

place to America to-day. From the standpoint of a practical farmer in England who has bred Shires and Clydes and as a farmer in Canada to-day, you have all that is needed out here in Alberta for the raising of good draft horses. Your country is second to none for cheap production and easy rearing, but by all means go in for the Shire as he is the only draft horse with sufficient weight to get size and quality out of your light mares. I think it is an honor to Canada that His Majesty King Edward and Lord Rothschild should send such valuable horses to our fairs. In conclusion I will say, the chief thing which strikes an American when he stands for the first time on the docks at Liverpool is wonder and amazement at the magnificent draft horses doing heavy hauling work, these I need not add are the Shires we feel proud of.

## DRAFT HORSE.

## Notes on Mule Breeding.

To make a success of mule breeding, the kind of Jack Donkey to be used is naturally of the very greatest importance. Previous experience in other countries is, in this respect, of great assistance in deciding which breed of donkey is most suitable for the production of mules. Let us consider some of the different varieties that have largely been made use of in connection with mule breeding.

Broadly speaking, the "Catalonian," the "Andalusian," the "Maltese," the "Italian," and the "Poitou," are the only varieties that have been used to any great extent, though, of course, large numbers of mules are bred from native jacks or nondescript animals which cannot claim to belong to any one particular breed.

The "Catalonian" is by far the finest type of animal, and must easily be placed first as the sire of mules. He is bred in Catalonia in Old Spain, and was introduced into the country by the Moors at the time of their conquest in that country. He is a good black color with a white or mealy muzzle, with white or greyish colored belly. He possesses fine style and action with plenty of good clean bone. These Catalonian jacks vary but little in form and style, but greatly in size, running from 14 to 16 hands, though the majority of those that are actually bred in Spain are from 14 to 15 hands.

In Kentucky, a very fine breed of donkey is produced which, to all intents and purposes, is a Catalonian donkey that has been bred in Kentucky, but, in many cases, they are descended on the female side from mongrel-bred "jennies" (female donkeys) that were crossed in the first instance with pure bred Catalonian jacks. The first pure blooded Spanish jack was sent to Kentucky in 1832. He was the property of the Hon. Henry Clay, and stood fifteen hands high. This donkey was crossed with the mongrel jennies previously referred to, and the progeny have been continually mated with pure bred jacks, imported from Spain, from time to time. In this way, the present race of jacks, known throughout the U. S. as the "Kentucky Jack," were formed.

The Andalusian donkeys are about the same type as the Catalonian, having perhaps, a little more weight and bone, but they are all "off color," and do not possess the spirit and high class temperament of the Catalonian. They are, in consequence, not so satisfactory as mule breeders, and, even if used for this purpose, their progeny cannot in any way be compared with mules got by Catalonian jacks.

The Maltese is a smaller donkey than the Catalan, being rarely over fourteen hands high. He possesses a nice fine coat, but is deficient in bone and substance.

The Italian jack, the smallest of all that are used in mule breeding, usually stands 13 to 13.2. He is a very smart little animal possessing very nice quality, and, for his size, having good bone, with a beautiful fine coat. Many of these Italian donkeys are used in India for mule breeding, as they get a very good class of small active mule, but of course, cannot be expected to produce as high class an animal as one got by a Spanish sire. The Poitou donkey, according to some authorities, is supposed to have been originally of Spanish extraction. He differs, however, very considerably at the present day both in outward appearance and in disposition from the Catalan. He occupies a similar position in the donkey world to that occupied by the Clydesdale amongst horses, having great bone and weight, with a larger and more open foot

than other breeds of asses. He is essentially the class of donkey suited for slow and heavy draft work. No doubt the great difference which exists at the present day between this breed and the Catalan has been brought about by selection and careful breeding. The head and ears of the Poitou are enormous; the larger they are the more valuable is the animal considered to be. So large are his ears they are very often carried horizontally, like those of a long-eared rabbit, giving the animal a very extraordinary appearance when viewed from the front. His lips, especially the lower one, are curiously pendulous, and he carries a long mane and forelock. He is covered with an extremely long coarse coat, and, on his legs there is also a plentiful growth of coarse and wiry hair. Although this donkey is possessed of many good qualities for the production of mules in some countries, he is not an animal that would be found adapted for mule breeding in South Africa or, in fact, in any hot country, as his enormous growth of coat would harbor parasites and his sluggish disposition would not be likely to make him a success in breeding the class of mule required in South Africa.

Large numbers of mules are bred annually from all the varieties of donkeys to which we have referred, but by far the largest number are bred from the Catalan jack, who has proved himself for many years to be superior to, and more successful than any of the other breeds. Catalan jacks develop one very marked peculiarity, and that is a uniformity both in shape good color, thrifty growing and feeding qualities, combined with docile tempers in the mules produced from every quality and color of dam. And experience has shown that a finely formed high couraged Catalan jack, standing 14.2, will produce a mule as good, if not better, than a sixteen hands Kentucky jack, although the Kentucky donkey may be to all intents and purposes a pure bred animal. The best mules are produced by truly formed Catalonian jacks standing from 14.2 to 15 hands, and it is a mistake to make a point of obtaining very much larger jacks, as in most cases, when you get a jack of great height, he is found to be deficient in girth and in substance, and has a decidedly weedy appearance.

