

**BROWN
SWISS**

MORE THAN MILK

European Brown Swiss Federation
www.brown-swiss.org



After an intensive work with all National Associations to redesign the breed positioning, the European Brown Swiss Federation is proud to unveil the new Brown Swiss communication through this new logo.

As a result of a common desire to become stronger together, for the benefit of the breed and its breeders throughout Europe, this logo is standing for a unique message of the breed. Because from north to south and from east to west, we all breed Brown Swiss with the same passion and same economic and environmental goals.

BROWN SWISS: A UNIQUE BRAND NAME FOR THE BREED

Brown Swiss, Braunvieh, Bruna, Brune ... many different names for a unique breed with unique assets. As a signal of UNITY and COMMITMENT, the common brand name BROWN SWISS will now be used by all country members to promote the breed in their communication activities.

MORE THAN MILK ...

Brown Swiss is a breed that evokes strong identification and passion because of its great charisma and beautiful exterior. Easy handling, fitness and adaptability of the cow to varying situations facilitate farmers' daily life. High milk quality and the longevity of the cow support farmers in achieving their long-term economic and environmental goals.

Brown Swiss is the cow for forward-thinking farmers who seek long-term profitability, produce milk in an authentic and reliable way, care for animal well-being and feel a sense of belonging with the breed. In shorter terms; your smart choice for high quality farming!



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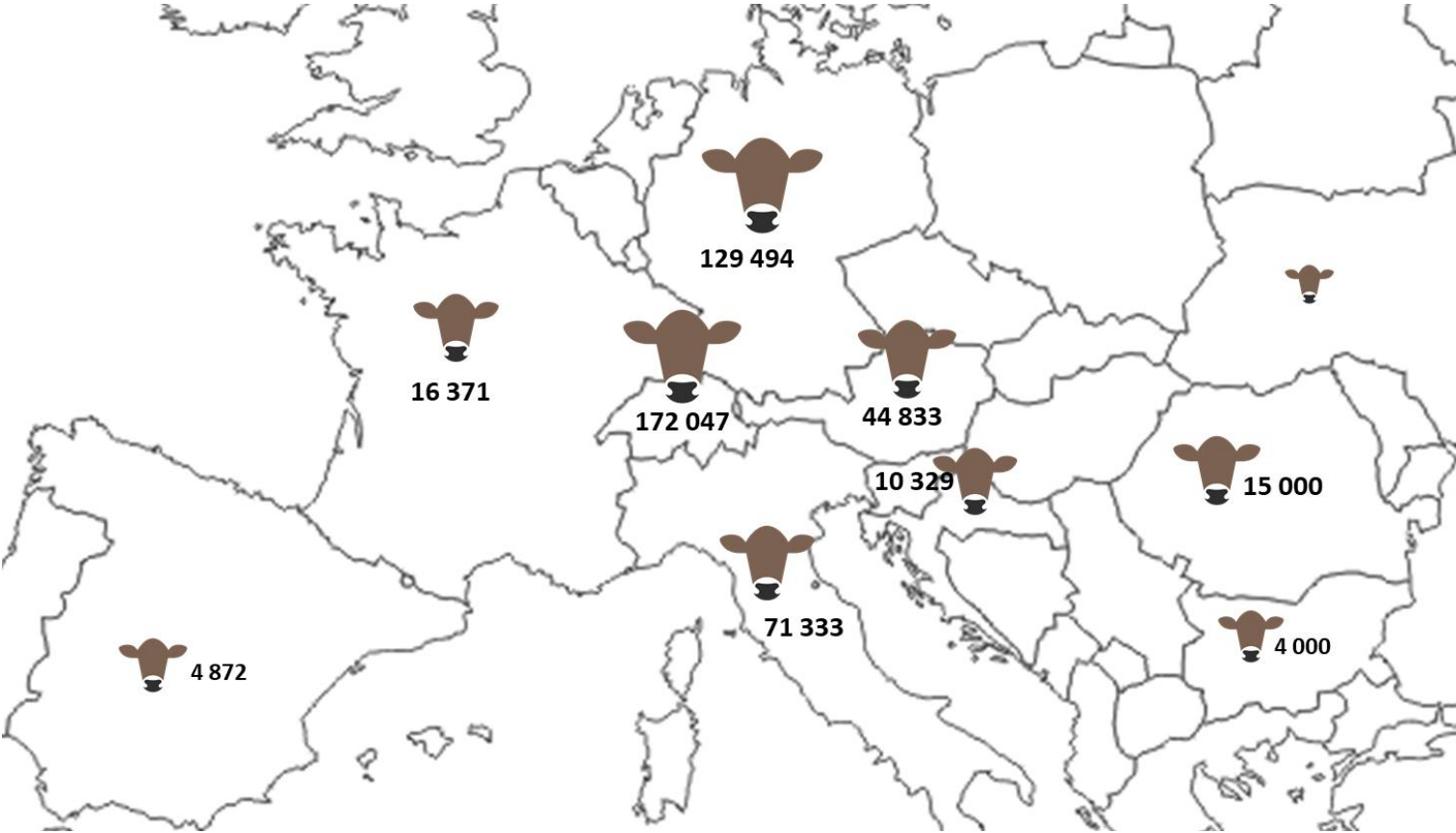


