

CONSIDERATIONS IN THE DEFINITION OF WARMBLOOD HORSES

“All Warmbloods are sport horses, but not all sport horses are Warmbloods”

Jos Mottershead April 2005

The Challenge

The issue is not whether Warmblood horses exist, for they have been bred in Europe for over 300 years, rather it is to describe them as distinguishable from other sport horses and to identify the genetic populations which make up this world wide breed.

Important Considerations

- Breeding Warmblood horses in Canada must fit within the APA, while remaining consistent with international breed standards and practices.
- The history and genesis of the breed predates written records and cannot be identified with a single stallion (Justin Morgan) or group of stallions (Darley Arabian, Godolphin Arabian and Byerly Turk), rather it derived from a prehistoric subspecies of Equus (Equus Caballus Mosbachensis) and developed through the indigenous mare population of Western Europe.(1)
- The pre eminence of Warmblood horses in international sport means that Canada must have a viable Warmblood breeding program to be competitive at that level.
- The economics of the horse industry are difficult. Warmblood horses have the highest average value for Canadian breed horses, but this is still less than the imported Warmblood horses from our European competitors.
- Canadian breeders face stiff competition from a multitude of European Warmblood breed societies as well as unregulated U.S. daughter societies. It is therefore important to keep Warmblood breeding in Canada unified.

APA Considerations

The Canadian Animal Pedigree Act (APA) provides for two types of breeds –distinct or evolving.

- a. There is no definition for distinct breed or for breed in the APA. It only says “An association may be incorporated in respect of a distinct breed only if the Minister is satisfied that the breed is a breed determined in accordance with scientific genetic principles”. Departmental documents define it as “A distinct breed under the APA is a population of animals with a common genetic origin and history, deriving from a common foundation population. Distinct breeds must be distinct, as defined by their physical resemblance, sufficient to differentiate the breed from others of its species. Animals of a distinct breed must demonstrate genetic stability, ensuring that the distinct characteristics of the breed can be passed on reliably from generation to generation.”
- b. The APA does define evolving breed as “means a group of animals in the process of evolving into a new breed”.

Warmbloods qualify as a distinct breed according to the Act and by all the criteria laid out by the department.

1. **“a common genetic origin and history, deriving from a common foundation population”** – Warmblood horses have a common genetic origin and extensive history going all the way back to *Equus Caballus Mosbachensis*. (1) The foundation population for Warmblood horses flows through the indigenous "native broodmare" of Western Europe and may be identified by examining pedigrees which have been recorded since the 18th century.
2. **“Distinct breeds must be distinct, as defined by their physical resemblance, sufficient to differentiate the breed from others of its species.”**–



Warmblood horses have a strong phenotypic resemblance in size, shape and conformation.(2) A fine example of this is the 64 stallion German Warmblood quadrille, comprised of breeding stallions from all the regional state studs, which performed during the opening ceremonies of the 2006 World Equestrian Games (4). Further confirmation of this may be seen at stallion licensings throughout Europe.

3. **“Animals of a distinct breed must demonstrate genetic stability, ensuring that the distinct characteristics of the breed can be passed on reliably from generation to generation.”** – Genetic stability is tied to three things: genetic relatedness, inbreeding and selection (natural selection or human)
 - a. **genetic relatedness.** The purpose of all breeds is to maximize the heritability of characteristics set out in their breeding goals, by keeping pedigree records. In modern times we have added the genetic tools of indexing and breeding values (Best Linear Unbiased Predictor, BLUP evaluation). The World Breeding Federation has embarked on a project called InterStallion, the purpose of which is to find ways to compare Breeding Values between countries. All are based on very similar methodology and criteria but are not exactly the same. It would be a useful tool if breeders could compare the results in Sweden with the results from Germany, for example. To get this project started it was necessary to determine if there is sufficient genetic relatedness between the

populations. In her Pilot Project, Emma Thorén Hellsten (SWE) looked at tested progeny of stallions in Denmark, Holland, Sweden, Holstein and Hannover. To quote Emma Thoren, reporting to the World Breeding Federation in 2005. “When we relate the number of stallions in common between studbooks to the total number of tested progeny in those studbooks ...all those different measures show that there is quite good connectedness between studbooks. For example, it is better than corresponding figures for some dairy cattle breeds”. Genetic relatedness is the important factor in determining predictability of heritable characteristics and therefore genetic stability. It is not necessarily the same as pure breeding.

