0%						106-108-120-111-(99)			98	*99*	103	*99*	97	*97*	90	*90*	102	*92*	0	0	0				
*7	**GS WINTEN** AT 95 1695 369	**133**	**120**	**103**	**119**	**126**	+968	-0.17	-0.04	106	*98*	118	*78*	117	*90*	119	*88*	111	*72*	31	30	8	3054	3.54	3.15	9504
	WEISSENSEE / GS WRIGLEY	*87*	*93*	*97*	*88*	*91*		+25	+31	112	*98*	116	*89*	108	*80*	102	*80*	100	*76*	31	2	0				103.6
	2020	*0*	*0*	*+1*	*-1*	*-1*	20 Dau:			94	*96*	102	*81*	107	*99*	103	*91*	105	*74*	0	0	0				
	A1 J +2%						109-105-96-106-(103)			104	*97*	121	*93*	97	*95*	108	*75*	109	*46*	0	0	0				
8	**WUNDERLING** AT 87 9635 769	**132**	**127**	**109**	**103**	**126**	+1233	-0.10	-0.09	107	*99*	110	*79*	114	*94*	115	*94*	109	*73*	254	196	132	3139	3.91	3.17	9171
	WEISSENSEE / HERZSCHLAG	*92*	*97*	*98*	*90*	*94*		+42	+36	108	*99*	111	*96*	85	*83*	94	*84*	90	*81*	254	3	3				99.4
	2019	*0*	*+1*	*-1*	*-1*	*-1*	149 Dau:			107	*98*	106	*80*	91	*99*	104	*93*	99	*77*	0	0	0				
	Eu, A3, A8, A5 J 0%						98-100-106-107-(104)			107	*98*	122	*97*	101	*94*	96	*84*	108	*71*	0	0	0				
9	**GS ZERO ONE** DE 09 52479429	**131**	**120**	**115**	**110**	**122**	+305	+0.33	+0.11	109	*98*	109	*87*	115	*96*	116	*96*	109	*81*	214	149	204	2866	4.12	3.24	8803
	ZEPTER / WATT	*95*	*98*	*97*	*94*	*96*		+41	+20	106	*98*	87	*97*	108	*91*	105	*90*	107	*87*	214	8	182	7545	4.39	3.54	95.5
	2016, 5 % RF F5C	*-3*	*-1*	*-1*	*-1*	*-2*	121 Dau:			117	*97*	107	*97*	95	*99*	102	*94*	110	*87*	168	8	145	8595	4.42	3.61	
	A1 J +2%						94-99-106-105-(93)			109	*97*	99	*97*	94	*94*	104	*85*	115	*83*	128	7	70	9457	4.42	3.55	
*10	**GS DELUXE** AT 10 4570 274	**130**	**125**	**112**	**104**	**122**	+619	+0.26	+0.05	113	*99*	101	*79*	107	*90*	103	*88*	112	*73*	43	37	1				
	GS DEFACTO / HERZSCHLAG	*88*	*93*	*99*	*89*	*92*		+48	+26	127	*99*	96	*90*	104	*81*	91	*82*	102	*77*	43	1	0				
	2020	*-2*	*0*	*-4*	*-1*	*-1*	34 Dau:			103	*99*	100	*80*	94	*99*	105	*96*	103	*75*	0	0	0				
	A1, 2, 17 J, V, J -1%						116-103-107-114-(102)			105	*99*	119	*92*	99	*99*	112	*75*	100	*43*	0	0	0				
11	**HORAZIO P*S** AT 22 6832 169	**130**	**118**	**111**	**113**	**126**	+274	+0.30	+0.11	114	*99*	108	*84*	114	*96*	110	*97*	117	*78*	516	403	346	2757	4.28	3.29	8281
	HILFINGER / MAHANGO Pp*	*95*	*99*	*99*	*94*	*96*		+37	+19	114	*99*	105	*98*	106	*89*	96	*86*	113	*86*	516	5	105	7470	4.47	3.57	99.3
	2019	*+1*	*-1*	*+1*	*+1*	*+3*	188 Dau:			111	*99*	94	*81*	109	*99*	107	*96*	94	*84*	30	2	0				
	Eu, A3, A5 J +2%						119-99-106-113-(97)			103	*99*	91	*98*	104	*97*	98	*88*	111	*83*	0	0	0				
12	**WINTERTRAUM** AT 98 9327 769	**130**	**109**	**105**	**124**	**136**	+760	-0.25	-0.14	109	*99*	119	*87*	123	*97*	121	*97*	121	*83*	906	632	290	3175	3.72	3.14	9720
	GS WOIWODE / GS DER BESTE	*96*	*99*	*99*	*95*	*97*		+10	+15	94	*99*	104	*98*	114	*93*	113	*93*	105	*92*	906	3	4				105.1
	2019	*0*	*-1*	*0*	*-1*	*-1*	364 Dau:			111	*99*	105	*80*	117	*99*	100	*98*	110	*87*	1	2	0				
	A1, 2, 17 J +2%						97-82-136-122-(104)			102	*99*	118	*99*	110	*99*	89	*91*	105	*88*	0	0	0				
13	**GS HUSKY** AT 27 0202 969	**129**	**115**	**109**	**117**	**125**	+800	-0.17	-0.05	107	*98*	115	*77*	109	*92*	107	*92*	111	*69*	114	103	69	2738	3.86	3.16	7997
	HUSAM / HERZSCHLAG	*90*	*96*	*97*	*89*	*92*		+18	+24	103	*98*	105	*94*	113	*81*	105	*79*	97	*77*	114	5	21	7400	4.10	3.40	93.4
	2019	*-3*	*-3*	*0*	*+1*	*-2*	30 Dau:			110	*97*	107	*81*	97	*97*	104	*89*	108	*75*	2	2	0				
	A1 J -3%						102-101-101-103-(98)			105	*97*	111	*95*	104	*87*	98	*78*	108	*61*	0	0	0				
14	**GS WEG FREI** AT 90 5196 168	**129**	**111**	**108**	**121**	**128**	+1025	-0.32	-0.20	105	*98*	113	*79*	120	*93*	119	*93*	116	*73*	160	137	107	2794	3.73	3.01	8280
	GS W1 / HURLY	*91*	*97*	*97*	*90*	*93*		+13	+18	98	*98*	108	*96*	112	*83*	101	*81*	108	*80*	160	5	22	8042	3.98	3.30	96.3
	2019	*-1*	*-1*	*-1*	*0*	*-1*	44 Dau:			114	*97*	103	*81*	94	*98*	115	*91*	102	*77*	4	1	0				
	A1 J +1%						90-98-104-112-(101)			102	*97*	106	*96*	105	*90*	96	*82*	112	*68*	0	0	0				
15	**GS WHIRLPOOL** AT 41 8797 669	**129**	**110**	**107**	**124**	**124**	+655	-0.17	-0.09	109	*98*	113	*77*	130	*92*	131	*91*	121	*69*	88	66	54	2866	3.82	3.04	8414
	GS WOIWODE / ETOSCHA	*89*	*96*	*97*	*88*	*92*		+13	+15	104	*98*	96	*93*	118	*79*	83	*78*	108	*76*	88	4	2				98.3
	2019	*-1*	*-2*	*0*	*-1*	*-1*	35 Dau:			108	*97*	103	*80*	107	*98*	106	*89*	104	*73*	1	1	0				
	A1 J +1%						103-85-106-102-(103)			104	*97*	100	*95*	102	*90*	101	*78*	100	*57*	0	0	0				
16	**WEISSENSEE** AT 36 4261 168	**128**	**119**	**102**	**111**	**121**	+827	-0.16	+0.03	103	*99*	107	*98*	121	*99*	123	*99*	113	*97*	6877	3625	6334	2744	4.03	3.28	8600
	WABAN / VULCANO	*99*	*99*	*99*	*99*	*99*		+20	+32	104	*99*	114	*99*	100	*99*	103	*99*	94	*99*	6877	8	5413	7689	4.10	3.48	95.9
	2017	*-1*	*0*	*0*	*-1*	*-1*	2475 Dau:			98	*99*	105	*99*	104	*99*	98	*99*	98	*99*	4422	7	2307	8895	4.12	3.58	
	Eu, A8, A3, A5 J +1%						99-104-96-111-(103)			103	*99*	110	*99*	100	*99*	101	*98*	110	*99*	1372	4	80	9924	4.03	3.56	
17	**VILIUS** AT 26 4007 968	**128**	**118**	**126**	**102**	**121**	+520	+0.06	+0.08	123	*96*	107	*80*	94	*93*	96	*92*	94	*73*	87	75	85	2805	4.32	3.24	8207
	VILLEROY / EVERGREEN	*90*	*96*	*95*	*90*	*93*		+27	+26	113	*95*	89	*95*	104	*84*	93	*81*	106	*80*	87	7	73	7331	4.37	3.47	93.2
	2018	*-2*	*-1*	*-1*	*-1*	*-1*	48 Dau:			128	*95*	96	*92*	97	*96*	110	*89*	99	*79*	62	6	19	8054	4.23	3.60	
	Eu, A3 J -3%						91-100-107-103-(108)			117	*93*	108	*95*	105	*84*	95	*79*	116	*67*	6	2	0				

Toplist by Total Merit Index – *Proven Bulls*

This top list contains all available proven bulls that are owned/co-owned by the Austrian insemination centers, meet minimum criteria defined by Fleckvieh Austria and are allowed to be exported by geneticAUSTRIA.

