

SELECTING A STALLION

By Linda White

A formula for success, or a genetic crashout?

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The formula seems simple enough. We learned in junior high school that by combining two elements, we can create something unique, with proper ties and characteristics all its own.

Hydrogen and oxygen make water; sodium and chloride make table salt. In the case of horse breeding, combining two elements, your mare and the stallion you select, will result in the perfect foal. Right? Well, not exactly. As horse breeders have discovered over the past five millennia since they chose to domesticate rather than dine on them, horses are considerably more complex than a drop of water or a grain of salt.

Horse breeding, like any livestock breeding, is not an exact science. You can hope for the best, but Mother Nature isn't necessarily going to hand you precisely what you want. There are two basic elements in any breeding equation: phenotype and genotype. As an American Saddlebred breeder you owe it to yourself, and to the future of your breed of choice, to educate yourself about these two fundamentals. Only then can you begin to make the kinds of informed choices that will reduce the likelihood of producing, as one seasoned breeder recently put it, generations of recalls.

A number of external factors available time and money, facilities, level of interest, and long- and short-term goals should be carefully examined before you begin your selection. As you search for the ideal stallion for your mare, you will want to consider a variety of elements and criteria.

Don't let that long list of imagined unknowns intimidate you. While it's true that horses are more complex than a drop of water or a grain of salt, understanding the basics isn't insurmountable.

Phenotype is the observable appearance of the organism, in this case, an American Saddlebred horse. These visible, measurable characteristics are determined by both environment and inheritance. Desirable phenotype varies widely among breeds. Speed at the gallop, speed at the trot or pace, agility, the ability to jump over obstacles, size, high action, a facility for executing an assortment of gaits, and numerous standards for physical beauty, all factor into desirable phenotype in varying degrees.

As we look at phenotype, or literally, what meets the eye, it is important first to consider the role environment plays in phenotype. Every horse is the result of both his genetic inheritance, or genotype, and his environment: genotype + environment = phenotype

While an animal's environment cannot alter its genetic makeup, environment can most assuredly affect whether that animal reaches its genetic potential. A horse with the genetic potential to reach 16.2 hands may grow only to be a 15.2 adult because of poor early nutrition. Always consider the horse's appearance, performance, training and management with respect to his environment. A young American Saddlebred who exhibits exceptional athletic ability may never fulfill its potential because of improper training and shoeing practices. The most promising prospect may break down a. irreparably, the result of bad management. Be observing, because in some cases the environment may cause a condition which mimics an inherited abnormality.

Look carefully for structural soundness. Poor coat condition, underweight or overweight, lack of conditioning, neglect and many leg injuries reflect poor management. However, if leg injuries or observable unsoundness is the result of underlying unsound leg structure, make note. Strong, well-conformed legs and feet are as key to any horse's usefulness as are a healthy respiratory system and efficient circulatory system in any athlete, horse or human. Conformation, bad or good, is very heritable. Only horses with well-balanced, correct basic structure, with no major conformation



Photo Courtesy of James Aikman

defects that could bring about unsoundness, should be considered as breeding candidates, irrespective of the breeder's goals.

Since nearly all conformation flaws are inherited, they can therefore be passed on to succeeding generations. Whether bred for show, pleasure or utility, performance is every American Saddlebred's highest use. Thus, every Saddlebred breeder should be mindful of the expectation of each animal's continued soundness. Of course, sometimes horses become unsound due to an injury, rather than to an inherited conformation fault. If that unsoundness is minor, and is not the result of a heritable defect, the horse may continue to be useful in a less strenuous setting. Minor blemishes will have no effect on the quality of that animal's offspring.

In addition to endless variations of poorly constructed legs and feet, other examples of undesirable heritable conformation faults are low backs (Lordosis), long, shallow backs, weak coupling, short legs, low-set tails, and short, steep shoulders and croups. These conformation flaws are related to form and function and can negatively affect the horse's ability to perform the tasks expected of him. Other especially undesirable conformation faults that may affect performance can also detract from the American Saddlebred breed standards for physical beauty. Small, "piggy" eyes, one or more blue or "watch" eyes, short legs, large, wide-set ears, coarseness of head and facial features, "rafter" hips, a thick throatlatch, meaty withers and straight necks, whether long or short, are all undesirable physical characteristics in a Saddlebred. For a comprehensive look at Saddlebred breed standards, see AHSA Rule XXXV, Chapter One, Article 3502 (*Current USEF Rule SB102 - Type and Conformation*).

Size is one heritable trait that definitely can be affected by environment. Good nutrition and conditioning, or a lack thereof, can accelerate or retard an animal's growth. Keep in mind also that while a mare's first foal can sometimes grow up to be smaller than its full siblings (uterus less roomy for its first occupant), that first foal's smaller size is not a genetic trait to be passed on. Size requirements may vary with personal preferences, but good size can be important to an American Saddlebred's performance. Generally speaking, larger horses gain much of their size from long forearms and gaskins. Those long forearms and gaskins and short cannon bones make for strength and a longer, more powerful stride. Color is an important physical characteristic because of all the emotional elements attached. Most people have strong likes and dislikes for or against certain colors or markings. Such preferences may be arbitrary, but they have led to the formation of half a dozen color breed registries in North America. (Paint, Palomino, Appaloosa, et al.). In several other breed registries, like the Friesian (black), Suffolk (chestnut), and Cleveland Bay, color is considered a distinctive breed characteristic. Color and markings in most breeds are regulated, explicitly or implicitly, and some of that discrimination is based on fact. Light-colored hooves may have a thinner, more fragile wall than darker hooves, and the pink skin underlying white markings, both on the face and other body parts, sun burns easily and is more subject to plant allergies.