To look at Percheron horses, for example, bred in North America



compared to Percheron horses bred in France, you could think they were a different breed, yet they are the same breed. The breeding goals for the past half century or more have been different and the genetic relatedness low. Increased use of North American Percheron blood in France, which is happening now, will inevitably increase the genetic relatedness of the two populations and consequently diminish this difference. (5) The Welsh pony, with it's A, B and C categories, is another good example of variations within a pure bred population.



- b. **Inbreeding.** Although inbreeding contributes to genetic relatedness it is not exactly the same thing. Genetic relatedness measures how widely

distributed common ancestors are within a population while inbreeding is a measure of how many common ancestors individual animals have within that population. The more inbreeding the more genetic stability.

Inbreeding is a very common practice within Warmblood breeding. In non scientific terms it is often called line breeding. Many pedigrees contain common ancestors on both the “top and bottom” (sire and dam lines). For example, within the Holstein stud book two stallions are found in 16% of the population and these same stallions are prominent in many other Warmblood Stud Books.

- c. **Selection.** Whether natural selection or human intervention, selection contributes to genetic stability by either limiting undesirable characteristics or by maximizing desirable characteristics. In Warmblood breeding programs both take place. Stallions and mares are graded for conformation and performance characteristics. Consequently the highest graded stallions are used the most (up to 1000 mares per year) and the failed stallions are gelded. Additional selection is performed using information based on the Breeding Values (BLUP), generated through extensive record keeping of conformation and performance results.

The direct requirements of the APA **“that the breed is a breed determined in accordance with scientific genetic principles”** are fulfilled using the above concepts. Genetic relatedness, inbreeding and selection are scientific genetic principles. Warmblood horses conform to these principles. “Pure breeding” is not a scientific genetic principle. In itself, it does not necessarily mean genetic stability, unless the scientific principles of genetic relatedness, inbreeding and selection were used.

Dr Larry Schaeffer, Geneticist University of Guelph “I don't think science has been used to determine what constitutes a breed - in any species. science has never been involved in the process of defining a breed. A breed is what a breed society is aiming to promote - an animal with specific characteristics, keeping its pedigrees, selecting the animals for a particular purpose, promoting the breed, conserving the breed, and improving the breed. There could be a wide range of variability within a breed (to me that is good for selection and long term survival).”

“The Warmblood is a breed, with a definite purpose, definite standards or requirements for registration, and can probably be shown through DNA that it is distinctly different from other "breeds".”

“Due to the long standing history of Warmbloods in the world, I don't think there should be any question that Warmbloods are a distinct breed. There could be several breeds that have the same selection goals (such as dairy cattle, ... all being selected for milk production and fat and protein yields - yet they are different breeds, not one evolving dairy cattle breed).”

“It hardly seems fair to question whether the Warmblood is a breed at this point, after giving it breed status for over 15 years. It would be more of a breed now than it was in 1991.”

There are three reasons why Warmbloods cannot be considered an evolving breed.

1. Evolving breed is clearly defined in the Animal Pedigree Act (APA) - “**means a group of animals in the process of evolving into a new breed**”. With a history of some 300 hundred years and the existence, world wide, of hundreds of thousands of Warmblood horses, it is clearly not a new breed.
2. The requirements in the APA concerning the creation of a new breed are that there is the intention of creating a new breed – APA 6(3) “**that the creation, with genetic stability, of the new breed into which the animals of the evolving breed are intended to evolve is possible**”. We are well aware that Warmblood breeders have no intention, however possible it may be, of breeding a different Warmblood horse. The focus is clearly on trying to breed the best Warmblood horse.
3. The evolving breed process as laid out by the department has the goal of producing a purebred horse by identifying F1 to F4 animals and breeding within this population. This would ultimately restrict our ability to keep up with breeding practices in Europe and, in particular, possibly limit the use of imported bloodlines.