Rg	Identification data	Partial breeding values					Milk / Conformation			Beef	Fitness								Absolute performances indicators							
	Name ID Sire / Dam's sire YoB. Foreign Genet. def. AI center Avail. Fert.	TMI *Re* *Diff*	MI *Re* *Diff*	BI *Re* *Diff*	FIT *Re* *Diff*	TOI *Re* *Diff*	Mkg Ext-Dau FR-MU-FL-UD-(ADD)	F% Fkg	P% Pkg	CCI NDG CARC TRC	Long Pers Perf Msp	UDH FEI CLV p VIT	SCC KGW CLV m MiBe	Mas EFD Cyst MiFe	Int-Dau in 1.L in 2.L in 3.L	Farm MP1 MP2 MP3	D100 D1 D2 D3	Mkg	F%	P%	ØHd Mat
*18	**WESTEN** AT 85 7220 869 GS WOIWODE / WABAN 2020, 5 % RF Eu, A3 J 0%	128 *89* *0*	117 *96* *-1*	91 *96* *+1*	122 *88* *0*	124 *91* *-1*	+552 46 Dau: 89-96-99-100-(106)	+0.06 +28	+0.02 +21	92 97 83 97 95 96 98 96	113 77 106 93 108 81 113 94	112 92 121 79 101 97 108 88	110 91 101 78 105 89 92 78	119 68 111 76 107 72 105 59	94 94 0 0	83 3 0 0	36 0 0 0	2912	4.00	3.25	8685 100.1
19	**GS DEFACTO** AT 95 3502 538 GS DER BESTE / MINT 2018 F5C A1 J 0%	128 *97* *0*	113 *99* *-1*	118 *99* *0*	110 *97* *+1*	126 *98* *0*	+600 405 Dau: 118-98-97-129-(104)	-0.06 +20	-0.03 +19	117 99 123 99 120 99 102 99	110 92 99 99 100 98 125 99	105 98 110 95 100 99 97 98	105 98 99 93 107 98 96 93	102 88 98 94 112 93 111 94	984 984 498 32	706 7 5 2	862 680 115 0	2828 7623 8475	3.97 4.15 4.19	3.15 3.37 3.54	8683 97.3
20	**HAMLET Pp*** AT 14 7665 169 HERMELIN / MAHANGO Pp* 2019 Eu, A3, A5 J +1%	128 *98* *0*	113 *99* *0*	114 *99* *0*	113 *98* *0*	124 *98* *0*	+949 1410 Dau: 98-107-98-96-(103)	-0.18 +24	-0.20 +16	108 99 106 99 114 99 109 99	114 95 113 99 107 82 96 99	117 99 104 97 95 99 92 99	119 99 87 97 108 99 96 97	109 94 107 97 100 96 111 97	4511 4511 84 0	2584 4 2 0	2534 327 0 0	3040 8079	3.81 4.01	3.13 3.39	9095 100.7
21	**WOMBAT** DE 09 52729613 WOBBLER / MELCHIOR 2017, 5 % RF Eu, A3 J +2%	128 *94* *-2*	113 *98* *-1*	108 *97* *-3*	117 *93* *-1*	121 *95* *-1*	+815 96 Dau: 121-97-101-100-(96)	-0.29 + 8	-0.01 +28	111 99 119 98 103 98 102 97	108 85 102 96 102 96 101 96	115 95 115 88 101 99 102 97	113 95 86 85 109 94 99 82	121 77 100 85 103 84 111 78	140 140 117 86	111 8 8 7	133 123 98 38	2835 7793 8667 9075	3.93 4.07 4.08 4.03	3.19 3.43 3.55 3.52	8680 96.3
22	**GS MY BEST Pp*** AT 78 1642 769 GS MYSTERIUM Pp* / GS DER 2019 A1 J +2%	128 *92* *+1*	108 *97* *-1*	110 *98* *0*	123 *91* *0*	130 *94* *+1*	+774 100 Dau: 111-97-111-111-(102)	-0.34 + 2	-0.10 +18	115 99 110 99 119 98 96 98	117 79 105 96 114 80 82 96	111 94 121 84 113 99 110 96	110 94 99 84 106 93 104 82	110 73 101 81 109 77 109 71	225 225 2 0	175 3 1 0	92 9 0 0	3082 8726	3.68 3.79	3.24 3.44	9933 105.6
23	**ENRICO** AT 21 6735 269 GS ENJO / HERZSCHLAG 2018 Eu, A3 J 0%	127 *93* *0*	122 *97* *-1*	107 *98* *0*	104 *92* *+1*	120 *94* *0*	+1014 72 Dau: 113-109-104-98-(97)	-0.09 +34	-0.05 +31	110 98 119 98 91 98 112 97	105 82 102 96 107 91 125 96	101 94 104 86 103 98 96 92	101 94 99 84 105 92 112 83	101 75 108 82 101 81 111 73	162 162 78 0	131 7 4 0	149 115 2 0	2908 8081	4.08 4.20	3.16 3.42	8636 97.5
24	**MABUSO** AT 27 8267 568 MIAMI / HURLY 2018 Eu, A5, A3 J 0%	127 *96* *-2*	121 *99* *-2*	99 *98* *0*	109 *95* *-1*	120 *97* *+1*	+372 254 Dau: 97-88-121-120-(101)	+0.38 +48	+0.06 +18	99 99 94 99 104 99 97 98	109 87 83 98 94 96 108 98	113 96 107 92 106 99 101 97	109 97 98 87 101 97 97 89	123 78 105 90 94 87 100 89	634 634 230 13	509 6 5 2	481 347 56 1	2769 7184 8067	4.27 4.38 4.47	3.24 3.45 3.62	8258 96.8
*25	**MALUS** AT 34 0420 369 MOGUL / VAENOMENAL 2019 Eu, A3 J +3%	127 *88* *+2*	114 *95* *+2*	123 *95* *-1*	107 *87* *0*	128 *90* *+1*	+160 32 Dau: 109-100-108-108-(104)	+0.26 +28	+0.10 +14	122 96 118 95 128 96 109 93	108 76 110 93 115 80 104 94	109 91 98 78 102 96 98 84	109 90 85 77 104 86 101 76	104 67 98 75 101 72 107 56	75 75 0 0	55 4 0 0	51 1 0 0	2957	4.19	3.23	8849 99.2
26	**WILKO** AT 85 7214 169 GS WOIWODE / WABAN 2020, 5 % RF Eu, A3, A8, A5 J +1%	127 *93* *-2*	113 *97* *-5*	104 *99* *-1*	117 *92* *+1*	126 *94* *-1*	+959 125 Dau: 102-104-104-97-(105)	-0.22 +20	-0.17 +18	102 99 95 99 105 99 106 99	112 80 114 97 115 81 106 97	112 95 110 86 96 99 103 98	110 95 99 85 109 95 95 85	116 74 103 83 101 78 106 75	319 319 0 0	250 2 0 0	68 0 0 0	3001	3.73	3.07	9480 102.0
27	**GS MEDWED P*S** AT 82 3161 569 GS MYSTERIUM Pp* / 2019 A1, 17, 2 J. V. V 0%	127 *92* *+1*	112 *98* *+2*	122 *98* *+1*	110 *91* *-2*	130 *94* *+1*	+1169 132 Dau: 97-97-113-118-(103)	-0.35 +17	-0.26 +17	119 99 112 99 122 97 114 98	117 79 104 97 112 79 112 97	104 95 105 84 101 99 102 96	103 95 89 85 102 94 108 83	102 73 105 82 109 78 106 74	297 297 0 0	238 3 0 0	134 1 0 0	3102	3.73	3.06	9306 101.2
28	**HABAKUK** AT 14 7662 769 HERO / MINION 2019 Eu, A3 J +3%	127 *91* *-3*	110 *97* *-2*	115 *97* *0*	117 *89* *-3*	122 *92* *-2*	+696 69 Dau: 124-98-96-105-(90)	-0.22 +10	-0.09 +17	108 97 118 97 115 96 105 96	108 77 101 96 107 80 100 95	109 93 125 80 81 97 92 89	108 93 94 77 109 90 91 78	105 67 110 77 112 74 115 66	183 183 3 0	143 5 1 0	134 7 0 0	2972 9243	3.88 3.57	3.15 3.40	8710 98.6
29	**GS VERISMO PP*** AT 40 5032 168 VESPASIAN P*S / MAHANGO 2018 A1, 2, 17 J +2%	127 *98* *0*	106 *99* *-1*	120 *99* *0*	117 *98* *+1*	125 *98* *-1*	+426 430 Dau: 108-105-110-101-(105)	-0.13 + 7	-0.06 +10	116 99 112 99 120 99 112 99	109 94 106 99 105 99 110 99	116 99 116 97 102 99 94 98	116 99 102 94 109 98 89 94	113 90 104 96 100 95 104 96	2247 2247 1057 60	1378 7 5 2	1934 1462 185 0	2574 6969 7968	3.89 4.04 4.10	3.13 3.34 3.54	7844 94.9
30	**GS ECONOMIC Pp*** AT 20 0313 GS EHRSAM / WOBBLER 2019 A1 J +1%	127 *90* *0*	102 *96* *0*	122 *97* *0*	122 *89* *-1*	128 *92* *0*	+168 33 Dau: 95-112-105-106-(102)	+0.03 +10	-0.10 - 2	121 98 112 98 117 96 120 97	125 77 98 95 108 80 108 95	112 92 116 81 101 98 106 89	108 92 103 77 108 89 108 79	120 69 100 77 109 74 106 64	135 135 0 0	114 4 0 0	88 5 0 0	2678 7512	3.92 4.05	3.00 3.19	7932 95.2
31	**GS HERZTAKT** AT 91 3133 329 HERZSCHLAG / VLAX 2016, 6 % RF A1 J +1%	126 *98* *-3*	120 *99* *-1*	107 *99* *0*	106 *98* *-2*	121 *99* *-2*	+856 697 Dau: 92-100-105-108-(103)	-0.03 +33	-0.06 +25	110 99 102 99 104 99 108 99	99 96 104 99 104 99 101 99	109 99 101 98 108 99 110 98	113 99 100 96 102 99 110 95	97 94 101 97 100 97 100 97	1732 1732 1363 758	1042 8 7 6	1596 1477 1007 341	2802 7708 8705 9344	4.00 4.20 4.26 4.29	3.13 3.36 3.47 3.46	8733 95.2
32	**HARRO** DE 09 54245057 HAPPYEND / MANUAP 2019, 5 % RF Eu, A3 J -4%	126 *91* *-1*	118 *97* *-1*	101 *95* *0*	114 *90* *0*	122 *93* *-2*	+691 50 Dau: 109-101-107-106-(101)	+0.07 +35	-0.05 +20	97 96 100 95 101 94 101 94	107 80 121 95 116 85 83 95	120 93 103 84 89 96 95 86	118 93 97 80 96 90 96 79	118 71 100 80 103 78 109 68	111 111 48 0	92 7 3 0	97 78 0 0	2635 7443	4.19 4.31	3.21 3.46	8218 96.3
33	**GS WOIWODE** AT 93 4843 838 WOBBLER / RALDI 2017, 6 % RF A1, 2, 17 J +1%	126 *99* *-1*	111 *99* *-1*	97 *99* *-1*	121 *99* *0*	127 *99* *-1*	+470 1098 Dau: 104-98-122-112-(103)	-0.08 +13	+0.02 +18	98 99 91 99 98 99 102 99	118 97 98 99 118 99 114 99	118 99 116 98 104 99 102 99	115 99 100 98 101 99 102 96	121 94 113 97 107 97 104 98	2955 2955 2021 549	1788 8 7 3	2759 2385 941 12	2858 7578 8836 1016	3.85 4.16 4.20 4.12	3.16 3.45 3.59 3.52	8832 98.3
34	**GS JEDERMANN** AT 56 5704 368 JACK / HURLY 2018, 8 % RF A1, 2, 17 J. V. V +1%	126 *97* *-3*	109 *99* *-1*	113 *98* *-1*	116 *96* *-2*	121 *97* *-4*	+703 412 Dau: 106-97-105-109-(103)	-0.18 +13	-0.15 +12	116 99 106 99 121 97 102 98	114 89 100 99 82 96 114 99	101 97 117 93 110 99 110 95	99 98 106 92 107 96 106 89	105 83 108 91 106 90 108 91	994 994 381 19	604 7 4 2	700 499 50 0	2858 7960 8728	3.99 4.08 4.06	3.12 3.35 3.44	8698 99.2

