

examiner has not the necessary instrument of removal, he should allow the horse to stand until he can procure it, as if he drives or leads him it is probable that the nail will be forced farther in, hence aggravate matters. If no blood appears after the nail has been extracted, and the horse goes sound, it is probable that no further treatment will be necessary, but if there be blood, or if from the evident depth of puncture the sensitive parts have been wounded, further treatment will be necessary. Even though no blood should appear, if foreign matter has been introduced, or the sensitive parts wounded, pus will form and cause lameness, and an opening through the sole must be made for its escape. Hence, the seat of puncture should be carefully noted, and after the horse has reached the stable his shoe should be removed, and by the use of a shoeing-smith's knife a free opening made through the sole to allow escape of clotted blood and other foreign matter. The wound should be thoroughly washed with an antiseptic, as a five-per-cent. solution of one of the coal-tar antiseptics, or carbolic acid, and either a poultice of warm linseed meal applied or the wound filled with a dry dressing as one part iodoform to four parts boracic acid, and a boot or wrapping put on to prevent entrance of foreign matter. The writer prefers a dry dressing. The wound should be dressed in this manner twice daily until lameness disappears. In some cases a fungoid-looking bulging appears in the wound. This is simply a swelling of the sensitive sole, and will disappear as the inflammation becomes allayed, hence neither caustics nor a knife should be used. When lameness has disappeared and the discharge has ceased, the opening should be filled with hot tar and tow, a leather sole put on, to prevent entrance of foreign matter, and a shoe put on. As foot punctures of any kind are liable to be followed by tetanus (lock jaw) it is wise to get a veterinarian to give the animal an immunitive dose of anti-tetanic serum. When lameness appears after an apparently harmless puncture, the seat of puncture must be located, an opening made for the escape of pus, and the case treated as above.

Pricks or punctures in shoeing are of two kinds, viz., those actually penetrating the sensitive structures, and those where the nail, although not actually reaching the sensitive parts, is driven so near as to cause a bulging of the inner layer of the horn and pressure upon the sensitive interior, leading to inflammation and lameness, and possibly the formation of pus. Many cases of lameness follow what are known as *drawn nails*; that is, the smith, finding that the nail has gone too near, or even penetrated the sensitive parts, draws it out and drives it again less deeply. When the sensitive parts are punctured, lameness is usually noticed at once, in other cases it appears in a few days.

Treatment consists in locating and extracting the offending nail, and treating as for other punctures. To locate the seat of puncture of any kind, it is often necessary to remove the shoe, then examine all parts of the sole and frog by tapping with a hammer or pressing with pincers. When the seat of trouble is tapped or pressed upon the animal will usually evince pain by drawing the foot away. In paring and searching lame feet, care should be taken to avoid drawing blood, if possible, as this renders it more difficult to follow a spot of discoloration to its termination. When suppuration (the formation of pus) in the foot occurs from puncture or other causes, and an exit be not made through the sole, the pus burrows upwards between the sensitive and insensitive walls, and escapes at the coronet, causing what is known as quittor, which we hope to discuss in a later issue.

WHIF.

Founding a Percheron Establishment.

BY E. A. DAVENFORTH.

The problems of the beginner in breeding Percheron horses are many, but most of them can be solved by putting to proper use the information which can be obtained from experienced constructive breeders. It is, however, to be much regretted that we have not more of these breeders catering to Percheron improvement, but those that we have are doing good work and a great deal more is to be done in the future. It is unfortunate for the breed that until recently the cheaper class of Percherons were more profitable to the importers and breeders than better ones. It is always so in a new country and continues so until there is a real appreciation for a higher-class horse. The time, however, is now come when the breeder of "good ones" meets with his just reward, not only in pecuniary profits but in personal satisfaction and public appreciation. Constructive Percheron establishments in Canada are now becoming more numerous. They are dotted throughout this entire prairie country, and will labor on in the production of a higher class of horse power, improving his wearing ability, his power-producing ability and his general efficiency for power production on the farm. There will be drafted from these establishments packages of good breeding which will lead to the general improvement of horse efficiency from the Rocky Mountains to the mining centres of New Ontario.

I am requested to present as best I can some information which I have derived from the mint of experience in the establishment of a Percheron stud, which information may be of value to others throughout Canada. The beginner must always bear in mind two factors which dominate and determine the merit of an establishment being formed and the success with which that establishment will inevitably meet.