MORE THAN MILK ...

Brown Swiss is a marathon runner...

Strong in endurance and adaptable to different environments

HERDBOOK COWS THROUGH COUNTRY MEMBERS



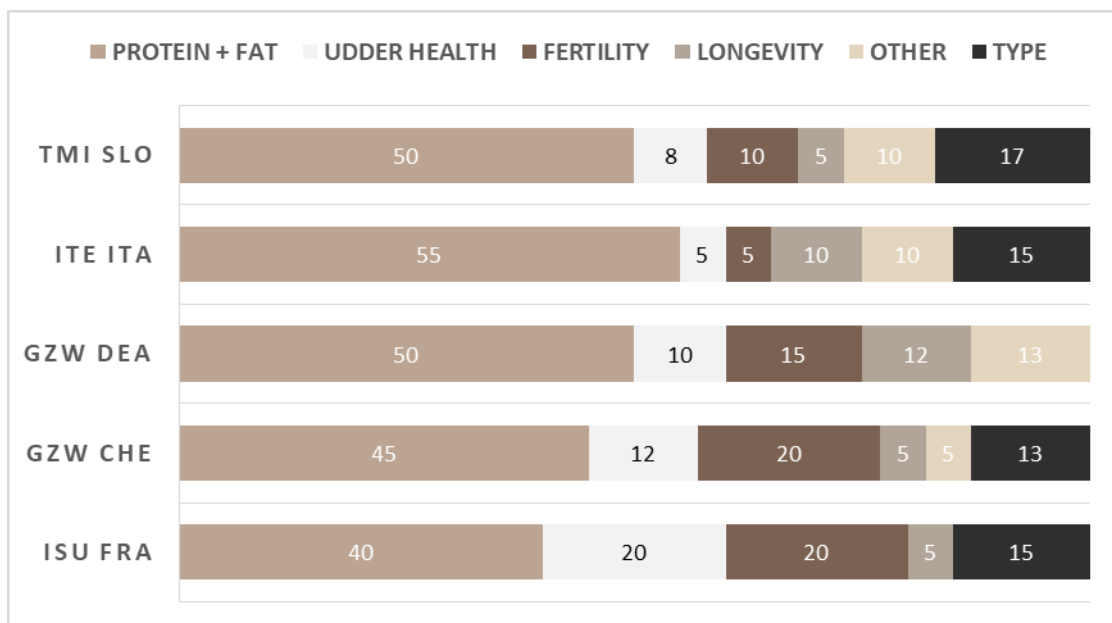


BREEDING AIMS

Our breeding aims are aligned with the assets of the breed to keep and enforce them in all countries:

- High lifetime total production
- High fat and protein percentages with desirable caseins (Kappa and Beta)
- Strong health, robustness and adaptability
- Easy management of the cow (e.g. calving, temperament, etc.)
- High efficiency of food conversion into quality milk