GS DELUXE

AT 10 4570 274 GENOSTAR; CRV; Greifenberg

Breeder: Stuphann Manfred, 3202 Grünau

Breeding Value: gTMI 130 (88) | BI 112 (99) | FIT 104 (89) | TOI 122 (92)
MI 125 (93) +619 +0.26 +48 +0.05 +26

Hereditary transmission: Rarely do the offspring of a bull generate such positive feedback as GS DELUXE. Extremely well developed offspring, good feet & legs especially in the pasterns and feet & legs are already convincing in the calves. He produces strong-bodied, good milking young cows with highly positive components, which move on good feet & legs and can convince with a good udder, especially in the fore udder area with length and attachment. The teat length and teat thickness are also in the optimum range. In terms of fitness, he scores with good udder health in combination with good milkability and calm milking behaviour.

DESCENT		
GS DEFACTO AT 95 3502 538 128 / 113 / +600-0.06-0.03	**GS DER BESTE** AT 51 4740 229	**DAX**
	BENNI AT 42 4482 829	**MINT**
SANDRA AT 58 7544 938 116 / 117 / +318+0.21+0.10 4/4 10,626-4.94-3.75-924 4. 12,610-4.95-3.50-1,066	**HERZSCHLAG** AT 30 3304 428	**HUTERA**
	STEFFI AT 84 4389 419 +4/3 11,111-4.26-3.87-904	**GS MG**

CONFORMATION 116 – 103 – 107 – 114 (92)

34 daughters		Extrem	76	88	100	112	124	136	Extrem
Frame	**116**								
Muscling	**103**								
Feet & Legs	**107**								
Udder	**114**								
Cross height	116	small							large
Body length	121	short							long
Hip width	116	narrow							wide
Body depth	110	shallow							deep
Rump angle	92	ascending							descending
Hock angularity	102	straight							sickled
Hock development	97	swollen							dry
Pasterns	106	weak							strong
Hoof height	114	low							high
Fore udder length	108	short							long
Rear udder length	97	short							long
Fore udder attach.	117	loose							tight
Central ligament	98	weak							strong
Udder depth	109	deep							high
Teat length	98	short							long
Teat thickness	100	thin							thick
Front teat placement	105	wide							close
Rear teat placement	115	wide							close
Rear teat direction	116	outwards							inwards
Additional teats	102	add. teats							clean

= optimal range

HORAZIO P*S

AT 22 6832 169 EU; OÖ Besamungsstation; Rinderzucht Tirol

Breeder: Schmidseder Karin und Alois, 4761 Enzenkirchen

Breeding Value: gTMI 130 (95) | 111 (99) | FIT 113 (94) | TOI 126 (96)
MI 118 (99) +274 +0,30 +37 +0,11 +19

Hereditary transmission: The positively tested polled sire HORAZIO P*S is the best son of HILFINGER. HORAZIO P*S comes from a cow family that shows strength in dual purpose and impresses with a high willingness to perform, positive milk ingredients and a calm character. Numerous females and males with high genomic breeding values come from the well-known I-cow line of the Schmidseder family from Enzenkirchen. HORAZIO P*S inspires with excellent calving traits on the paternal and maternal side. He can be used excellently to improve milk ingredients. His tall and long daughters have high attached udders that are firmly attached to the abdomen.

DESCENT		
HILFINGER DE 08 16589529 118 / 118 / +653-0,08+0,07	**HURLY** DE 09 47424346	**HULKOR**
	SAMBA DE 08 15491101	**WILLE**
INKA 55 Pp* AT 62 4889 638 119 / 114 / +166+0.35+0.03 5/5 11,062-4.81-3.69-941 4. 13,719-4.48-3.43-1,085	**MAHANGO Pp*** DE 09 48097266	**MUNGO Pp**
	IDA 19 Pp* AT 08 5456 629 8/7 10,615-4.59-3.73-884	**WITAM P*S**

CONFORMATION 119 – 99 – 106 – 113 (96)

188 daughters		Extrem	76	88	100	112	124	136	Extrem
Frame	**119**								
Muscling	**99**								
Feet & Legs	**106**								
Udder	**113**								
Cross height	128	small							large
Body length	117	short							long
Hip width	94	narrow							wide
Body depth	92	shallow							deep
Rump angle	106	ascending							descending
Hock angularity	101	straight							sickled
Hock development	101	swollen							dry
Pasterns	98	weak							strong
Hoof height	104	low							high
Fore udder length	90	short							long
Rear udder length	87	short							long
Fore udder attach.	114	loose							tight
Central ligament	79	weak							strong
Udder depth	129	deep							high
Teat length	95	short							long
Teat thickness	93	thin							thick
Front teat placement	99	wide							close
Rear teat placement	84	wide							close
Rear teat direction	84	outwards							inwards
Additional teats	97	add. teats							clean

= optimal range

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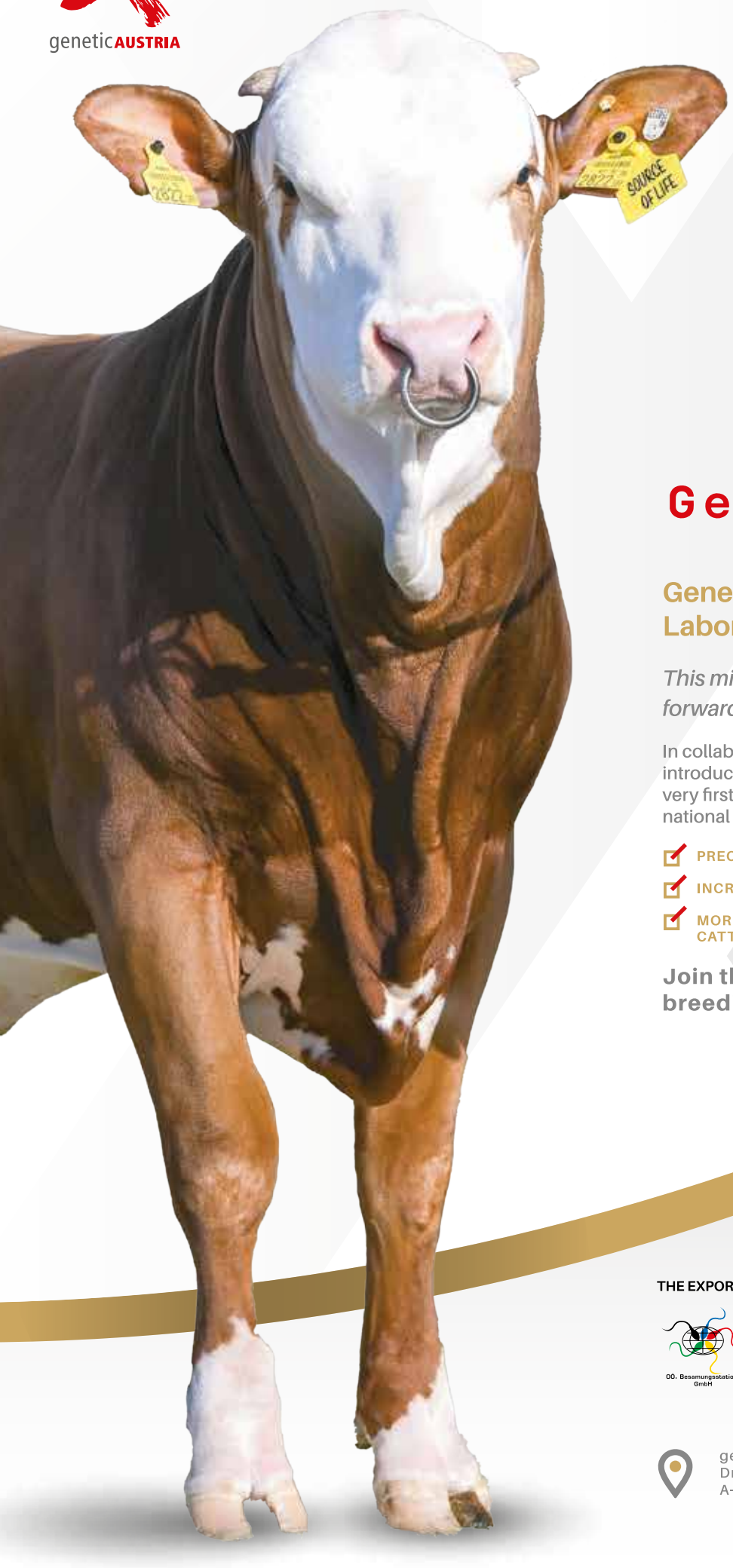

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Dr. Otmar Föger Straße 1
A-4921 Hohenzell.

geneticAUSTRIA GmbH
Dresdner Straße 89/18
A-1200 Vienna.

Toplist by Total Merit Index – *Genomic Young Bulls*

This toplist contains all available genomic young bulls that are owned/co-owned by the Austrian insemination centers, meet minimum criteria defined by Fleckvieh Austria and are allowed to be exported by geneticAUSTRIA.