Issues / Problems

1. There is considerable confusion in North America concerning the different Warmblood breed society names. For historic reasons, particularly in Germany, a Warmblood horse population has been identified based on regional (state) designations, thus you have Holstein in Northern Germany, Hanoverian in Lower Saxony, Oldenburg in Oldenburg, Westfalian in Westfalia and so on up to 20 different state based societies. Fierce competition for the North American market, which has taken place since the early 1970’s, was based on brand differentiation, thus the idea that a Hanoverian was a different breed than a Danish Warmblood or a Westfalian was perpetuated for marketing reasons, in spite of the fact that pedigrees could be identical.
2. There are three major registries of horses bred for the English disciplines, which use the name Sport Horse. The most important one, the Irish Sport Horse is a combination of pure bred Irish Draught and Thoroughbred. Recently, with much controversy, Warmblood stallions have been introduced. Irish breeders are split on whether this should be allowed to continue. The Irish Sport Horse is not used reciprocally by Warmblood registries and is not considered a Warmblood. The Belgian Sport Horse on the other hand is to a large extent a Warmblood registry, which is geographically based in the French section of Belgium. It has been argued that it has a greater emphasis on Thoroughbred blood, but that would have to be statistically substantiated. There has been discussion of amalgamation with the Belgian Warmblood Society. The Canadian Sport Horse began and had a long history, as the Canadian Hunter Improvement Society. That British model was

similar to the Irish Sport Horse with Thoroughbred, draught crosses and other hunter type combinations. Currently the Canadian Sport Horse has a significant Warmblood component. Due to the way Canadian Sport Horse identification papers are issued, it is not possible to do a statistical query of the data base.

3. The standard accepted definition of “breed” which is applied throughout the world and taught in universities is, to paraphrase Dr Jan Philipsson (University of Upsala, Sweden), **Breed is an administrative term used to describe a population of animals which are bred according to a particular breeding goal. Breeds may be either “open book” or “closed book”**. Based on this definition the European Warmblood breed societies can and do call themselves breeds, which further contributes to the misunderstanding in North America.
4. Unfortunately, few good written descriptions exist and the language used to describe all horses is very similar. The written differentiating characteristics, therefore, are not clear to the lay person and often to horse people as well. All horse breeds use key conformation characteristics in their descriptions, so aside from draft horses and ponies, it can be problematic to find the unique descriptive words. Nevertheless, within the category of riding horses the distinguishing characteristic of the Warmblood horse is that it is the largest and most substantial. It is often referred to as noble. It does share many of the desirable characteristics looked for in other riding horse breeds, however such things as large flat joints particularly in the hock, help distinguish it from thoroughbreds and lighter types and from the round joints found on draft breeds. The up hill conformation with good connection between neck withers and back is different from the Quarter horse and other western breeds and in fact many racing horse breeds, which tend to be narrower and often less smooth in the neck wither area. Prominent high withers often found on Thoroughbreds are not generally characteristic of Warmbloods (3). See also Breed Descriptions below.
5. The APA clause 8.(b) (v) requires only evolving breeds to include a physical description of the new breed. Consequently the articles of incorporation for distinct breeds do not include physical descriptions. This puts the onus of distinguishing characteristics on the new breed, not on the distinct breeds. For that reason the Thoroughbred, Standardbred, Trakehner and other distinct breeds, including Warmbloods, do not have documents which readily distinguish them from each other. **“where the application is in respect of an evolving breed, the physical description and genetic make-up of the new breed into which the animals are intended to evolve;”**

Sport Considerations

The successful equestrian nations of the world are also the successful breeding nations of the world. There are now seven Federation Equestre International (F.E.I) disciplines: Dressage, Combined Driving, Show Jumping, Vaulting, Eventing, Endurance and Reining.

Reining is the newest equestrian discipline in the World Equestrian Games. Reining is done with Quarter Horses and while we do not have a Quarter Horse registry in Canada, we do have a strong Quarter horse breeding industry. A Canadian won the individual gold medal, our team won the silver on US registered quarter horses this year in the World Championships. Endurance is supported by mostly Arabian or part Arabian horse power, also bred in North America –again we have been in the medals here.

Dressage, Show Jumping, and Driving are dominated by Warmblood horses, selected for the specific sports depending on their individual talents, to the point that there are bloodlines supplying those specific talents. In Canada our riders at the top of the sport have been mounted on imports from Europe. Aside from our Team Gold medal Show Jumping effort in 1968 and team Bronze medal in Dressage at the Seoul Olympics, Canadian results have been disappointing.

