

arrangements with regard to terms of payment, etc. I believe a number of these machines, operating in our counties, would be an inspiration and encouragement to our farmers, and perhaps help to stem the tide city-ward and west-ward, which, in the past, has been flowing so steadily.

Middlesex Co., Ont. W. S. LAIDLAW.

HORSES.

Stallion Enrolment and Inspection.

That there is a very general desire amongst those interested in horse breeding, for the Government control and regulation of sires, kept for public service, is according to Dr. F. C. Grenside, V. S. of Guelph, Ont. who delivered the following address at the Ottawa Live Stock Show, strongly evidenced by the fact that there is a pronounced movement on foot in all parts of the world, and particularly on this continent, for such action. It is significant that the chief source of this movement originated with the stallion owners themselves, for they, of all men, knew the injurious effects upon the horse industry of the indiscriminate use of sires.

Undoubtedly all know that we now have in this province of Ontario an act in force, called the "Stallion Enrolment and Inspection Act." Having accomplished so much, time will not be wasted if those who are interested in the horse industry, study this act from all stand-points so that a correct perception of it may be pretty general amongst them. There are doubtless those who think this an unnecessary piece of legislation, and are inclined to denounce it or be over-critical about its provisions and enforcement. There are doubtless others that are too optimistic with regard to the benefits likely to result from it, and look upon it as a panacea for all the ills that have been known to exist in connection with the horse-breeding industry. If a temperate, unbiased, and reasonable view is taken of it by one who has gone to the trouble to inform himself thoroughly as to the provisions of the act, first knowing the conditions it is sought to improve, he cannot but conclude that some good will result from its enforcement.

To those dissatisfied with it there is encouragement, in knowing that its provisions can be modified. Of the benefits likely to accrue from its enactment and enforcement not the least is the educational result.

It may first of all be explained that literally speaking the unsoundnesses generally considered as hereditary ones, are not in evidence as a rule at birth and possibly not for months or even years afterwards, so that it is not the diseases that are inherited but it is the tendency or predisposition to their development, that is handed down from parent to offspring.

It is interesting and important in studying this question, to endeavor to get a correct understanding as to what constitutes this tendency or predisposition to unsoundness in horses. Some good authorities take the view that some sires and dams possess a peculiar habit of body, scientifically called a constitutional diathesis which renders them liable to the development of some such unsoundness as ring-bone, spavin or side-bone. There is no way of pointing out or determining the existence of this constitutional peculiarity or tendency except the developed unsoundness.

It is worthy of note also in this connection, that the existence of a side-bone or spavin is not positive proof of it being inherited. These diseases sometimes result from accidental or exciting causes without any evidence pointing to heredity.

Personally I am a believer in the habit-of-body theory; but I am of the opinion, that the tendency to unsoundness handed down from parent to offspring is due to one or more of four predisposing causes, so that I divide them into four heads.

First, and most important, is defective formation; second, deficiency of tissue; third, defective quality of tissue; and fourth, temperament. The existence of any or all of these predisposing causes, is more or less apparent to the sense of sight, and the eye of the practiced horseman can as a rule detect their presence.

A few examples may be given to prove the correctness of these divisions. Take for example, ring-bone; the two formations of pastern in which it is most frequently observed are the long slender oblique pastern usually resulting from strain, when the high form of ring-bone is usually met with, and the low variety of that disease, when the disease involves the joint just at the coronet and usually occurs in the straight, coarse, upright pasterns, due to concussion, or laming during work. Solints are not usually included in the list of hereditary unsoundnesses although the tendency to them is undoubtedly transmitted from parent to offspring. Take the case of a horse that runs markedly and if he develops a splint or solints, they will usually be found on the out-

side of a shank bone, due to the fact that concussion or jar takes effect there instead of the inside of that bone, the usual seat of splints in a horse that does not toe-in. If a plumb line is dropped from a horse's shoulder it will pass down in a slanting direction across the inside of the shank bone, showing the centre of the line of weight, and will pass over the usual seat of splint. In some horses that toe-in markedly a line dropped in this way will pass down slantingly across the outside of the splint bone, showing that the direction of the line of weight is altered by formation. These peculiarities of formation are pretty faithfully handed down from sire or dam to the progeny and thus the tendency to some peculiar unsoundness may be transmitted.

Take as another example, what is called a Curby Hock. Though there may be no well defined curb there is the weak formation which gives the tendency to the development of curb on slight provocation. A curby hock may be described as one of small circumference at the lower part of the joint, or what is usually described as "tied in below" with the point of the hock dipped forward, and the tendon at the back of the hock not standing out prominently behind it.

Under the second division we spoke of a deficient quantity of tissue or what horsemen often refer to as lack of timber in the limb. Size is strength, other things being equal, so that disproportionate lack of tissue in the limbs is a source of weakness and unsoundness, all of which may be inherited.