These two factors are not merely associated with Percheron breeding alone, but are fundamentals in life's reproduction and apply to all animalism. First, of

supreme importance, is the foundation stock with which one begins that the possibilities of reproducing good progeny may be had; and, second, that adequate conditions for development may be presented by which the latent characteristics as transmitted may be given every opportunity of developing to their utmost. In other words, ancestral environment will determine the characteristics which are latent in the young and the present environment will determine the extent to which these characteristics will assert themselves.

Thus, to the young man starting out to own a team of high-class Percheron mares for the foundation of his establishment, I would say, start in right; however small the beginning may be, buy them sound. I would rather have one good mare and have her sound than have half a dozen and have them unsound. When you go out to buy an animal and find it a little coarse in the pasterns, turn it down—and hard at that. It matters not whether it is coarse pasterns or a coarse hock, bad eye or bad wind, they are all the same when it comes to breeding. Unsoundness will be passed on, not only for one generation but for generations. The mares should stand squarely on large, wide-heeled feet with round, heavy heads, above which are pasterns of proper slope. The size of bone may well be considered, though too much stress frequently has been placed upon this factor. It is quality, however, that counts. We want a clean, hard, flinty bone, with wide hocks, large flat knees; they should also have good ends, long, well-sprung ribs and level top lines. One of the greatest mistakes of the young breeder is in picking his mares here and there, wherever one should strike his fancy. Years later he may awaken to the fact that the diverse types or uncongenial blood lines, or likely both, have foiled his attempts to produce such colts and fillies that the breed needs. With a foundation stock uniform in both pattern and ancestry one is reasonably assured that the offspring will be of the same sort.

While we may have a good foundation of mares, although it may be small in the beginning, our entire efforts in getting this foundation may be entirely wrecked when we come to purchase a stallion, provided he is not a suitable one for the production of high-quality offspring. The sire is one-half of the entire establishment when it comes to progeny, and his selection is most important, upon which will depend more than any other single individual the ultimate success that may be attained. The general considerations in his selection are very much the same as for the mares, in addition to which he should be stronger and more masculine in appearance, especially in head and neck and as well as being a little more upstanding. It is a practice among farmers who get around them eight or ten pure-bred mares, to purchase two-year-old stallions of good growth and type. This system is commendable, as two-year-old stallions can be purchased from \$600 to \$800, and soon grow into horses worth \$1,000 to \$1,200. He can obtain them at a lower figure, and if he owns a stallion he usually gets more of his mares in foal than by patronizing one traveling in the district. But in the selection of him, as with the mares, the utmost consideration must be given, not only to his individual type alone, but the beginner should also desire to see the sire and the dam that he may know whether or not the stallion gives reasonable assurance of transmitting the type desired. Although he may be individually of fairly good merit, yet, if his parents do not measure up, if they are of poor quality in limb or in top, then there is no definite assurance that this stallion about to be purchased will transmit anything better than the parents from which he came.

With this foundation set on a firm basis, with the possibilities made reasonably sure of obtaining progeny bearing in it latent characteristics for the production of high-class horses, thenceforth the ultimate product will depend upon the environment which it is surrounded with.

It is well known that at times environment is more powerful than heredity. If you take a high-class sample of wheat that has been developed through several years of selection and breeding, and plant it in poor soil and indifferently cultivate it, the results in two or three years you will know. Take a pure-bred cow, rich in the best blood for several generations, and shelter her on the sunshiny side of a barbed-wire fence, give her poor feed and treat her offspring in the same way, and the results you will know. Likewise, if offspring of strong quality, pure-bred Percherons be given inferior environment in the way of climatic conditions, feed conditions, etc., we cannot expect anything but inferior development, and the very purposes of good foundation stock are largely defeated.

We are fortunate in Canada that our climatic conditions are favorable for the production of healthy horses, that our soil conditions are such that the feed grown is wholesome and nourishing for the construction of a strong, perfect, enduring frame. The atmosphere is bright, bracing and pure, with the oxygen required for lung development and blood building, while abundant sunlight benefits animals and plants alike. For the development of dense, flinty bone of sufficient calibre, mineral matters must abound in the food and drink of horses. Without these requisites of nourishment imperfect animals will be produced. Canada, in regard to these requirements, is eminently adapted for the breeding and rearing of horses of the highest type and quality. Her soils are rich in mineral matters; her drinking water is strongly impregnated with minerals; her feeds are both rich in protein and earthy materials, and especially fitted for perfect frame building. We can at all times supply our horses with nutritious feed from never-failing stores.