SPORT CANADA ONLY FUNDS THOSE SPORTS IN WHICH WE WIN MEDALS. In the long run only those countries which have a strong breeding base of their own to support it, are successful in the Olympics. Germany, Holland and France were the first to recognize that and have been dominating the medals. No country will export their top horses for other countries to win medals with. Besides it has become very, very costly. The United States have been fairly strong, but rely on imports (and have the money to support it). Now they are having problems staying with the pack as their breeding base and system is not firmly established.

The Swedes, historically strong in dressage, started to focus on incorporating a strong jumping breeding element into their Warmblood breeding program in 1985 by importing top breeding stock, mostly from Germany. Sweden, a country smaller than Canada, is now very competitive in all three disciplines. England – like us - does not have a united breeding program and most of their teams depend on imported Warmbloods.

In order to become competitive we have to work with successful breeding stock – not start from the bottom and re-invent the wheel. If we import an Olympic medal winning stallion or mare we cannot start them at the F-1 level - that does not make sense. After all they are what we want to produce. If we want to attract good prices in the market, good sport results and funding for the Olympics, we have to place these animals in books comparable to those from which they came. Canada has imported a lot of Warmbloods from Europe – however, the majority of exports have been Quarter Horses and the credit has gone to the American Quarter Horse association. Canadian Breeders have invested in European bred Warmbloods. They need a home in Canada on a comparable level as their origin.

Economic Considerations

The average value of horses in the sport horse sector is above \$5,000 (Equine Canada Horse Industry Survey 2003). It is slightly higher than the average for Thoroughbred values from the same survey. Warmblood values, within the sport horse sector based on auction sale results, is over \$12,000. These numbers compare favourably with average prices in Europe, however they are lower than the value of imported Warmbloods and the

price range is much narrower (top selling auction prices in Canada \$50,000 versus Europe over \$500,000).

Transfers of ownership are a strong indication of economic activity. Since 1993 the CLRC has recorded 7173 Warmblood transfers. At an average projected value of \$12,365 (this value is the average of the 05 Elite Warmblood sale in Ont and the Fall Classic Breeders Sale in AB) this is nearly 89 million dollars in economic activity. The 600 transfers in 2005 at the same value generated 9.5 million.

Comparing prices received and pedigree of horses from the Fall Classic Breeders Sale, in 1997, 10% of the horses consigned were second generation or more Warmblood and the average price was \$4680. In 2006, 67% of the horses consigned were second generation or more Warmblood and the average price was \$8589. This is a major economic reward for Warmblood breeders and indicates that the buying public is prepared to pay up to 46% more for horses based on depth of Warmblood pedigree.

Export sales have continued in growth since 1993 as well. From a beginning of 2 export sales the organization has now sold 414 export horses, which represents 8.2% of the registered Warmblood population. Growth in Export sales has been between 10-20% per year.

The horse business is tough at the best of times. It only makes sense, for continued growth and success, to build on the value added of the Warmblood horse as a distinct breed.

Foreign Registry Considerations

Canadian breeders face several dilemmas. On one hand our closest neighbor, the United States, is a completely unregulated environment. The daughter European Warmblood registries which operate there (more than twenty) do not recognize Canada as a separate jurisdiction and in most cases promote themselves as the North American registry, for example NAWPN (North American Dutch Warmblood registry).

On the other hand the European stud books with their strong national base and in some cases government support, are heavily market oriented and have the resources to support their efforts. The consequence is that many Canadian bred Warmblood horses are registered in the United States and many more in Europe. U. S. registries are attractive because there is always one that will accept your horse, no questions asked, and the European societies are attractive because of the high level of credibility they bring.

By closely following the European practice and standards, the CWHBA has done a great deal to bring international recognition to Warmblood breeding in Canada. There is still a long way to go. A major step would be the creation of Sport Horse Canada, which would bring the majority of Canadian breeders under one umbrella while maintaining the integrity and recognition of Warmbloods as a distinct breed.

The challenge of unifying Warmblood breeders in Canada is significant. There is a real risk that Warmblood breeders will fragment, returning to the parent European registries or the accessible U.S. organizations, if they feel the value of Warmblood breeding is eroded. If distinct breed status is not maintained for Warmblood horses, a number of European societies will immediately apply to Canada for distinct breed status. If Canada does not recognize Warmbloods as one breed, it will be very difficult to then deny the individual societies their claim to breed status in Canada, to match their breed status at home and in the United States.