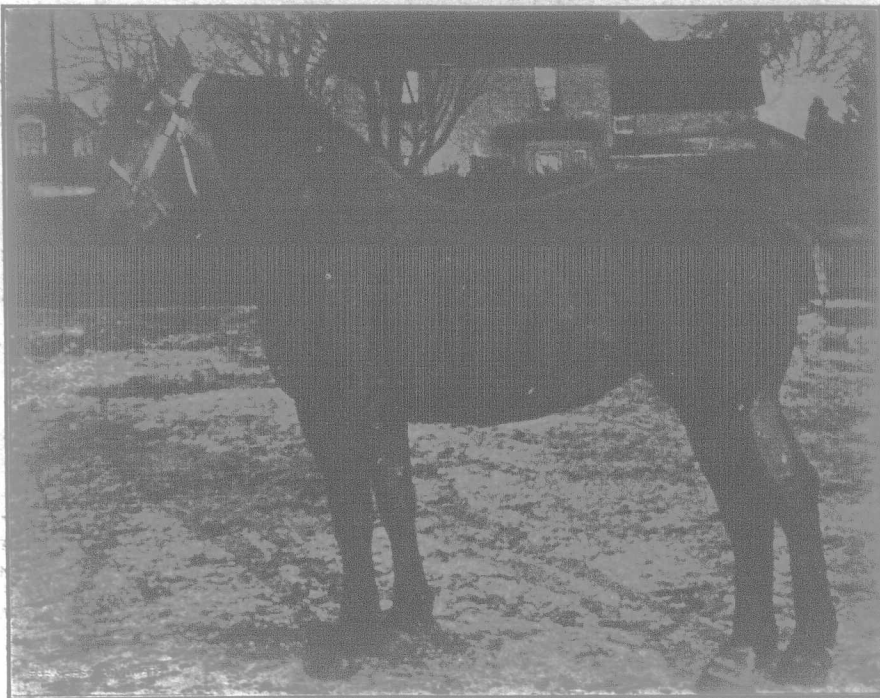
The experienced horsemen know that disproportionately small feet seldom stand much wear and tear and remain sound. Small hocks and small joints generally are predisposed to un-

practical horseman must, we must admit that coarseness, or lack of quality, is by no means an unimportant factor in contributing to hereditary predisposition to unsoundness.

Temperament is the last of the four heads into which we divided the predisposing causes of hereditary unsoundness. Although it must be admitted that it has an influence, we look upon it as the least important of the four. The nervous horse that jumps and gets excited on slight provocation, the anxious horse that is always up in his collar and against the bit, are more taxing on the physical mechanism than easier-going horses. We cannot afford to quite ignore this question of temperament in selecting sires and dams, but if the legs and feet are well formed, have sufficient substance and are made up of a good quality of tissue, they will generally stand any taxing that may result from a high-strung temperament.

Stocking.

A tendency to swelling of the legs or "filling," generally called "stocking" exists in all horses under certain conditions. While the tendency is greater in heavy horses, light ones are by no means exempt. Horses of any class that lack quality, those whose legs are inclined to be meaty rather than hard and flat, are more predisposed than those of good quality. Of course, a swelling of the legs due to actual disease or injury is frequently seen in all kinds and classes, but we refer to the conditions when it occurs without apparent cause, and, while not generally considered serious, is liable to result in disease if it continue for any considerable length of time. It is due to sluggish circulation in the vessels of the extremities, but just why circulation in the limbs should become sluggish in so many cases is somewhat hard to understand. When horses that have been on pasture or at regular work are kept idle in the stable, when the weather becomes cold we conclude that the filling is due to lack of exercise, but the trouble frequently occurs without any appreciable cause. It is more common during early fall than at any other time, but in many cases persists during winter. Some horses are so predisposed to it that it is almost impossible to prevent it without constant attention and care. There are many predisposing causes, and, on the contrary (paradoxical as it may appear) the opposite condition—that is, an insufficient



Jeanne [2943] (87145).
Percheron mare; three years old. First in the open class at Guelph. One of several good mares in the sale of Dr. T. H. Hassard, to be held in Toronto, February 5th, 1913.

supply of food, often has the same effects. It is not uncommon to notice a poorly nourished horse, one generally out of condition, whose legs become filled during the night, neither is it seldom that we notice a well-nourished, well-fed, well-cared-for horse often the same way. When this abnormal condition is not the result of disease or injury, the swellings become dissipated after the animal is exercised for an hour or two. The swellings are due, as stated, to sluggish circulation. Exercise increases the circulation and stimulates the absorbents, and the exudates that caused the filling are absorbed and carried away, thus reducing the enlargements. While the condition may occur under well-advised and apparently careful treatment, poor attention and faulty digestion are fertile causes. Horses whose bowels are somewhat constipated, though not sufficiently so to cause actual disease or visible distress, are prone to stock. Hence, preventive measures are advisable. When horses that have been at steady work and heavily fed on grain are changed to a period of partial or total idleness, the grain ration should be greatly reduced and some means should be taken, especially for the first few days, to give them some daily exercise. In other words, violent changes in food or usage should be avoided. On the other hand, when horses have been running on grass, or under other conditions getting little or no grain and change of conditions renders it necessary to feed grain, the change should be made gradually. We have on former occasions mentioned sudden changes of food as being very liable to cause acute diges-

tion. There is perhaps no defect of the hock joint which is more strongly predisposed to unsoundness than lack of size in that joint.

In addition to formation and quantity of tissue, "quality" is of vast importance in influencing the wearing ability of the legs and feet. Parents transmit with great faithfulness to the progeny defects in the quality of the horn of hoofs. Shaly, brittle hoofs are strongly predisposed to crack, developing sand and quarter cracks on slight provocation and giving rise to that very troublesome inability to hold the shoe tightly. Brittle hoofs are not necessarily coarse in fibre. Hoofs of coarse fibre lack the denseness of structure which generally contributes to toughness. Undue size of feet, low heels and flat soles, with a tendency to be easily bruised, are apt to be associated with a lack of quality in the horn structure. A horse with bone of a spongy character or lacking in density is deficient in quality. Such an individual is predisposed to inflammatory diseases of the bone, such as splints, sore shins, ring-bone and spavin.

The lack of quality in a horse is particularly well shown in the skin of his legs. The tendency to the development of cracked heels, stocky legs, wind-blows, and greas, is very evident on slight provocation. Sires deficient in quality are apt to transmit to their progeny what are called soft legs in which there is not only the inclination of the skin to swell up from little cause, but puffy sheaths of tendons, and boggy hocks are easily inflamed. If then, we accept the statements with regard to quality as it would appear that every

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