Composition of the Total Merit Index in each country



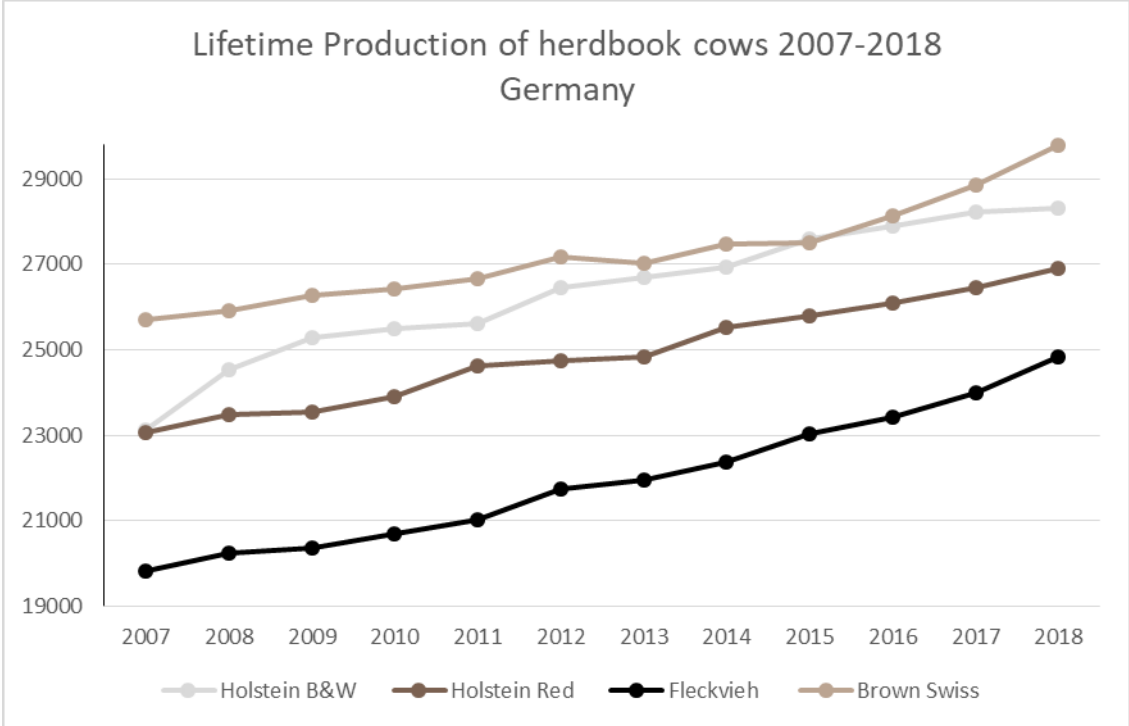


LONGEVITY

- Long Productive and Reproductive Life

Longevity is one of the features of the Brown Swiss breed. It has always been one of the Brown Swiss selection goals. Most of the type traits, typical of the breed have been selected and consolidated to give Brown Swiss cows a long productive and reproductive life.

In all countries, the Brown Swiss breed has a high lifetime average production linked to a high average number of lactation. In Germany, the Brown Swiss cows remain in average one year longer in the herd than the other dairy breeds.



	Average age	Age of leaving herd (milk recorded cows)	Lifetime production 2018 Milk ((kg)	Lifetime production 2018 (Months)
Holstein	4.5	5.3	28 306	36.7
Simmental	4.9	5.6	24 836	38.6
Brown Swiss	5.6	6.4	29 779	47.0

- The highest proportion of 100 000 kgs 's cow !

A high proportion of Brown Swiss cows reach the high lifetime production level of 100 000 kgs each year. Equal to 0, 18 % of the population to reach this level in Bavaria - Germany, it is the highest level all breeds!

	nb VL	90 - 100 000 kgs	%	> 100 000 kgs	%
Fleckvieh	734 302	499	0,07	51	0,01
Brown Swiss	111 930	277	0,25	198	0,18
Holstein	82 401	152	0,18	133	0,16
Red Holstein	21 437	39	0,18	31	0,14





MILK QUALITY

- The best combination of produced milk

Brown Swiss perfectly balances quantity with quality and offers the best combination of produced milk. Indeed, with an average production above 7000 Kg in the European countries, the breed is very competitive on volumes. Besides volume, Brown Swiss has an added value thanks to a fat content about 4% and a high protein content about 3.5 to 3.8 %.

In countries where the milk payment system takes into account protein and fat content, Brown Swiss milk offers a gain up to 5cts more per liter.