If we re-define Warmbloods as opposed to clarifying what a Warmblood is, the goal of unifying Warmblood breeders will be lost.

Breed Descriptions

Thoroughbred

The average height of today's Thoroughbred is a little over 16 hands, as opposed to the 14-hand average height of the horses from which the breed originated.

But the key word is "average." Because, for every rule as to what the perfect Thoroughbred should look like, there is a champion whose performances disprove it.

The best guidelines for good conformation come from appreciation of what the body is required to do. Four slender legs must carry more than 1,000 pounds of body weight over extended distances, traveling at speeds of 35-40 miles per hour, yet still have the strength and suppleness to respond to changes of pace or direction as dictated by racing conditions.

But, although mechanical and engineering formulae can be used to measure the most desirable dimensions and angles of the body's components, there is no way to measure the most important qualities of Thoroughbred -- its courage, determination and will.

If there is one place where these attributes are reflected, it is the shape and carriage of the head and the look of the eye. The head should be correctly proportioned to the rest of the body, displaying a good flat forehead and wide-set intelligent eyes. Carried relatively low, the head should sit well on a neck which is somewhat longer and lighter than in other breeds.

The withers should be high and well-defined, leading to an evenly curved back. The shoulder should be deep, well-muscled and sloped along the same parallel as that on which the head is carried. From the point of the shoulder, the forearm should show adequate muscling which tapers towards a clean-looking knee which in turn tapers into the full width of the cannon. This in turn should be short and comparatively flat, with the tendons distinctly set out and clean.

The pastern should be neither too long nor too short and set at an angle a little less than

45 degrees to the vertical. When viewed from behind or in front, the legs should be straight and move smoothly in unison through one plane.

Power comes from the hindquarters and all-important is that the bone structure of the upper hind leg is such as to make room for long, strong muscling. These driving muscles act between the hip bone and the thigh bone which should be long and the angle it makes with the hip bone wide.

This powerful muscling of the hip and thigh should continue down through the gaskin. And, finally, the trailing edge of the hind cannon should follow a natural perpendicular line to the point of the buttock.

In 1970, master equine artist, Richard Stone Reeves, was commissioned by the Thoroughbred Record magazine to paint "The Perfect Horse." The resulting composite included the outstanding features of horses like Citation, Buckpasser, Vaguely Noble, Jay Trump and Tiepoletto.

"After more than 20 years of painting horses all over the world," wrote Reeves, "it took a lot of reflection to pick the best head and neck, the finest shoulder, etc., and, in the end, it all only amounts to one man's opinion."

Reeves' comment aptly describes the enigma of what the perfect Thoroughbred should look like. Because, in the final analysis, no dictatorial rule can ever define that arrogant yet beautiful coordination of power and fluid action which is a Thoroughbred in motion.

Reference:

The Jockey Club, 821 Corporate Drive, Lexington, KY 40503-2794. Phone: (859) 224-2700.

Kentucky Horse Park, 4089 Iron Works Pike, Lexington, KY 40511

Standardbred

The Standardbred is of medium build, weighing between 900 and 1200 pounds and ranges in size from 14.2 to 17.2 hands. The Standardbred can be any one of a range of colours, usually bay or brown, without spots or patches. Other colours are black, chestnut, roan and sometimes grey.

Head: The head should be well proportioned to the rest of the body, refined, straight and chiseled, with a broad forehead, large nostrils, shallow mouth and small muzzle. The ears should be medium to small in size, set wide, and active. The eyes should be large and clear, reflecting the horse's calm nature.

Body: The Standardbred has a long, sloping, strong shoulder, long, high croup, short back and a bottom line that is much longer than the top line. The chest is deep and thick, and the ribs well-sprung. Muscling is heavy and long, allowing a long, fluid stride. The neck should be slightly arched, lean and muscular, and medium-to-long; the throatlatch clean and the head carried either high or at a moderate level; the withers well-defined and extending well back beyond the top of the shoulder. The legs are hard and very correct in

their action with muscling both inside and out. The quarters are muscular yet sleek. The clean hind legs are set well back. The hocks are wide, deep and clean. The hooves are large, tough and durable.