	Identification data		Partial breeding values					Milk			Beef	Fitness								Conformation			
Rg	Name ID Sire / Dam's sire Genet. def.	YoB, Foreign AI Center Availab. Fert	TMI *Re* *Diff*	MI *Re* *Diff*	BI *Re* *Diff*	FIT *Re* *Diff*	TOI *Re* *Diff*	Mkg	F% Fkg	P% Pkg	NDG CARC TRC	Long Pers Perf		UdH CLV p VIT		SCC CLV m Msp		FEI KGW MiBe		FR *Re*	MU	FL	UD Add
1	**GS WILDTRAK Pp*** AT 58 8031 389 WIRBELWIND P*S / MANAUS	2023 A1, 17 E	**147** *76* *-2*	**132** *84* *-1*	**109** *75* *-1*	**125** *80* *0*	**139** *82* *-2*	+1468	-0.10 +51	-0.11 +41	111 *75* 102 *75* 109 *73*	123 *70* 106 *76* 107 *73*		116 *82* 107 *82* 103 *73*		119 *77* 102 *76* 126 *84*		118 *70* 94 *71* 104 *60*		108 *81*	107	105	111 99
*2	**GS HONORAR** AT 37 9710 289 HEISS / ZEIGER	2023 A1 E	**147** *75* *new*	**129** *84* *new*	**113** *72* *new*	**124** *80* *new*	**144** *82* *new*	+1256	-0.11 +42	-0.06 +39	114 *73* 116 *73* 102 *71*	126 *70* 112 *76* 117 *72*		123 *82* 100 *81* 106 *73*		124 *77* 108 *76* 110 *84*		105 *70* 110 *71* 102 *62*		106 *82*	99	111	116 101
3	**WACHAU P*S** AT 15 2822 589 WIRBELWIND P*S / SUNRISE	2023 Eu, A3, A5, A8 J	**147** *76* *-2*	**127** *84* *0*	**97** *75* *-2*	**139** *80* *0*	**142** *82* *-1*	+1350	-0.22 +36	-0.10 +39	96 *75* 100 *75* 96 *74*	132 *70* 107 *76* 104 *73*		127 *82* 103 *80* 104 *73*		128 *77* 116 *76* 115 *84*		129 *70* 97 *71* 104 *62*		103 *82*	96	103	119 98
4	**HOCHOBIR** AT 85 1556 874 HASHTAG / ETHOS	2021, 5 % RF Eu, A8, A3 J +3%	**147** *79* *0*	**124** *87* *0*	**120** *76* *0*	**127** *83* *-1*	**139** *85* *0*	+950	-0.05 +35	0.00 +33	117 *76* 121 *77* 109 *74*	120 *72* 107 *80* 105 *75*		123 *84* 100 *98* 107 *88*		126 *80* 113 *81* 104 *86*		117 *73* 88 *73* 110 *65*		102 *83*	103	103	108 104
*5	**GS HINBLICK** AT 47 4839 889 HOPFEN / MANAUS	2023, 4 % RF A1, 17 E	**145** *74* *new*	**130** *84* *new*	**119** *70* *new*	**117** *79* *new*	**140** *81* *new*	+836	+0.23 +56	+0.02 +31	118 *71* 115 *71* 114 *70*	118 *68* 109 *76* 112 *73*		113 *81* 113 *81* 109 *72*		115 *76* 106 *74* 111 *83*		104 *68* 98 *69* 100 *60*		103 *81*	106	103	115 104
*6	**GS WAIERDORF Pp*** AT 92 4651 789 WIRBELWIND P*S / GS MYDARLING	2023 A1 E	**145** *73* *new*	**127** *83* *new*	**108** *72* *new*	**131** *78* *new*	**137** *80* *new*	+930	+0.08 +46	-0.01 +32	102 *73* 116 *73* 100 *70*	130 *67* 95 *74* 102 *71*		116 *80* 102 *79* 112 *70*		118 *74* 102 *74* 104 *81*		126 *67* 111 *67* 106 *56*		104 *78*	90	108	109 98
*7	**HERNESTO** AT 51 1501 889 HEISS / GS VERISMO PP*	2023 Eu, A3 J	**144** *75* *new*	**126** *84* *new*	**115** *71* *new*	**123** *80* *new*	**142** *82* *new*	+1001	-0.11 +32	+0.04 +39	112 *72* 119 *72* 104 *70*	122 *69* 112 *76* 115 *73*		118 *81* 101 *81* 113 *72*		116 *76* 110 *75* 111 *84*		105 *69* 105 *70* 104 *61*		103 *81*	98	106	112 108
8	**GS SAUSTARK** AT 85 3258 888 GS SPUTNIK / GS WOIWODE	2022 A1 J	**144** *76* *0*	**124** *84* *-1*	**120** *75* *-1*	**127** *80* *+1*	**136** *82* *0*	+1218	-0.26 +27	-0.04 +39	116 *76* 115 *76* 114 *74*	121 *70* 99 *76* 102 *74*		127 *82* 95 *82* 98 *73*		122 *77* 108 *76* 101 *84*		119 *70* 95 *70* 103 *61*		101 *81*	102	101	122 100
9	**MEGASTAR Pp*** AT 99 7038 174 MARTINUS P*S / JARON	2022 Eu, A3, A5, A8 J +1%	**143** *79* *0*	**134** *86* *+1*	**104** *81* *+1*	**119** *83* *-3*	**134** *85* *-2*	+685	+0.42 +66	+0.12 +35	109 *81* 99 *82* 103 *80*	111 *71* 105 *79* 103 *74*		115 *83* 99 *99* 101 *95*		109 *78* 109 *91* 115 *85*		117 *72* 88 *73* 102 *61*		104 *82*	105	105	121 99
10	**GS HOCHTIROL** AT 77 3272 789 HAN SOLO / GS WOIWODE	2023 A1, 17 E	**143** *75* *-2*	**126** *84* *-1*	**109** *73* *0*	**126** *81* *0*	**143** *82* *-2*	+844	+0.07 +41	+0.02 +32	106 *74* 110 *73* 104 *72*	122 *70* 107 *77* 111 *74*		114 *82* 101 *80* 108 *74*		107 *77* 112 *76* 121 *85*		119 *70* 111 *71* 104 *62*		108 *82*	97	118	123 105
*11	**GS HIEBLER** AT 47 3498 489 HEISS / WAALKES Pp*	2023 A1 E	**143** *75* *new*	**125** *84* *new*	**116** *72* *new*	**124** *80* *new*	**140** *82* *new*	+1154	-0.15 +35	-0.06 +35	110 *73* 121 *73* 105 *71*	124 *70* 113 *76* 111 *73*		125 *82* 101 *80* 100 *73*		126 *77* 107 *76* 105 *84*		107 *70* 110 *71* 101 *62*		104 *82*	102	110	114 103
12	**GS HAG Pp*** AT 49 8726 389 HEISS / WAALKES Pp*	2023 A1, 17 E	**143** *75* *-1*	**125** *84* *-1*	**115** *72* *0*	**120** *80* *-1*	**139** *81* *-2*	+1224	-0.14 +38	-0.10 +34	115 *73* 117 *73* 105 *70*	124 *69* 101 *75* 103 *72*		110 *81* 119 *82* 104 *73*		109 *76* 107 *76* 130 *83*		112 *69* 111 *70* 107 *61*		101 *81*	95	115	117 103
*13	**HOCHKARAT PP*** AT 49 7571 489 HOFGUT Pp* / INGMAR PP*	2023 Eu, A3 E	**142** *74* *new*	**125** *84* *new*	**118** *71* *new*	**121** *79* *new*	**140** *81* *new*	+726	+0.20 +49	-0.01 +25	129 *72* 112 *72* 107 *70*	117 *68* 107 *76* 108 *71*		115 *81* 104 *80* 110 *72*		112 *76* 105 *74* 99 *84*		112 *68* 106 *69* 98 *60*		125 *81*	112	109	129 105
14	**WIRBELWIND P*S** AT 73 6267 574 WAALKES Pp* / SISYPHUS	2021 Eu, A3, A5, A8 J +2%	**142** *83* *-1*	**123** *88* *0*	**103** *93* *-4*	**129** *87* *-1*	**136** *89* *-1*	+982	-0.05 +37	-0.06 +30	101 *93* 106 *94* 100 *92*	127 *78* 104 *81* 106 *78*		127 *86* 105 *99* 105 *99*		131 *81* 111 *95* 109 *87*		116 *79* 104 *81* 105 *67*		100 *84*	99	105	112 96
15	**GS DUPLEX** AT 19 1959 389 GS DELUXE / WEISSENSEE	2023 A1, 2 J	**141** *76* *-3*	**132** *85* *-1*	**115** *76* *-4*	**110** *81* *-2*	**134** *83* *-2*	+1328	-0.08 +48	-0.06 +42	128 *77* 108 *76* 106 *75*	112 *70* 109 *78* 109 *74*		108 *83* 96 *82* 96 *73*		106 *78* 106 *77* 118 *85*		103 *71* 100 *71* 101 *63*		120 *83*	100	104	115 108
*16	**GS ITALO** AT 20 9761 489 INNKREIS / ZEIGER	2023 A1 E	**141** *74* *new*	**129** *84* *new*	**116** *70* *new*	**117** *79* *new*	**138** *81* *new*	+811	+0.16 +48	+0.06 +34	128 *71* 109 *71* 105 *69*	110 *68* 109 *76* 120 *73*		121 *81* 111 *81* 104 *71*		121 *76* 101 *73* 111 *84*		106 *68* 94 *68* 104 *60*		115 *81*	105	110	109 99
17	**GS HUNGARO** AT 11 1479 288 HASHTAG / ETOSCHA	2021 A1 J -2%	**141** *80* *0*	**125** *88* *-1*	**120** *77* *0*	**120** *84* *+2*	**134** *86* *0*	+875	-0.05 +32	+0.07 +37	123 *77* 116 *78* 110 *76*	118 *75* 104 *81* 106 *76*		116 *85* 103 *98* 99 *87*		114 *81* 101 *82* 101 *87*		114 *75* 102 *75* 110 *67*		112 *85*	106	110	112 99
*18	**GS MIR NACH PP*** AT 59 3495 589 MAHINDRA P*S / ZEIGER	2023 A1, 17, 2 E	**141** *74* *new*	**124** *84* *new*	**112** *71* *new*	**126** *79* *new*	**137** *81* *new*	+1012	-0.07 +36	-0.04 +32	116 *72* 111 *72* 103 *70*	121 *68* 107 *76* 112 *73*		118 *81* 98 *80* 105 *72*		120 *76* 105 *74* 105 *84*		118 *68* 96 *69* 108 *60*		103 *81*	100	106	112 105
19	**SEEBODEN** AT 21 5241 689 GS SPUTNIK / HOFMEISTER	2023 Eu, A8, A3 J	**141** *75* *0*	**121** *84* *0*	**119** *75* *-1*	**126** *80* *-1*	**135** *82* *+1*	+874	-0.10 +28	0.00 +31	122 *75* 114 *76* 111 *74*	124 *69* 95 *76* 100 *73*		114 *81* 108 *80* 109 *72*		112 *76* 108 *76* 91 *84*		123 *69* 105 *70* 104 *61*		105 *81*	110	105	117 102
20	**GS STEINMANN** AT 65 0943 788 GS SPUTNIK / WORLDCUP	2022 A1 J	**140** *75* *-3*	**127** *84* *-1*	**122** *75* *-2*	**116** *80* *-2*	**135** *82* *-2*	+1104	-0.08 +38	-0.02 +37	125 *75* 112 *75* 117 *74*	114 *69* 97 *76* 109 *74*		112 *82* 118 *80* 103 *72*		109 *77* 106 *76* 103 *84*		112 *69* 99 *70* 97 *61*		102 *81*	110	95	117 102
21	**DESITERIO** AT 13 4946 789 GS DELUXE / ZAZU	2022 Eu, A3 J	**140** *77* *+1*	**127** *86* *+1*	**113** *76* *-2*	**120** *81* *+1*	**131** *83* *+1*	+916	+0.07 +45	-0.01 +32	116 *76* 109 *76* 108 *74*	119 *70* 97 *78* 105 *75*		123 *83* 95 *82* 104 *73*		124 *78* 103 *76* 99 *85*		108 *70* 107 *71* 109 *63*		99 *83*	97	106	111 106
22	**MONORON** AT 33 8541 988 MONOPOLY P*S / JARON	2022 Eu, A3, A5, A8 J +1%	**140** *80* *-3*	**125** *87* *0*	**109** *80* *+1*	**125** *84* *-3*	**137** *87* *-3*	+687	+0.07 +35	+0.13 +36	108 *80* 111 *81* 101 *78*	118 *74* 110 *80* 111 *79*		115 *84* 106 *99* 107 *95*		114 *80* 114 *89* 95 *86*		118 *74* 95 *75* 111 *64*		106 *83*	105	106	115 98