Of the commercial foods bran is proving to be of particular value in the feeding of horses, as it furnishes

materials for the development of strong bone, dense tendons, tough hoofs and powerful muscle, the essentials for which the Canadian horses are already famed. If all the requirements for perfect development of frame exist, it may be taken that vim, vigor, hardy constitutions and staying power will be the natural legacy of the horses there bred.

It may be, therefore, stated with confidence that the Canadian environment favors these desirable qualities, which are less perfectly developed in districts where the climate is hotter and consequently less bracing, and where the character of the soil is better adapted for the production of corn and other food materials more or less deficient in frame building ingredients. We can almost better than other sections produce draft horses of ideal quality and development as regards frame, vigor, stamina, constitution, action, docility and durability. There are no more important or necessary requirements than these in the horse that works hard in the city or upon the farm.

Thus, with suitable foundation stock and with suitable natural conditions for development, the successful production of a high-class horse lies within the grip of the breeder who is producing them. If these nourishing feeds are adequately supplied for the full development of the animals bred, and sufficient exercise be allowed, there need be little fear in regard to the ultimate product. We have been able by a system of starting with a few good mares, retaining the best of them, and the long-continued use of good sires, and through good environment, natural and otherwise, to produce a band of mares that are of good type, excellent in set of legs, good feet and real producers of rugged, drafty colts, which have found ready sale before they were two years of age.

I am satisfied that the tendency to breed regularly and the tendency to prolificacy is as certainly transmitted as color or type. The size of the brood mares is also of importance, the mare weighing 1,700 to 1,800 pounds being a draft mare that may be expected to give a good account of herself, both at work and in the stud. There is a general demand for ton mares; there are many such mares that are quick in their movements and handy at work on the farm; they make good mothers and are regular breeders. However, they are the exception among those of their size; size can be best obtained in the offspring through the selection of the sires and through the kind, quality and quantity of the feed given the colts.

Our aim is to have the mares do most of the work, as well as to produce foals, and those that are given moderate work with plenty of clean, nourishing feed, usually produce healthy foals, and with proper cleanliness and disinfection the loss is very small. One can save more foals if they do not come too early in the spring, and the mares are much more apt to become pregnant if bred after the grass is good and they have begun to gain on pasture.

The feed and care of foals after weaning is about as important as the selection of the sire and dam. They should be weaned at five or six months of age, having had grain prior to weaning. After weaning they should have the run of a yard, and be fed liberally on grain. It is next to impossible to over-feed a colt that is getting plenty of exercise. The word exercise, which is a simple one the meaning of which a great many farmers hardly sufficiently appreciate, should be strong in the mind of every breeder of Percherons.

There are more good individuals among the mares than among the stallions. This is not a fault of the breed, but as Percherons are nearly all good feeders, a good many of the stallions are ruined by too much feeding and not enough exercise, whereas the mares and fillies are put to work or have the run of a pasture and develop soundly.

There should be more good sires used, as farmers fail to realize the difference in the result of using the first-class stallion to that of a second or third-class. It is a fact that an inferior stallion will get more patronage than a good one if they stand for a few dollars less service fee. The average farmer fails to realize that \$5.00 in service fees often means \$50.00 to \$100.00 difference in the price of the horse at maturity, and sometimes even more. A good horse eats no more than an inferior one. There is also a tendency among some farmers to sell their best mares and keep those they cannot dispose of. There is no hope for them even if they do patronize good sires.

The formation of horse breeding associations in the townships throughout the country would do much to advance the progress of the horse-breeding industry. Such associations should be formed of breeders who possess the same class or breed of horses and who will pledge themselves by legitimate means to further the interests of the association and the breed handled. It would be the work of such an association to protect the interests of its members, provide suitable stallions each year for use, advertise stock, attract buyers, hold sales, make exhibits at the fairs, hold meetings for discussion of horse-breeding matters and educate the locality to better methods of breeding, feeding and development of marketable horses. Township associations might affiliate with the breed organizations through delegates to represent them at the annual meetings of the horse breeders' associations. Were such associations formed in each horse-breeding centre throughout the country, and were each of them to practice and preach the same doctrine of breeding, the use of the scrub-bred, cross-bred and unsound stallions would soon be a thing of the past, while better mares would be used for breeding purposes, with the inevitable result of general improvement in the quality of our horses and profits to be reaped from the business.

If started right there never was a more opportune

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