Connemara Pony

The Connemara Pony stands between 13hh and 14.2 hh with the average being 14 - 14.2hh. Colours may include anything except pinto, spotted and appaloosa. White on the legs and face is permitted, but not encouraged in excess.

The Connemara is overall a compact pony with good bone, usually 8-9 inches around the cannon bone below the knee. The joints are large and flat. The coat is long and thick in winter with a soft undercoat and long guard hairs.

The head is of moderate size with a straight profile, large, well-defined jaw and small ears, not longer than approximately 4.5 inches. The eyes are set wide apart with a broad forehead.

Connemaras have a deep girth and wide chest with a medium head and neck set. The tail is set on medium height and is thick and luxuriant. The mane is long and thick, and like the tail is often wavy.

The main distinguishing characteristics are the amount of bone, the width of the chest and depth of girth. The overall impression is of a four-square pony standing over a good amount of ground. These are substantial ponies, capable of carrying weight, but with an overall appearance of quality, not coarseness.

Breeder Concerns

“The most compelling concern that I have as a breeder is whether or not a combined Warmblood/sport horse studbook (which is what I believe Ottawa is leaning towards) would have a place for today's modern Warmblood.

Our stallion, VDL Windsor H (Indoctro x Ahorn x Amor x Marco Polo) is a Warmblood from established bloodlines which can be traced back to some of the most influential and long-standing progenitors in German and Dutch Warmblood breeding. This stallion is typical of the type of horse we are breeding, and typical of the type of horse we see at CWHBA breed shows.

From February to September, we show our performance horses at various hunter/jumper A shows throughout Ontario, Quebec, Florida, Vermont, New York and Virginia. The horses that we encounter, mostly expensive imports, are also of the same type as the horses we are breeding at home.

Two months ago, we took Windsor to a CSHA open breed show, mainly because they had an under saddle class for 3-year-olds, and we thought it would be a good training opportunity for him. To be quite frank, I was completely unprepared for what I encountered at the CSHA show.

Windsor was the only non-CSHA entry in the class, and to my surprise his difference in type was startlingly obvious. Tim and I left the show wondering what would happen to Warmblood breeding in Canada if the two associations were forced to amalgamate into one combined studbook, and whether the Warmblood type that is competing successfully in the Olympic disciplines would be lost in a Canadian studbook that seems to favour a completely different type of horse.

It is sad that the representatives from Agriculture Canada are making their decisions based on words alone, and have not made the effort, in the past year, to come to our breed shows and inspections to view the difference between the horses of the two breeding associations with their own eyes. Anyone who says we are "breeding the same thing" is not looking beyond what they see on paper.

Thank you for giving me the opportunity to express my concerns, and good luck in your upcoming task!"

"Hello Elizabeth, here are 2 stories for you regarding CSHA. First off, one can say that the CSHA is not looking for Warmblood type horses as you can see from the types of horses selected in their line class and horse shows. I think the question to put forth to the CSHA is what is their criteria for breeding horses, regarding both type and movement, here I think you would find a great difference in what both clubs are breeding for.

We entered a Warmblood horse we had 2 years ago into a show in Ottawa and out of 5 horses our mare finished last behind a lame horse, this occurred during the summer months. When we had the Hanoverian inspection that fall we entered the same mare into the mare show and out of 12 mares she was awarded 1st place and went on to do her performance testing and was also champion of that class. That day she was overall champion. This mare was then awarded her Elite mare status of which only 5% of all Hanoverian mares receive, there are over 7500 Hanoverian breeding mares in Germany alone and I am unsure of the total amount of mares in the world today, although one can assume Warmblood Hanoverians are one of the largest Warmblood horse registries in the world today.

The other occasion was when we presented our Warmblood Stallion Dr Pepper to the CSHA and were refused due to the fact he was not of a sporthorse type, he scored a 5. We have shown this horse to Dr Ludwig Christmann and Dr Werner Schade of the Hanoverian Verband, both of whom are world renowned

experts in the breeding of Warmblood horses and have been told that Dr Pepper is of the finest type and a spectacular colt and should be presented for licensing. Of the 4500 Hanoverian colts born every year in Germany a final group of 100 - 120 horses are selected for final approval of which some 60 on average are accepted. This ranks Dr Pepper in the top 120 colts of 4500 born in the year 2000 in Germany alone.