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Rg	Identification data		Partial breeding values					Milk			Beef	Fitness								Conformation			
	Name ID Sire / Dam's sire Genet. def.	YoB, Foreign AI Center Availab. Fert	TMI *Re* *Diff*	MI *Re* *Diff*	BI *Re* *Diff*	FIT *Re* *Diff*	TOI *Re* *Diff*	Mkg	F% Fkg	P% Pkg	NDG CARC TRC	Long Pers Perf		UdH CLV p VIT		SCC CLV m Msp		FEI KGW MiBe		FR *Re*	MU	FL	UD Add
23	**GS SUPPORT Pp*** AT 46 2244 288 GS SPUTNIK / GS WHAT ELSE	2022 A1 J	**140** *75* *0*	**118** *84* *0*	**115** *75* *-1*	**130** *80* *-1*	**140** *82* *-1*	+343	+0.24 +34	+0.08 +19	112 *75* 113 *75* 109 *74*	129 *69* 95 *76* 110 *74*		107 *81* 109 *81* 112 *72*		100 *76* 110 *76* 103 *83*		130 *69* 93 *70* 99 *60*		107 *80*	103	105	122 103
24	**HUPFER** AT 14 6050 889 HIGHNESS / GS DOC	2023 Eu, A3 J	**140** *75* *-4*	**117** *84* *-2*	**117** *71* *-2*	**129** *80* *-3*	**138** *81* *-4*	+685	-0.02 +27	-0.02 +22	114 *72* 117 *72* 110 *70*	121 *69* 108 *76* 106 *72*		115 *82* 107 *80* 110 *72*		114 *77* 111 *75* 97 *84*		124 *69* 107 *70* 98 *61*		105 *81*	97	111	112 99
25	**INVERNESS** AT 50 1762 489 INNKREIS / WABAN	2023 Eu, A3 J	**139** *75* *-2*	**133** *84* *-1*	**120** *71* *0*	**107** *80* *-2*	**130** *81* *-1*	+889	+0.11 +47	+0.17 +47	125 *71* 114 *72* 112 *69*	95 *69* 109 *76* 112 *74*		111 *81* 105 *80* 104 *71*		109 *76* 103 *74* 102 *84*		105 *69* 95 *69* 103 *60*		120 *81*	100	102	102 104
26	**WALDENBERG** AT 14 2636 889 GS WUNDAWUZI / WEISSENSEE	2023, 4 % RF Eu, A3, A8 J	**139** *76* *-2*	**127** *85* *-3*	**109** *74* *-2*	**119** *80* *+1*	**135** *82* *-1*	+1242	-0.13 +40	-0.08 +37	102 *75* 113 *75* 105 *73*	119 *69* 94 *77* 111 *74*		117 *82* 120 *81* 112 *72*		117 *77* 105 *75* 106 *84*		108 *69* 98 *70* 102 *61*		101 *82*	94	102	112 103
27	**GS SANDERS Pp*** AT 75 4485 488 SENATOR / WAALKES Pp*	2023 A1, 17 J	**139** *76* *-1*	**127** *84* *-2*	**101** *75* *+4*	**122** *80* *-3*	**131** *82* *-1*	+942	+0.03 +43	+0.02 +35	95 *76* 106 *75* 99 *73*	120 *70* 98 *76* 104 *74*		127 *82* 112 *80* 110 *73*		129 *77* 103 *76* 111 *84*		107 *70* 105 *70* 98 *61*		102 *81*	101	108	110 95
28	**SALOMON PP*** AT 90 3183 689 SAHNE Pp* / WAALKES Pp*	2023 Eu, A3 J	**139** *75* *-3*	**124** *84* *-2*	**110** *72* *-2*	**121** *80* *-2*	**134** *82* *-1*	+937	0.00 +39	-0.04 +30	110 *72* 109 *73* 105 *70*	122 *69* 101 *76* 104 *74*		112 *82* 108 *82* 115 *73*		114 *77* 104 *76* 109 *84*		111 *69* 95 *71* 102 *61*		101 *82*	99	106	113 102
29	**DUCKTALES** AT 09 0339 789 GS DELUXE / GS WOIWODE	2022 Eu, A8, A5, A3 J	**139** *78* *-3*	**123** *86* *-2*	**114** *78* *-4*	**118** *82* *-2*	**134** *84* *-3*	+941	-0.03 +36	-0.03 +30	117 *78* 112 *78* 107 *76*	119 *72* 106 *79* 107 *76*		117 *84* 95 *81* 104 *75*		115 *79* 105 *78* 113 *87*		106 *72* 104 *73* 101 *66*		103 *84*	96	115	114 105
30	**SUPERMARIO** AT 61 7377 489 SUPERBOY / HERZPOCHEN	2023 Eu, A8, A3, A5 J	**139** *75* *-2*	**120** *84* *-2*	**116** *75* *-5*	**125** *80* *+1*	**138** *82* *-1*	+701	+0.01 +30	+0.03 +27	118 *76* 109 *76* 112 *74*	121 *69* 104 *76* 114 *74*		122 *81* 100 *81* 108 *72*		122 *76* 103 *76* 101 *84*		114 *69* 107 *70* 100 *61*		111 *81*	113	113	117 106
*31	**SILAS Pp*** AT 29 4860 389 SAHNE Pp* / SIDO	2023 Eu, A3 E	**139** *75* *new*	**120** *84* *new*	**106** *71* *new*	**130** *80* *new*	**137** *81* *new*	+1004	-0.15 +28	-0.09 +27	105 *72* 107 *71* 102 *70*	130 *69* 105 *76* 112 *73*		121 *81* 117 *80* 104 *72*		117 *76* 94 *75* 120 *83*		122 *69* 102 *70* 108 *60*		98 *81*	90	107	113 101
32	**GS SETZBERG Pp*** AT 85 4372 988 GS SPUTNIK / GS MURTAL Pp*	2022 A1 J	**138** *75* *-2*	**130** *84* *0*	**103** *75* *-2*	**119** *79* *-1*	**133** *81* *-2*	+1027	0.00 +43	+0.04 +40	107 *76* 100 *75* 102 *73*	115 *68* 110 *75* 109 *73*		99 *81* 115 *80* 113 *72*		93 *76* 108 *75* 102 *83*		119 *68* 100 *68* 95 *59*		107 *80*	100	97	111 104
33	**GS HALLEY Pp*** AT 99 7263 188 HALBMOND Pp* / MERCEDES Pp*	2023 A1 J	**138** *74* *+1*	**128** *84* *-1*	**104** *71* *+3*	**122** *79* *+1*	**131** *81* *+1*	+1301	-0.14 +41	-0.08 +38	110 *72* 98 *71* 103 *70*	116 *68* 100 *76* 112 *72*		116 *81* 101 *80* 103 *71*		113 *76* 103 *74* 103 *84*		119 *68* 95 *69* 106 *60*		103 *81*	99	98	110 106
34	**GS MYFUERST PP*** AT 75 4138 388 MEVERIK Pp* / VERDEN P*S	2022 A1, 17 J	**138** *75* *0*	**125** *84* *-2*	**109** *75* *+5*	**119** *80* *0*	**130** *82* *0*	+1457	-0.28 +34	-0.17 +35	110 *76* 108 *76* 105 *74*	117 *69* 101 *77* 100 *75*		108 *82* 101 *82* 104 *73*		108 *77* 102 *75* 126 *84*		118 *69* 97 *69* 94 *60*		106 *81*	94	105	110 94
35	**HILLINGER** AT 65 4136 888 GS HOERI / MCFIT	2022, 4 % RF Eu, A5, A3 J +3%	**138** *77* *0*	**125** *86* *-1*	**106** *75* *+1*	**125** *81* *0*	**133** *83* *-1*	+971	+0.09 +49	-0.10 +26	97 *76* 107 *76* 106 *73*	123 *69* 107 *79* 110 *73*		107 *83* 108 *94* 109 *74*		107 *79* 94 *77* 104 *85*		124 *70* 99 *70* 87 *63*		97 *82*	98	110	105 99
36	**HOCHFEILER** AT 22 5126 688 HASHTAG / HUSAM	2022 Eu, A5 J 0%	**138** *79* *-1*	**123** *87* *-1*	**120** *76* *-1*	**118** *83* *0*	**134** *84* *-1*	+1132	-0.20 +29	-0.05 +35	112 *76* 126 *76* 106 *74*	112 *73* 116 *80* 113 *75*		123 *85* 104 *94* 95 *77*		125 *81* 105 *78* 90 *86*		107 *73* 105 *73* 101 *66*		105 *84*	89	110	107 100
37	**WAWEL PP*** AT 08 3268 789 WANNABE PP* / VOLLKOMMEN PP*	2023 Eu, A8 J	**138** *75* *0*	**123** *84* *0*	**117** *73* *0*	**118** *81* *0*	**134** *82* *0*	+818	+0.04 +38	0.00 +29	114 *74* 116 *74* 109 *71*	116 *70* 104 *77* 112 *75*		123 *82* 105 *80* 98 *73*		122 *77* 111 *76* 103 *84*		105 *70* 90 *70* 103 *62*		105 *82*	102	106	111 96
38	**GS SABIAN** AT 75 8188 388 GS SPUTNIK / GS HILLYBILL	2023, 4 % RF A1 J	**138** *74* *0*	**115** *84* *0*	**111** *74* *0*	**136** *79* *0*	**139** *81* *+1*	+514	+0.02 +23	+0.01 +19	109 *75* 108 *75* 108 *72*	131 *68* 97 *75* 101 *73*		120 *80* 119 *81* 109 *71*		115 *75* 98 *75* 99 *82*		135 *68* 99 *68* 97 *58*		104 *79*	100	115	132 104
39	**GS HANSI** AT 27 9702 888 GS HOERI / HERZPOCHEN	2022, 6 % RF A1 J 0%	**137** *78* *0*	**126** *86* *-2*	**112** *76* *0*	**118** *82* *+1*	**131** *84* *0*	+526	+0.37 +54	+0.06 +24	102 *76* 116 *76* 108 *75*	113 *70* 95 *79* 107 *73*		118 *83* 120 *97* 98 *81*		117 *79* 102 *79* 108 *86*		116 *71* 95 *71* 89 *64*		88 *83*	104	101	116 102
*40	**SENTINEL Pp*** AT 12 6664 989 GS SPUTNIK / ZEIGER	2023 Eu, A3 J	**137** *75* *new*	**124** *84* *new*	**116** *75* *new*	**114** *80* *new*	**134** *82* *new*	+908	-0.04 +35	0.00 +32	117 *76* 113 *76* 109 *74*	118 *69* 99 *76* 113 *73*		109 *81* 93 *82* 109 *73*		107 *76* 108 *76* 115 *84*		104 *69* 95 *70* 106 *61*		110 *81*	107	106	115 100
41	**GS HITORI** AT 72 2206 788 HIROTO / EDELSTEIN	2022 A1 J 0%	**137** *77* *-1*	**122** *86* *-2*	**120** *76* *0*	**118** *81* *0*	**135** *83* *-1*	+769	+0.03 +35	0.00 +27	111 *76* 122 *76* 112 *75*	114 *70* 100 *79* 112 *75*		114 *83* 98 *95* 109 *78*		113 *79* 98 *78* 106 *86*		113 *70* 99 *71* 107 *63*		109 *83*	106	118	115 99
42	**GS DORADO** AT 81 5970 288 GS DELUXE / VARTA	2022 A1 J	**137** *77* *0*	**122** *86* *-1*	**112** *76* *-1*	**122** *81* *-1*	**132** *83* *0*	+858	-0.05 +32	+0.01 +31	122 *77* 103 *77* 107 *75*	115 *71* 108 *79* 107 *75*		123 *83* 96 *82* 100 *74*		120 *79* 101 *77* 99 *86*		114 *71* 101 *72* 101 *63*		103 *83*	99	109	118 103
43	**SALZBURG** AT 81 7623 588 SUNSHINE / ROLLS	2022 Eu, A5 J	**137** *76* *-3*	**121** *85* *-1*	**119** *76* *+1*	**115** *81* *-2*	**136** *83* *-2*	+681	+0.06 +34	+0.02 +26	112 *76* 118 *76* 112 *75*	119 *71* 107 *78* 108 *75*		100 *83* 95 *82* 108 *73*		99 *78* 113 *77* 128 *85*		108 *70* 104 *71* 102 *63*		92 *83*	102	108	115 103
44	**SMART** AT 05 7955 589 SENATOR / ZEIGER	2023 Eu, A3 J	**137** *76* *0*	**121** *84* *-1*	**114** *75* *+3*	**119** *80* *-2*	**133** *82* *0*	+735	-0.04 +28	+0.05 +31	110 *76* 119 *75* 102 *73*	117 *70* 99 *76* 107 *74*		124 *82* 101 *82* 109 *73*		123 *77* 105 *76* 116 *84*		104 *70* 101 *70* 97 *61*		102 *82*	98	113	111 98