A good jack should have plenty of bone measuring not less than eight inches below the knee, with as much body and depth of girth as possible; a large head and long ears of fine quality which should be carried sharply and erect. He should be possessed of good courage and activity, and be good tempered, this last point being of great importance. The feet of a Catalan jack are not as large as those of a Poitou, but should be sound and truly formed.

## [THE KIND OF MARE TO BREED FROM.]

A mule gets its head, ear, foot, and bone from the jack, also its internal characteristics, hardness of constitution and capability for endurance, but its body and height come from its dam, and, therefore, breeders must consider that, although they are possessed of a good Catalan jack, any sort of a little mare will breed them big and high class mules, as this will not be the case. Tall jacks and tall mares will never produce mules the equal of those bred from tall mares and heavy, good-boned jacks from 14.2 to 15 hands high. For, although a 16 hand jack, if mated with a mare of equal size, will produce a mule of even greater height than either, the result is generally a high-bodied and leggy animal that is in every way undesirable.

There are many authorities who advocate that only a very good class of mares should be used for mule breeding, and that indifferent and unsound mares should never be used. But with this opinion I do not quite agree; for whereas, of course, it is much better to breed mules from good rooky sound mares, still a breeder may often find himself in possession of a mare which has some hereditary unsoundness that would render it most undesirable for her to be put to a stallion; but, on the other hand, one would not feel so much compunction in having her covered by the jack as there would be no fear of her progeny passing on any unsoundness, owing to the wise provision of nature that renders the hybrid sterile. I do not wish my readers to understand from these remarks that I am advocating the breeding of mules from unsound mares, but rather that, whereas it

would be entirely wrong to knowingly breed horses from unsound mares, no great harm could accrue from trying to produce a useful mule from a mare that otherwise would be useless. — CAPT. C. H. BLACKBURN, D.S.O., in *Transvaal Agricultural Journal*.

## Concrete Floors for Stables.

A correspondent says: "Can you give me any information upon cement floors for horse stables? I have been told they are very cold in winter and dangerous when there is snow which makes them slippery."

Because concrete is a good conductor of heat it is not a suitable material for horses to lie upon, consequently should not be used in the stables unless covered with a wooden floor but in the passages it is both durable and inexpensive. True it is slippery and dangerous if finished with a smooth coat but as concrete is capable of being moulded into any shape there is no necessity in having a smooth coat on the surface. The smooth coat is given by using a steel trowel for finishing but when a wooden "float" is used the floor has surface much like sand paper. In some stables we have seen the floors laid off in checkers like the crossings of sidewalks in towns but floors so cut up are very difficult to keep clean and the coarse surface is much preferable. The floor should be built up of two parts; the first layer may be two or three inches thick with the concrete mixed one to six or one to eight depending upon the brand used. The second coat must be harder and should be in the proportion of one to two or stronger. In the stalls this top layer need not be put down, the planks being laid on the first coat and nailed to sleepers embedded in it. Such a floor we feel assured would be entirely satisfactory, especially if care is taken to give it the proper slope behind and in the stalls and the surface is left at about the roughness of sand paper.

## STOCK

## [THE MATING TIME FOR CATTLE.]

The time is fast approaching when the breeder of high class cattle will consider the mating of such stock with a view to having the calves come, of suitable ages for the various classes at the big shows. His example can be followed, however, by the average farmer, who wishes to get the maximum results from his cattle at the smallest cost to the animals themselves. In addition also he now has the opportunity of sizing up the value of his cows under natural and open air conditions. If after a summer's run at grass, the kine are ill favored, in low condition or unhealthy, such should be culled out and not bred from. There may be extenuating circumstances for a cow or heifer being in low condition in the fall, but generally speaking the thin critter is not a desirable type to let perpetuate its kind. Summer time is the period when all nature stores up energy under normal conditions, and it is therefore at that time the animal economy is in the best state for the act and purpose of reproduction. The extreme heat of the summer is over, and the keen fall air is tonic enough to key the animal organism up to the proper pitch for such purposes. Not only so but if the male has been properly tended and cared for in the matter of food and exercise, he is in better condition to hand down a heritage of excellence, in either dairy or beef lines, according to his breed and type. Another advantage is that by breeding the cows so that they drop their calves early in the fall, they will milk well all winter, when products are high in price, and will take a new lease of productivity in the spring if placed on good pastures; not only that but 'the resting time' for the dam comes in the hottest weather, when the human species take holidays; the cow has not then to give a big milk flow as well as feed the calf in embryo. This question of mating has in the past been looked at altogether from the standpoint of the intent and purpose of the progeny, but it is also well to consider the sires and dams if maximum quality is to be gotten in the offspring, as well as persistency in breeding in the parents.