Average production of Brown Swiss in different countries - 2018

	MILK	FAT%	PROTEIN %	F+P KG
AUSTRIA	7 484	4.13	3.50	571
FRANCE	7 420	4.20	3.62	567
GERMANY	7 826	4.22	3.62	613
ITALY	7 425	4.05	3.59	567
SLOVENIA	7 134	4.18	3.47	546
SWITZERLAND	7 366	4.03	3.42	549

- **Benefits for cheese making and human health**

Brown Swiss milk is a noble raw material for the production of quality products especially cheeses. It contributes to the reputation of various cheeses in Europe thanks to its quality.

High in fat, essential for cheese flavor and taste, Brown Swiss milk is mainly known for its high protein content. Milk quality indicator, the ratio F/P must be equal or higher to 1.15 for a proper cheese development. With a ratio of 1.22, Brown Swiss positions itself in the leading trio of suitable breeds in France behind Montbeliarde (1.18) and Simmental (1.19), and before Normande (1.23) and Jersey (1.45).

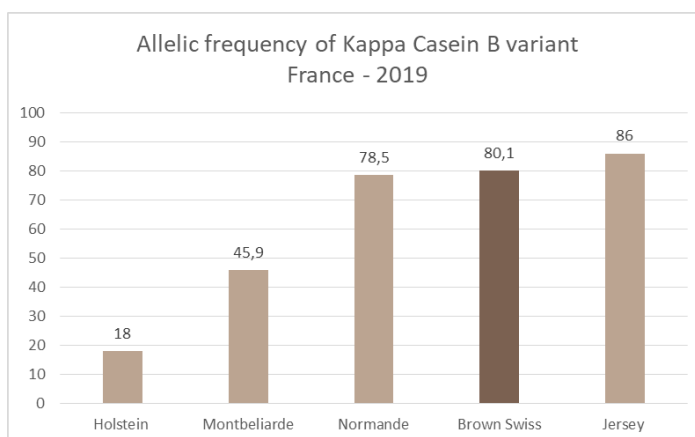
The high casein content and especially Kappa Casein BB makes Brown Swiss milk very suitable for cheese making. Indeed a Kappa Casein BB milk offer a higher cheese yield than a AA milk with an equivalent protein %.

In Parma University, a difference of + 13% of cheese yield was measured on Parmesan production. Also, with 100 Kg of milk, Brown Swiss produced 11.25 Kg of Cheddar cheese against 10.34 Kg for Holstein. Results obtained also show that curdling is faster, curd solidifies faster, is more consistent and more resistant leading to an easier processing and a higher quality product also appreciated from organoleptic point of view.

	Brown Swiss	Holstein	Variation
Parmesan (Kg/100 Kg milk)	8,83	7,80	+ 13%
Cheddar (Kg/100 Kg milk)	11,25	10,34	+8 %
Clotting time (Rmin)	16,7	17,9	- 7 %
Solidification time (K20 min)	8,6	13	- 34 %
Compressive strength (g)	32,3	29,8	+ 8 %
Sectioning Resistance (g)	60	47,9	+ 25 %

University of Parma - Italy, University of South Dakota, SBZV

In France, the allelic frequency of Kappa Casein B variant obtained with the genotyping of the population is 80.1 % (63.8% BB and 32.6% AB). It is one of the highest percentage, all breeds.



Brown Swiss milk, more digestible?

Beta casein represent 30% of milk protein and also includes 2 types; A1 and A2. Some scientific studies highlighted the fact that A2 milk is more digestible while A1 milk is more difficult and might be a reason for milk intolerances. In many countries A2 milk is already available for consumption.

The proportion of A2 in Brown Swiss milk is very high. In Switzerland, the A2 frequency is 78.5% with 62% A2A2. In France, 70% of the population is A2A2. It is the highest proportion.

	A2A2	A1A2	A1A1	% A2	Source
Brown Swiss	70%	28%	2%	84%	Valogène - FR
Jersey	65%	32%	3%	81%	CDN - CA
Normande	60%	32%	8%	76%	Valogène - FR
Holstein	40%	43%	17%	62%	Valogène - FR
Montbeliarde				62%	Valogène - FR





EASY HANDLING

- **Low SCC and mastitis resistance**

Udder soft texture, low volume and good teats placement have an indirect influence on the udder health which makes Brown Swiss one of the best breed for low somatic cells count, with a higher resistance to mastitis.

A study from UK also shows that immune cells of Brown Swiss cows produce more oxygen and nitrogen radicals that kill bacteria than Holstein cows. This higher efficiency impact in the lower SCCs of Brown Swiss and is also seen in crossbred.