Toplist by Total Merit Index – *Genomic Young Bulls*

This toplist contains all available genomic young bulls that are owned/co-owned by the Austrian insemination centers, meet minimum criteria defined by Fleckvieh Austria and are allowed to be exported by geneticAUSTRIA.

	Identification data		Partial breeding values					Milk			Beef	Fitness								Conformation			
Rg	Name ID Sire / Dam's sire Genet. def.	YoB, Foreign AI Center Availab. Fert	TMI *Re* *Diff*	MI *Re* *Diff*	BI *Re* *Diff*	FIT *Re* *Diff*	TOI *Re* *Diff*	Mkg	F% Fkg	P% Pkg	NDG CARC TRC	Long Pers Perf		UdH CLV p VIT		SCC CLV m Msp		FEI KGW MiBe		FR *Re*	MU	FL	UD Add
45	**WIRBEL P*S** AT 16 9285 289 WIRBELWIND P*S / HERZPOCHEN	2022 Eu, A3 J	**137** *76* *-2*	**120** *84* *-1*	**106** *75* *-2*	**124** *80* *0*	**134** *82* *-2*	+671	+0.10 +37	-0.01 +23	107 *75* 106 *75* 102 *73*	127 *70* 103 *76* 106 *74*		119 *82* 109 *82* 113 *73*		117 *77* 104 *77* 117 *84*		108 *70* 103 *71* 100 *61*		106 *81*	110	105	116 98
46	**GS ISOBAR** AT 15 6162 488 IQ P*S / WEISSENSEE	2022, 5 % RF A1 J +6%	**137** *78* *-1*	**119** *86* *-1*	**123** *77* *+1*	**119** *82* *-1*	**135** *84* *-1*	+753	-0.01 +31	-0.02 +25	114 *77* 123 *77* 114 *75*	109 *71* 110 *79* 112 *74*		128 *84* 99 *95* 101 *78*		124 *80* 109 *79* 98 *86*		106 *72* 101 *72* 98 *66*		101 *84*	114	99	122 101
47	**GS SIGNA Pp*** AT 99 4889 288 GS SPUTNIK / GS WOIWODE	2023 A1 J	**137** *75* *+1*	**118** *84* *0*	**105** *75* *0*	**129** *80* *+2*	**137** *82* *+1*	+1027	-0.22 +22	-0.09 +28	107 *76* 104 *76* 101 *74*	122 *69* 102 *76* 107 *73*		115 *81* 110 *82* 117 *73*		113 *76* 109 *76* 109 *83*		122 *69* 103 *70* 101 *60*		113 *80*	103	110	120 100
48	**GS WEBWUNDA** AT 72 2496 988 GS WUNDAWUZI / WEISSENSEE	2022 A1, 17 J -2%	**137** *77* *-4*	**116** *85* *-4*	**117** *77* *-1*	**124** *82* *-2*	**136** *84* *-4*	+606	-0.03 +23	+0.02 +24	109 *78* 115 *79* 114 *76*	122 *71* 106 *77* 109 *74*		128 *83* 106 *98* 104 *84*		125 *78* 109 *82* 105 *85*		107 *71* 97 *72* 106 *63*		100 *83*	113	100	125 100
49	**GS WINNIE PU** AT 72 1895 188 WINTERTRAUM / MANAUS	2022 A1 J -2%	**137** *78* *-2*	**115** *86* *-1*	**117** *76* *0*	**124** *82* *-1*	**137** *83* *-2*	+1127	-0.33 +16	-0.17 +25	113 *76* 115 *76* 112 *75*	119 *71* 108 *80* 111 *73*		121 *84* 104 *95* 117 *76*		120 *80* 105 *78* 116 *86*		109 *72* 109 *72* 98 *65*		105 *83*	94	114	110 101
50	**GS HASHBEST** AT 30 5403 288 HASHTAG / GS DER BESTE	2022 A1 J -2%	**136** *80* *0*	**130** *88* *+1*	**102** *77* *0*	**115** *84* *+1*	**128** *86* *+1*	+1182	-0.03 +47	-0.04 +38	106 *77* 103 *78* 97 *76*	114 *75* 104 *81* 99 *76*		124 *86* 95 *97* 98 *83*		125 *82* 109 *81* 103 *88*		101 *75* 107 *75* 105 *68*		109 *85*	96	110	118 103
51	**GS WUNDAKIND** AT 90 9840 488 GS WUNDAWUZI / HERMELIN	2023 A1 J	**136** *76* *-4*	**128** *85* *-4*	**103** *75* *-1*	**118** *81* *0*	**133** *82* *-3*	+923	+0.11 +48	0.00 +33	98 *76* 107 *76* 102 *74*	117 *70* 103 *78* 115 *74*		127 *83* 109 *81* 102 *72*		126 *78* 104 *76* 99 *84*		101 *70* 99 *70* 103 *62*		105 *82*	103	97	126 105
52	**GS ZIO** AT 01 6228 974 ZEIGER / GS DER BESTE	2021 A1 J +2%	**136** *80* *0*	**126** *87* *0*	**113** *78* *+1*	**115** *84* *-1*	**132** *86* *+1*	+1010	-0.08 +35	+0.02 +38	114 *79* 116 *79* 101 *76*	114 *74* 111 *81* 117 *78*		116 *85* 78 *98* 86 *90*		113 *80* 113 *84* 99 *86*		108 *75* 101 *75* 99 *66*		103 *84*	93	104	115 101
53	**GS HOBL** AT 28 2612 588 HASHTAG / MINT	2021, 5 % RF A1 J -3%	**136** *80* *-2*	**126** *88* *-2*	**105** *77* *0*	**116** *85* *-2*	**131** *86* *-1*	+1147	-0.09 +39	-0.05 +36	109 *78* 105 *78* 100 *77*	116 *75* 108 *81* 102 *76*		119 *86* 111 *98* 109 *87*		122 *82* 105 *82* 100 *88*		99 *75* 98 *76* 101 *68*		100 *86*	93	113	119 104
54	**MAMBA** AT 97 6189 688 MERTEN / SISYPHUS	2023 Eu, A3 J	**136** *75* *-3*	**126** *85* *-1*	**102** *73* *-1*	**121** *80* *-2*	**132** *82* *-2*	+1032	-0.10 +34	+0.02 +39	107 *73* 99 *73* 100 *71*	122 *70* 102 *77* 107 *75*		118 *82* 97 *81* 91 *71*		118 *77* 107 *73* 113 *84*		115 *69* 100 *70* 108 *62*		115 *82*	100	108	122 105
55	**MEMO Pp*** DE 09 57673547 MEVERIK Pp* / MAJESTAET PP*	2022 Eu, A3 J	**136** *76* *0*	**125** *85* *-1*	**116** *76* *+3*	**113** *81* *0*	**129** *83* *0*	+1117	-0.05 +42	-0.11 +30	119 *76* 111 *76* 109 *75*	113 *71* 103 *78* 100 *75*		104 *83* 111 *81* 102 *74*		105 *78* 102 *76* 119 *85*		111 *70* 93 *72* 107 *63*		106 *83*	97	104	112 98
56	**GS WILD BOY** AT 06 6372 788 WAALKES Pp* / HENNESSY	2022 A1 J +1%	**136** *80* *-4*	**125** *88* *-1*	**116** *77* *0*	**110** *84* *-4*	**130** *86* *-4*	+1145	-0.16 +33	-0.05 +36	116 *78* 116 *78* 106 *76*	105 *75* 106 *81* 106 *79*		112 *86* 108 *95* 106 *79*		112 *82* 113 *79* 115 *88*		102 *75* 92 *76* 100 *68*		113 *85*	95	99	111 101