The CSHA is looking for flat moving horses with no gaits and seem to have no regard to past breeding. This type of horse cannot perform in sport as we can see from the international horses out there. My I suggest you ask the CSHA to supply a video to the powers that be and the Warmblood association can do the same, as an image works wonders for people who are a little unsure of what is being discussed.

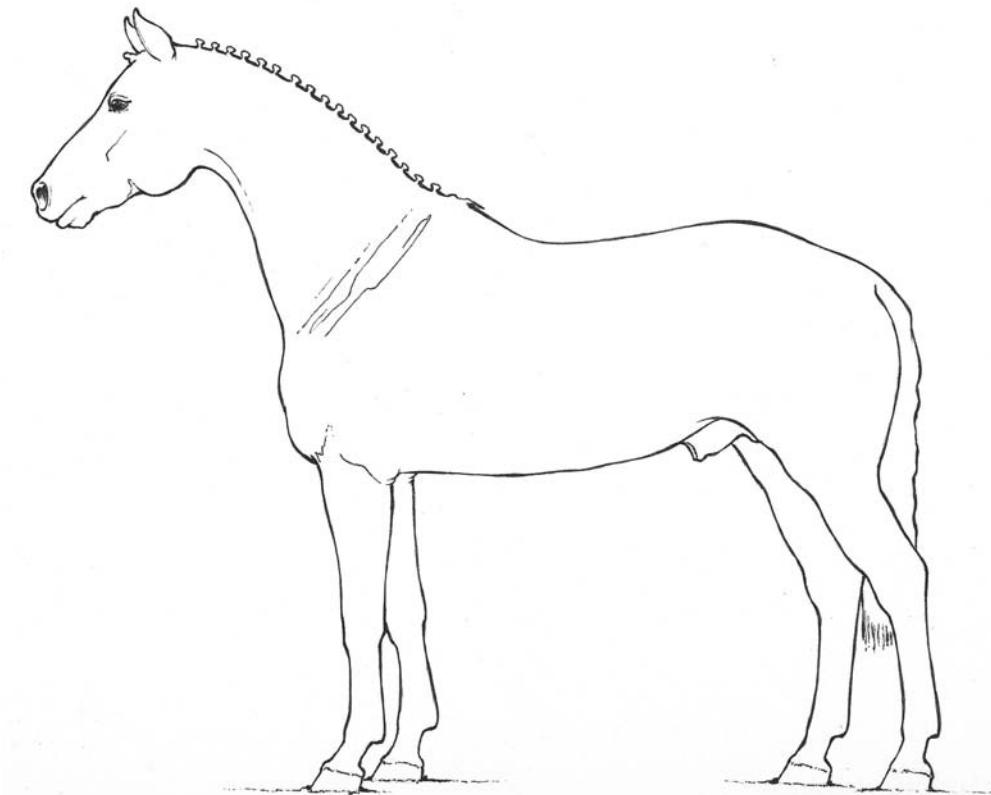
Cheers, I hope theses stories help”

References

(1) The Warmblood horse is a direct descendant of the sub-species *Equus Caballus Mosbachensis* identified in the local of Mosbach, near Wiesbaden, Germany, dating to the Pleistocene era. (Reichenau, 1903:54.)

“Breeds established prior to 1500 exhibit a pattern of geographic distribution and morphological stability that is the result of conservative breeding based on the "native broodmare." The different domestic breeds of horse are each originally derived from different wild populations distributed from Europe to the Middle East. Given the multiple origins of early breeds ("coldblood," "Afro-Turkic," "warmblood," "konik," or "tarpan"), and subsequent conservative breeding, it is possible to infer the general characters of now-extinct wild populations from the conserved characters of their descendants (Bennett, 1992b; Eisenmann, 1986; Trumler, 1961). Therefore, we recognize three forms in Europe (coldblood, warmblood, and tarpan) and one from North Africa to the Middle East (Afro-Turkic), all of which survive only as domesticates, being now extinct in the wild. All four contributed to the gene pool of domestic horses and are inferred to have 64 diploid chromosomes, as do all breeds of domestic (including feral) horses that have been studied (Ryder et al., 1978). “ (Equus caballus Linnaeus, 1758 Horse By Deb Bennett and Robert S. Hoffmann © 1999)

(2)



(3) Distinguishing Characteristics of Warmblood Horses

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General Comments

The unique combination of size, substance and refinement are the main distinguishing and universal characteristic of Warmbloods. They are relatively tall and substantial, yet they retain the shape and refinement of riding type horses. The overall impression is one of nobility, harmony, balance and athleticism. The frame should impress with its substance rather than its lightness or fineness. In profile, the animal will appear “uphill” in build with muscular hindquarters supporting a rectangular frame that features a relatively erect, poll-high neck.