Whether or not your goal is to breed for color, a study of coat color combinations is a useful breeder's tool. It's helpful to know, for example, that in order to get a grey foal, one parent must be grey. Wishing for a grey when neither parent is grey will never produce the desired results. Palomino and spotted horses appear in ancient Oriental and Western art, and are mentioned as early as 800 B. C. Pinto and Palomino coloration have gained acceptance among Saddlebred breeders in the second half of this century, and high quality herds of both color varieties have been carefully developed.

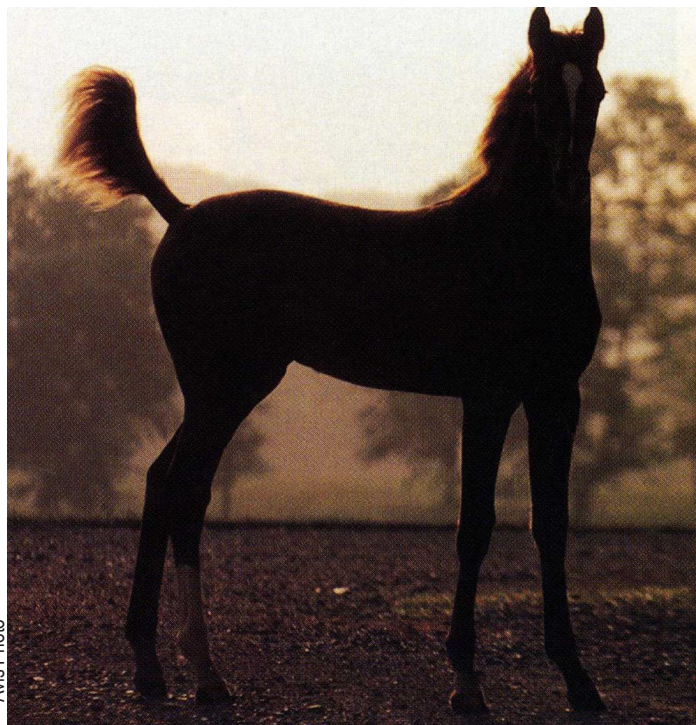
An animal's genetic inheritance is called its genotype. Here is where pedigree enters into the equation. Size, disposition, attitude, athletic ability (or lack thereof), stamina, longevity, susceptibility to disease, and fertility are all inherited elements of genetic inheritance, or genotype. As with phenotype, environment can also affect genotype. For example, mismanagement can transform a mare whose female ancestors have consistently demonstrated great fertility into a breeder's reproductive nightmare. Similarly, a horse may inherit his excellent, same temperament and trainability from generations of good-thinking ancestors, but unwise, intemperate handling and cruel treatment can turn that potential good citizen into a vicious, craven, mental case. Temperament is one of the most important aspects of a horse's character. For a horse to work with humans in any capacity, consistent tractability and a reliable, agreeable disposition are critical.

Ask around. If a stallion is siring offspring whose trainability and intelligence are highly regarded, word gets out fast. When a stallion's progeny are slow-witted, stubborn, overly high strung or difficult to handle that word gets out even faster. Ask a half dozen successful breeders their opinions of the best cross or crosses for mares bred like yours. Be aware, also, of your mare's own temperament, trainability, and the temperaments of any previous foals she may have had. Dealing with her and her children may be a little slice of heaven. On the other hand, if your mare is ill-tempered owing solely to abuse or mishandling, she is unlikely to pass it on.

Because Saddlebreds are performance horses, rather than lawn ornaments, the breed's work ethic-courage or gameness-is as important a personality element as are intelligence and trainability. Some Saddlebred bloodlines tend to be more "game" than others, and depending on your goals for the foals you breed, willingness and courage may be critical assets. Again, ask more than one person whom you respect and know to be knowledgeable about bloodlines. Ask for advice and recommendations based on your mare's pedigree. Note the pedigrees of living horses successful in your particular discipline or endeavor to give yourself an idea of what combinations seem to work.

A Saddlebred's athletic ability-or absence thereof-is the ultimate breeders' criterion. Selecting and breeding high quality athletes with any degree of certainty is a complex process that has stumped many a horse breeder. Visual research can be your key here, but choosing a winning show stallion whose show record or performance thrills you is not the answer. Don't succumb to fad breeding, and don't breed to a horse because he won.

Breed to him because he is consistently siring offspring that thrill you. The next step in this equation is to ask about or see for yourself the kinds of mares, phenotypically and genotypically, with which he



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is siring those thrilling offspring. Note also the incidence of beautiful, trainable, high quality athletes he is siring out of appropriate, high quality mares likely to produce good foals. If those few thrilling foals seem to be the exception, this stallion's success may be an anomaly - more the result of those youngsters' dams' heritable excellence than their sire's.

Remember too that for any Saddlebred breeder, "winner" has many connotations. Breeding and raising a World's Champion may be your ultimate goal-or not. The show ring may hold little allure for you. Trail, pleasure and endurance riding, carriage driving, riding for the handicapped, dressage or field hunting your Saddlebred may be more to your liking. No matter what the eventual intended use for the animal you breed, a sound, well conformed, beautiful but-unflappable athlete with an excellent work ethic will come in handy.

The foregoing guidelines, coupled with a healthy measure of common sense, will significantly increase the likelihood of Mother Nature's cooperation. It's not nice to fool Mother Nature, but an ounce of informed decision making beforehand is worth a pound of regret after the fact.



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