57	**GS HAPPY MAN** AT 05 2560 588 HASHTAG / WEISSENSEE	2022, 6 % RF A1 J +3%	**136** *80* *0*	**123** *87* *0*	**114** *77* *-1*	**113** *84* *0*	**135** *85* *-1*	+607	+0.12 +36	+0.10 +31	120 *77* 111 *77* 106 *75*	114 *74* 114 *81* 109 *75*		127 *85* 106 *98* 102 *88*		127 *81* 109 *82* 100 *87*		89 *74* 106 *75* 110 *67*		112 *84*	106	108	130 104
58	**GS HABITUS PP*** AT 09 5015 689 HALBMOND Pp* / MEDICUS PP*	2023 A1 J	**136** *76* *-2*	**123** *85* *-2*	**98** *72* *0*	**125** *80* *0*	**134** *82* *-2*	+1297	-0.23 +33	-0.14 +32	97 *73* 100 *72* 98 *71*	126 *69* 111 *77* 117 *74*		121 *82* 104 *82* 109 *72*		122 *77* 107 *75* 106 *84*		106 *69* 99 *70* 103 *62*		97 *82*	91	104	106 101
59	**ZAUBERER** AT 64 2698 774 ZEIGER / HURLY	2021 Eu, A8 J +1%	**136** *80* *-1*	**122** *88* *-1*	**125** *76* *+2*	**114** *84* *-1*	**127** *86* *0*	+847	-0.03 +33	0.00 +30	123 *77* 123 *76* 112 *75*	110 *75* 111 *81* 108 *78*		119 *85* 91 *96* 95 *82*		118 *81* 104 *80* 89 *87*		104 *75* 89 *75* 106 *68*		104 *85*	111	97	103 99
60	**GS MACH MIT Pp*** AT 76 6928 588 MERKEL1 PP* / GS HUBERBUA	2023 A1, 17, 2 J	**136** *74* *-2*	**119** *84* *-1*	**110** *71* *-1*	**127** *79* *-2*	**135** *81* *-2*	+629	+0.05 +31	0.00 +23	111 *72* 110 *72* 102 *70*	122 *68* 96 *76* 104 *73*		119 *81* 102 *80* 103 *72*		117 *76* 102 *74* 103 *84*		126 *68* 95 *69* 100 *61*		115 *81*	105	116	131 101
61	**MERLE** AT 11 1010 774 MCGYVER / VESUV	2021 Eu, A3 J -1%	**136** *80* *0*	**117** *89* *-1*	**104** *76* *+1*	**127** *84* *+1*	**134** *86* *-1*	+535	-0.01 +21	+0.07 +25	97 *77* 108 *77* 102 *76*	128 *75* 108 *82* 102 *79*		119 *86* 97 *95* 111 *82*		111 *82* 103 *80* 122 *88*		113 *75* 103 *75* 105 *69*		93 *85*	94	114	119 98
62	**EUSEBIO** AT 88 6548 374 EPHRAIM / ZAZU	2021 Eu, A3 J +5%	**136** *80* *0*	**112** *88* *-2*	**124** *76* *-1*	**125** *84* *+3*	**134** *85* *+1*	+894	-0.21 +18	-0.17 +16	115 *77* 132 *77* 108 *75*	119 *73* 109 *81* 111 *76*		108 *85* 93 *96* 99 *82*		106 *81* 103 *79* 107 *87*		128 *74* 101 *74* 105 *67*		102 *85*	95	99	110 99
63	**GS WALTZ** AT 22 6734 689 GS WUNDAWUZI / HERZKLOPFEN	2023 A1 J	**135** *76* *-4*	**125** *85* *-5*	**105** *75* *0*	**118** *80* *-1*	**133** *82* *-3*	+1184	-0.13 +37	-0.08 +35	104 *76* 104 *76* 102 *74*	115 *69* 106 *78* 110 *74*		117 *83* 107 *81* 104 *72*		118 *78* 109 *76* 106 *84*		108 *70* 96 *70* 99 *62*		104 *82*	100	101	121 99
64	**DAVINCI P*S** AT 16 2265 289 GS DELUXE / MCGYVER	2023 Eu, A3 J	**135** *76* *-1*	**122** *85* *-1*	**108** *76* *-3*	**121** *80* *-1*	**132** *82* *-1*	+511	+0.23 +42	+0.05 +23	113 *76* 108 *76* 101 *74*	113 *69* 102 *78* 113 *73*		121 *83* 106 *82* 109 *72*		118 *78* 101 *76* 97 *85*		113 *70* 98 *70* 100 *62*		103 *83*	105	104	114 99
65	**GS HAMOR** AT 84 8060 374 HAMLET Pp* / SEHRGUT	2021 A1 J	**135** *80* *0*	**122** *88* *-1*	**104** *77* *0*	**122** *84* *0*	**129** *85* *0*	+1272	-0.26 +28	-0.12 +34	102 *76* 104 *76* 104 *75*	119 *75* 106 *81* 110 *76*		123 *86* 102 *91* 103 *76*		128 *82* 107 *78* 91 *88*		110 *75* 87 *76* 101 *69*		100 *85*	100	97	106 99
66	**GS HOCHKOGEL** AT 99 9251 188 HOKUSPOKUS / GS WOIWODE	2023 A1 J	**135** *78* *-1*	**121** *87* *-1*	**106** *75* *-1*	**121** *83* *0*	**129** *84* *-1*	+567	+0.11 +33	+0.09 +28	104 *76* 110 *76* 100 *74*	112 *74* 95 *80* 103 *79*		118 *84* 113 *81* 116 *72*		115 *80* 102 *77* 107 *86*		116 *73* 100 *73* 94 *65*		100 *84*	98	108	110 106

HOCHOBIR

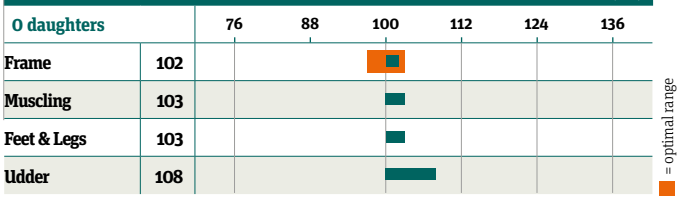
AT 85 1556 874 EU; OÖ Besamungsstation; caRINDthia

Breeder: Hannes Weber, 9433 St. Andrä

Breeding Value: gTMI 147 (79) | BI 120 (76) | FIT 127 (83) | TOI 139 (85)
MI 124 (87) +950 -0.05 +35 +0.00 +33

DESCENT		
HASHTAG DE 09 54210676 143/128/+1,262-0.06-0.08	**HAYABUSA** DE 09 51821433	**HERZSCHLAG**
	MAXIMA DE 09 52097773	**MANDRIN**
HERTA AT 94 3443 968 128 / 114 / +512+0.02-0.01 3/2 10,362-3.94-3.56-777 2. 10,651-4.20-3.73-845	**ETHOS** DE 09 52979287	**ETOSCHA**
	HANNI AT 89 6119 122 +8/7 8,198-4.26-3.45-633	**WALDBRAND**

CONFORMATION 102 – 103 – 103 – 108 (83)



GS HONORAR

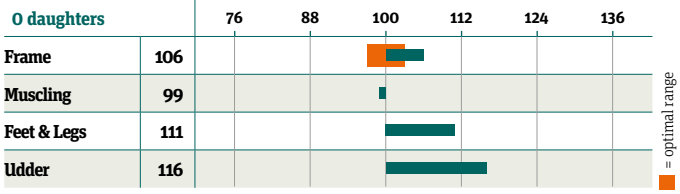
AT 37 9710 289 GENOSTAR

Breeder: Andrea und Josef Binder, 2823 Pitten

Breeding Value: gTMI 147 (75) | BI 113 (72) | FIT 124 (80) | TOI 144 (82)
MI 129 (84) +1,256 -0.11 +42 -0.06 +39

DESCENT		
HEISS DE 09 57165910 148 / 124 / +996-0.07-0.03	**HASHTAG** DE 09 54210676	**HAYABUSA**
	ROMVELL DE 09 48317746	**DELL**
GISELLA AT 67 7643 574 138 / 125 / +1,098-0.11-0.05 1/1 12,082-3.89-3.51-895	**ZEIGER** DE 09 54382886	**ZAZU**
	GALANTIS AT 12 9586 769 4/3 8,648-4.44-3.31-670	**GS DER BESTE**