	Brown Swiss	Holstein
Somatic Cell Counts - Germany	195 000	235 000
% Mastitis - France	8.7	14

- **Fertility**

Brown Swiss longevity is obviously connected to a good fertility. Age at first calving is mostly around 30 months but can be reduced to 24 months. In the main Brown Swiss countries, the average calving interval is 416 days (410 days in Switzerland) with a correct non return rate.

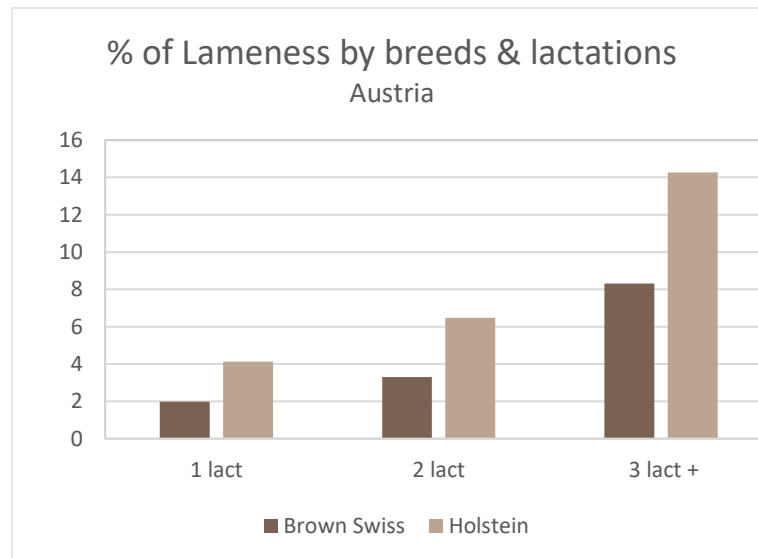
In France, the Non return rate of Brown Swiss cow is 59.5%, 7% higher than Holstein.

- **Feet & legs**

The Alps mountain origins conferred Brown Swiss solid feet and legs and an excellent walking capacity. The black horn of hoofs is considered as being hard and resistant.

Several scientific studies shows that Brown Swiss have a lower prevalence of digital dermatitis than Holstein and more generally lower risk of foot lesions. (Holzhauer et al. 2006; J.Becker et al. 2014)

Data collected in Austria also show the fewer lameness problem of Brown Swiss:



- **Temperament**

The more docile and calm temperament of Brown Swiss have a very positive influence on the herd management including milking and other operations.

In large herds, docility and quiet of the Brown Swiss are an asset in the handling of animals that must be done as easily as possible, to avoid wasting time. Finally, to add to its character, Brown Swiss is also a very affectionate and curious cow.

- **Calving ease**

The calving ease of the Brown Swiss cow is excellent and appreciated worldwide. Indeed, in addition to a back sloped towards the back, the Brown Swiss have wide coxofemoral articulations which favors calving.

Into the European population, the percentage of easy calving is estimated around 97.5%. One of the highest all dairy breeds compared.

Easy calving results in better cow health status in early lactation and contributes to a longer life.



ADAPTABILITY

Brown Swiss robustness allows it to adapt to any climate: cold winters to warm climates. Several scientific studies have demonstrated this ability. By evacuating the heat more easily and maintaining physical condition, Brown Swiss is robust and can better tolerate the adverse conditions of heat stress than Holstein (AX et al, 2001; El Tarabany and al, 2016). This ability to withstand different temperatures explains the breed development around the world.

Heat stress tolerance (*El tarabany and al, 2016*)

	Low	Moderate	High	Difference Low-High
Holstein (Kg/day)	36.6	31.1	27.9	- 8.7
Brown Swiss (Kg/day)	26.4	26.8	25.7	- 0.7
F1 BS x HO (kg /day)	31.8	30.6	30.1	- 1.7

- **Versatility**

Brown Swiss cow is known for her excellent ability to adapt her production to the available feed supply. Since her metabolism is not extremely hyperthyroid, the Brown Swiss cow can adjust and optimize the synthesis and the mobilization of fat reserves according to the feed supply available. Its body condition is usually good in intensive herds requiring high milk production - over 10,000Kg - and in extensive herds where grazing is practiced with consequently lower production.

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