Distinguishing characteristics

1. **Shape [1]:** Rectangular frame, front to middle to back ratio 1-1-1. Within the basic shape the important aspects of the silhouette are:

a. Neck : Longer over the top than under the bottom, set relatively higher on shoulder, with the poll as the highest point.

b. Top Line: Smooth from poll to tail, especially at the connection of neck and wither.

c. Croup: Long and moderately sloped; point of hip to buttock, preferably no less than 1/3 of the body length.

d. Saddle Position: well defined wither (visible above shoulder blades), deep heart girth, with ribs well sprung.

2. Substance: A large but not massive frame. Strong, substantial bone featuring large flat joints, especially at the hocks.

a. Bone: Flat bone. A circumference measured just below the knee on the fore leg, using a flexible tape, should be 7.5 to 9.5 inches (19 to 24.1 cm)

b. Hooves: Large, even and conical; more round than oval and proportionate to the size of the horse.

c. Contour measurement: The distance from the withers to the ground following the contour of the shoulder, with flexible tape, will be on average 10 cm greater than the height of the horse measured at the withers, using a measuring stick with a level, designed for this purpose.

3. Size:

a. Height: Range 15.2h - 18h, ideal 16h to 17h (162cm to 174cm).

The above characteristics refer to young mature horses, with a Texas A&M body condition score of 6-7 out of 10, normally ages three to seven. Younger and older horses will express many of the fundamental characteristics, but due to immaturity or aging, will be less measurable.

Expert Review

The preceding document has been reviewed by several European experts, with extensive knowledge and experience in evaluating Warmblood horses. These individuals, without exception, found the document to be clear and accurate in its depiction of the distinguishing characteristics of Warmblood horses.

Professor Ingvar Fredricson, manager of the National Stud in Flyinge, Sweden from 1985 to 2000, whose pioneer research work in bio mechanics revolutionized the design of horse race tracks throughout the world and launched a prestigious career at the University of Upsalla.

Fritz Von Blotniz, Successful international Three Day Event competitor and life long breeder, now a senior judge with the German FN, with responsibilities for educating, training and evaluating judges in Germany.

Hakan Wahlmann, President of the Finnish Warmblood Horse Breeders Association, a breeder and upper level dressage trainer and clinician as well as a judge.

Jan-Ove Olsson, Dressage trainer and international judge, member of the Swedish Warmblood Board of Directors with specific responsibility over conformation and gait evaluation.

Manfred Lopp, Senior supervising trainer (Haupsattlermeister) at the Celle State Stud Stallion Performance Test in Germany, for thirty years, now a respected judge and advisor.

Note on selection characteristics Certain performance characteristics including gaits and jumping ability are highly heritable. Research indicates [2] that they may be reliably

evaluated in naive horses. The elasticity of the warmblood gait, particularly in relation to push off the ground behind, is deemed an important selection characteristic. When included in a breeding fitness inspection, gaits may be evaluated in-hand or loose. Jumping ability is likewise evaluated at an early age, by free jumping young horses. Recent research, done in the Netherlands, indicates that foals may be reliably evaluated in their first year of life.

References

1. Holmstrom, M., Magnusson, L., Philipsson, J. 1990. Variation in conformation of Swedish Warmblood horses and conformational characteristics of elite sport horses Equine Veterinary Journal 22 (3): 186-193
2. Olsson, E.G., Arnason, T., Nasholm, A., Philipsson, J. 2000. Genetic parameters for traits at performance test of stallions and correlations with traits at progeny tests in Swedish warmblood horses. Livestock Production Science 65: 81-89

(4) German Warmblood Stallion Quadrille



(5) Percheron



1982 French Champion, dam sire of



sired by imported US Percheron