CONFORMATION 106 – 99 – 111 – 116 (82)



MENZARO PP*

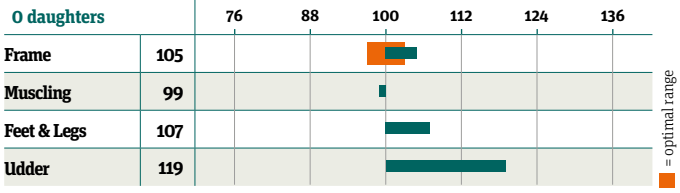
AT 40 1140 889 EU; OÖ Besamungsstation

Breeder: Gertraud und Alois Selker, 4771 Sigharting

Breeding Value: gTMI 132 (75) | BI 104 (71) | FIT 112 (80) | TOI 128 (82)
MI 127 (84) +1,205 -0.10 +41 -0.07 +36

DESCENT		
MAHINDRA P*S AT 72 3751 474 132 / 119 / +982-0.18-0.07	**MERCEDES Pp*** AT 42 2587 868	**MINOR**
	ZIERDE AT 68 9756 968	**WOBBLER**
FLORENZA Pp* AT 74 2874 669 119 / 118 / +920-0.14-0.09 3/2 8,920-4.34-3.32-683 2. 10,454-4.33-3.37-805	**GS VERISMO PP*** AT 40 5032 168	**VESPASIAN P*S**
	FRANZI AT 42 9643 268 +1/1 8,835-4.32-3.65-704	**WOBBLER**

CONFORMATION 105 – 99 – 107 – 119 (81)



GS MIR NACH PP*

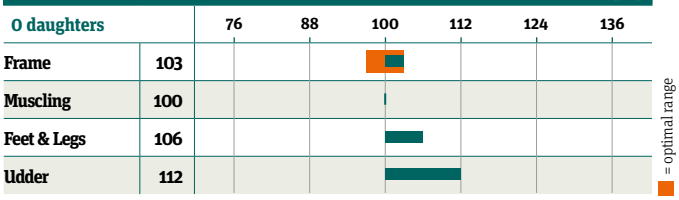
AT 59 3495 589 GENOSTAR; CRV; Greifenberg

Breeder: Franz Koelbl, 8321 St. Margarethen

Breeding Value: gTMI 141 (74) | BI 112 (71) | FIT 126 (79) | TOI 137 (81)
MI 124 (84) +1,012 -0.07 +36 -0.04 +32

DESCENT		
MAHINDRA P*S AT 72 3751 474 132 / 119 / +982-0.18-0.07	**MERCEDES Pp*** AT 42 2587 868	**MINOR**
	ZIERDE AT 68 9756 968	**WOBBLER**
SALLY Pp* AT 78 5055 274 138 / 115 / +737-0.11-0.05 2/1 8,289-4.07-3.45-623	**ZEIGER** DE 09 54382886	**ZAZU**
	SISSI Pp* AT 90 3285 738 4/4 9,228-4.04-3.60-705	**MANOLO Pp***

CONFORMATION 103 – 100 – 106 – 112 (81)



WACHAU P*S

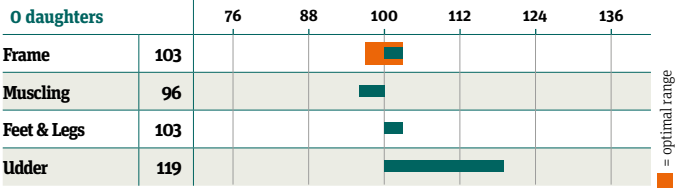
AT 15 2822 589 EU; OÖ Besamungsstation

Breeder: Marianne Seifried, 4873 Frankenburg am Hausruck

Breeding Value: gTMI 147 (76) | BI 97 (75) | FIT 139 (80) | TOI 142 (82)
MI 127 (84) +1,350 -0.22 +36 -0.10 +39

DESCENT		
WIRBELWIND P*S AT 73 6267 574 142 / 123 / +982-0.05-0.06	**WAALKES Pp*** AT 81 8534 568	**WABAN**
	WAIANA AT 69 3499 668	**SISYPHUS**
BAILEY AT 61 1532 174 137 / 124 / +1,157-0.11-0.12 2/1 10,174-4.62-3.45-821	**SUNRISE** DE 09 53196995	**SISYPHUS**
	BARBI AT 81 8556 538 4/3 9,203-4.91-3.71-794	**ETOSCHA**

CONFORMATION 103 – 96 – 103 – 119 (82)



GS WILDTRAK Pp*

AT 58 8031 389 GENOSTAR; CRV

Breeder: Christoph Lueger, 8190 Birkfeld

Breeding Value: gTMI 147 (76) | BI 109 (75) | FIT 125 (80) | TOI 139 (82)
MI 132 (84) +1,468 -0.10 +51 -0.11 +41

DESCENT		
WIRBELWIND P*S AT 73 6267 574 142 / 123 / +982-0.05-0.06	**WAALKES Pp*** AT 81 8534 568	**WABAN**
	WAIANA AT 69 3499 668	**SISYPHUS**
GUGGI AT 56 9968 974 132 / 121 / +1,319-0.23-0.20 2/1 9,321-4.11-3.17-678	**MANAUS** DE 06 67162219	**MIAMI**
	GORI AT 87 3705 768 +4/3 11,041-3.94-3.35-805	**GS EQUADOR**

CONFORMATION 108 – 107 – 105 – 111 (81)

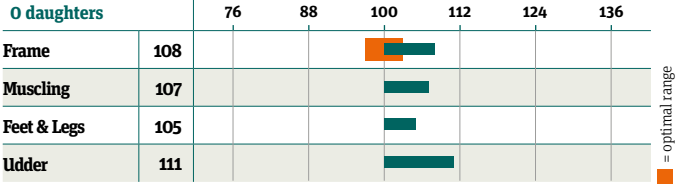


Photo: © Elly Geverink

Legend of the Toplist

IDENTITY DATA

RG	Rank sorted according to TMI, MI, BI, FIT (all descending)
Name	Name
ID	Identification's number
Sire / Dam's sire	Sire / Dam's sire
YoB	Year of birth
Foreign	Breed with any foreign gene share
Genetic def.	Genetic defects with 3 digit code:
Digit 1–2	Abbreviations for genetic defects (B2 – Brown Swiss haplotype 2, F2 – Growth defect/Short stature, F5 – Fleckvieh haplotype 5, TP – Thrombopathy)
Digit 3	„C" for „heterozygous carrier" (Carrier), „S" for „homozygous carrier" (Sure)
AI Center	Insemination centre, which are in the (co-) owning of the bull: A1 = GENOSTAR A3 = Hohenzell, OÖ A5 = Samendepotstelle Rotholz, Tirol A7 = Klessheim, Salzburg A8 = Perkohof, Kärnten A9 = Samenvertretung Vorarlberg AV = Vöcklabruck, OÖ Eu = EUROgenetik 2 = Greifenberg 3 = Höchstädt 6 = Neustadt a. d. Aisch 7 = Memmingen 9 = Marktredwitz-Wölsau 10 = Bayern-Genetik 16 = Bauer, Wasserburg 17 = CRV Meggle 26 = ZBH Alsfeld 27 = RBW C1 = CRV (CZ) C2 = Jihocesky chovatel (CZ) C3 = Plemko (CZ) C4 = Plemo (CZ) C5 = CHD Impuls (CZ) C6 = Reprogen (CZ) C7 = Natural (CZ)
Avail.	Availability of semen in relation to the owning stations (J=yes, E=restricted; V=Stock available, N=no), if the availability is the same for all stations, it will be expressed only once, otherwise, in the appropriate order
Fert	Breeding value for fertility in %

PARTIAL BREEDING VALUES

TMI	Total merit index
MI	Milk index
BI	Beef index
FIT	Fitness index
TOI	Total organic index
Re	Reliability
Diff	Difference to the last breeding value estimation

MILK/CONFORMATION

Mkg, F%, P%, Fkg, Pkg	Breeding values for milk yield, fat and protein content, fat and protein yield
Ext-Dau	Number of described daughters
FR-MU-FL-UD-(Add)	Breeding values for frame, muscularity, feet&legs, udder, udder cleanness

BEEF

CCI	Breeding value for commercial cross
NDG	Breeding value for net daily gain
CARC	Breeding value for carcass percentage
TRC	Breeding value for EUROP trade class

FITNESS

Long	Breeding value for longevity
Pers	Breeding value for persistency
Perf	Breeding value for performance increase
MSp	Breeding value for milking speed (average kg/min)
UDH	Breeding value for udder health
FEI	Breeding value for fertility
CLV p/m	Breeding value for direct and maternal calving ease
VIT	Breeding value for calf vitality
SCC	Breeding value for somatic cell count
KGW	Breeding value for claw health
MiBe	Breeding value for milking behavior
Mas	Breeding value for mastitis
EFD	Breeding value for early fertility disorders
Cyst	Breeding value for ovarian cysts
MiFe	Breeding value for milk fever

ABSOLUTE PERFORMANCES INDICATORS

Int-Dau	Number of daughters in international milk breeding value estimation
Farm	Numbers of farms, where the daughters are being bred
in 1.L, in 2.L, in 3.L	Number of daughters in the milk evaluation in the 1st, 2nd and 3rd lactation
MP 1, MP 2, MP 3	Average number of test days of daughters in the 1st, 2nd and 3rd lactation
D100, D1, D2, D3	Number of daughters with completed 100-day performance, 1st, 2nd and 3rd lactation
Mkg, F%, P%, F+P	Average milk yield, fat and protein content, fat and protein yield of the daughters
ØHd	Herd average in which the daughters are kept
Mat.	Mating level expressed as MI average of daughter's dams

Austrian Agricultural Cluster - Driving innovation & sustainability in agriculture and food processing







„Our goal is to promote innovation in farming through high-quality technologies, services and expertise. Our efforts should lead to sustainable and responsible growth."

Sebastian Auernig, AAC-Chairman

The AAC Austrian Agricultural Cluster is the leading association of Austria's top producers of agricultural and food processing technologies, as well as breeding organizations.

AAC represents innovation, sustainability, and efficiency in the following fields:

- **Integrated solutions for efficient livestock production,** ensuring animal health and welfare while optimizing productivity
- **Innovative Smart Farming Technologies** for a sustainable use of natural resources in crop & feed production
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