

The Case for Crossbreeding

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When we breed animals, whether it be farm animals for function, horses for sport, or pets for pleasure, we select breeding partners on the basis that they will reliably deliver the sort of offspring we seek (the phenotype). When we achieve a stable population of the sort of animal we think we want we call it a breed and set up a pedigree book to establish it in law. Natural selection in wild animals does not work this way. There are no breeds in the wild. Typically females select male partners that are most likely to ensure the survival of their offspring. While this may seem an expression of feminine wisdom it usually involves falling for the largest or most flamboyant male around. This may not be the most efficient approach for the individual but it works for the species. One of the truisms of natural selection is that we only see the successes. In the strictest sense therefore breeds are not “natural”. While many artificially established breeds may be counted as successes, some breeds selected to meet our needs have become so abnormal that they would miserably fail the test of survival of the fittest. Fast growing strains of broiler chickens will not survive to 10 weeks of age if left to their own devices. Some of the more grotesque aberrations of the dog breeders (bulldogs, basset hounds, Chihuahuas) are truly unfit to live.

Historically, the Caspian horse evolved through a mixture of natural and artificial selection. When man began to control their breeding he selected traits such as hardiness, intelligence and low feed requirement, necessary for fitness in a challenging environment but also well suited to animals chosen to pull a cart (or chariot if they were lucky). This policy of selection for traits consistent with fitness in the wild is similar to that practiced by our hill sheep farmers in the UK. Horse breeders have different aims. Caspian fanciers in the developed world value their little horses for any number of good reasons; beauty, temperament, intelligence, but it is safe to say that they will not include the ability to pull loads for as long as possible while consuming as little feed as possible.

I am regularly reminded by my wife Elizabeth of the need to preserve the quality and consistency of the Caspian breed through careful selection of stallions and their offspring and diligent maintenance of a comprehensive pedigree register. I agree, of course, although equally regularly I point out that if, on gentle British pastures, you select for an animal similar in size and condition to one that ekes out a marginal existence in the north of Iran, you are liable to end up with runts (but this is another story). Where we agree is that the pure bred British Caspian is, at present, not actually *doing* very much. Too small for experienced young riders, arguably too lively for tiny novices, great for driving but where? In short, too many Caspians are just standing around. One could argue that pedigree breeders should select for size until they produced something comparable to the Welsh or New Forest pony. However this would no longer be a Caspian and the losses may well exceed any possible gains; which brings me to the question of cross-breeding.

In the ruthlessly competitive world of commercial farming, where each individual animal must pull its weight, the most successful breeding strategies have been based on the principle of controlled cross-breeding. This does not simply involve selection of the individuals that appear to be best for the job, regardless of their pedigree, but selection from two or perhaps three pure breeds, each carrying desirable but different traits that may be combined to provide the best possible mix for different specific tasks. The most elegant expression of this controlled cross-breeding can be seen in the British sheep industry. Breeds like the Swaledale and the Welsh Mountain are bred pure on the hills for traits very similar to the Caspian; they are small, hardy and intelligent and can produce one lamb/year with little or no help. However they are not productive enough for an intensive lowland farm. To meet this environmental niche a Swaledale ewe may be mated with a Blue-faced Leicester ram to produce a Mule; a larger half-bred ewe that should produce and feed twins or triplets. The Leicester breed is not much good on its own. It is a seriously unhardy creature unlikely to survive a

winter on the hills. Its job is simply to produce big prolific daughters. Finally the mule ewe on a lowland farm will be mated with a Suffolk or Texel ram, relatively simple-minded but big muscled creatures whose offspring will be ideal for the butcher. The message here is that there is no such thing as the perfect breed of sheep. Several breeders have sought to create the perfect breed, with little success, because they have missed the point. Success comes from mixing and matching reliable sources of desirable traits from the pure breeds, protected by pedigree, to produce the best possible phenotype for the job in hand. By cross-breeding one also profits from hybrid vigour, an increase in fitness arising from the mixture of different gene lines which manifests most clearly in valuable traits such as temperament and mothering ability.

It seldom, if ever, makes sense to pursue cross-breeding beyond the first (F1) generation between two pure-bred lines or, at the furthest, F1 females outbred with a third pure breed (e.g. Mule x Suffolk). The reason for this is that in the F1 generation, you know what you are getting, a predictably uniform product of their pure-bred parents. However by the second (F2) generation gene separation occurs and the offspring will vary widely in size and appearance.

What relevance has all this to the Caspian? Crossbred animals may be unsuitable for further breeding but there is more to owning a horse than breeding from it. Caspian stallions mated to native breeds like the New Forest can produce ponies of a size and temperament suited to a much greater population of competent young riders than the breed could ever expect to attract on its own. (Size in horses is influenced more by the size of the mother than the father). I gather that New Zealand produced a top-rate show jumper by crossing a Caspian stallion with an Arab x Welsh crossbred mare. This sounds like an elegant 3-way cross that should gladden the hearts of sheep breeders.

If you have got this far, you may have found this article interesting, but a bit academic. If the former, good; if the latter, you too have missed the point.

You can never make a success of the Caspian breed if you do little more than breed it. If you believe it has much to offer the world of equitation, you should give it a chance to show what it can contribute to the production of high class, functional crossbreds. This will not destroy the breed, since the only way to guarantee its contribution is to continue to breed it true. Isolationism on the other hand, breeding Caspians only to Caspians, will, I suggest, lead gently to oblivion.