

ters (sacrum). They are often bad feeders, and will run up light with work.

10. Reject a horse with a light loin, i. e., want of breadth over the loins. They run up light with work.

11. Reject a horse with scraggy hips. They never do credit to feeding, particularly if also slack in the loins.

12. Reject a horse with a bad girth, i. e., "light through the heart." This formation will always cause trouble in saddling.

13. Reject a horse with a thick or short neck.

14. Reject a horse unless it has a good rein. With a clumsy neck the head is in consequence badly set on. Without a good rein a horse will never break well.

15. Reject a horse with very low withers. The saddle will be apt to work forwards, and the "rein" will probably be deficient, and the leverage for the muscles of the forehead is defective.

16. Reject a horse if very short. There is not room enough for the kit.

N. B.—To see the above points (1-16) stand on the side and form your opinion before the horse moves off.

17. Reject a horse with a narrow or shallow chest. There is not sufficient capacity for the lungs.

18. Reject a horse with fore legs very close together. This and the former defect generally go together. To see these points stand in front.

19. Reject a horse whose fore legs are not straight. They will not stand wear. Stand behind the horse as he walks away from you, and you will be able to notice these defects, if they exist.

20. Reject a horse which is light below the knee, especially if immediately below the knee. The conformation is essentially weak.

21. Reject a horse with long, or with short or with upright pasterns. Long pasterns are subject to sprains. Short or upright pasterns make a horse unpleasant to ride, and, on account of extra concussion, are apt to cause ossific deposits.

22. Reject a horse with toes turned in or out. The twist generally occurs at the fetlock. Toes turned "out" are more objectionable than toes turned "in." When toes are turned out, the fetlocks are generally turned in, and animals so formed are very apt to cut or brush. Both, however, are weak formations.

23. Reject a horse whose hind legs are too far behind. Good propelling power will be wanting, and disease as a result may be expected in the hocks.

24. Reject a horse which goes either very wide or very close behind.

25. Reject a horse with very straight or very bent hocks. The former cause undue concussion, the latter are apt to give way.

26. Reject a horse which is "split up"—i. e., shows much daylight between his thighs. Propelling power comes from behind, and must be deficient in horses without due muscular development between the thighs.

27. Reject a horse with flat feet or over-large feet, also with very small feet. Medium size are the best.

28. Reject a horse with one foot smaller than another.

Action must be light, easy, free, and straight. Reject a horse that crosses his legs in walking or trotting. He will be unsafe. Freedom, power to move easily along, is the great point in a young horse. Knee-action is not essential; it will come with the bit and breaking.

A good walk is absolutely essential. Reject a horse that does not walk well; he is never pleasant to ride. If a horse walks well, he will probably trot well; but a horse may trot well without walking well.

To ascertain whether the action is true and straight, stand behind the horse as he walks and trots away from you. You cannot ascertain this important point by standing on the side.

Never omit to stand behind a horse as he walks away.

A good sloping shoulder is an important item in a riding horse, but bad action may co-exist with a good; and, *vice versa*, good, free action may co-exist with a somewhat straight shoulder.

Reject a horse which is straight in the shoulder and long from the point of the shoulder to the upper part of the fore arm. This formation places

the fore legs too much under the horse, and makes him unsafe to ride.

You may have a plain horse, even if all the above very apparent defects are absent, but you will, at least, have a serviceable one.

A horse should be rejected for any one really bad fault. The greatest strength of a horse is limited by his worst point. Horses are often bought because they possess one or more very good points. This is a wrong principle in buying. The selection of horses should begin by rejection for bad points. Bad points are, of course, in a great measure, a question of degree. Discretion is needed in rejecting as well as in buying.

Having first of all kept clear of all absolute defects such as the above, then select your horses for the presence of good, serviceable, and handsome points, and easy, free, graceful carriage.

Breeding Sex at Will.

Much has been said and written upon this subject, but little is as yet definitely known, some advancing one theory and others another; but one point agreed upon more than others is that the nourishment of the fetus influences the sex of the progeny.

The *Milch Zeitung*, in summing up the concluding remarks of Prof. M. Wilkins, of Vienna, on this subject, says:

"The sex of the young is, in a general manner, influenced by the nutriment it receives in the womb; good nourishment favoring the development of a female offspring, while poorer foods favor that of the male. The age of the dam influences the sex of her young; first born and young dams generally producing females, while old dams generally produce males. This is, however, due to the fact that young mothers nourish their young better. The age of the sire has no influence over the sex of his offspring. The season of the year in which domestic animals are produced influences their sex, winter favoring the development of females and summer the development of males. This is due to the fact that the dam consumes more in the colder than the warmer seasons of the year. There must, however, besides the nourishment of the young, be other unknown circumstances influencing the sex; for, when a female produces twins, they are not always of the same sex, and the nutriment must have been the same for both."

French investigators have come to the same conclusions with regard to the nutriment supplied to the fetus, but differ with respect to the age of the sire. They claim that a young sire produces females and an old sire males, and an English writer endorses this view.

Working Young Horses.

We take the following excellent article from a work on "The Breeding and Management of Draft Horses" by Dr. R. S. Reynolds, in which he gives the results of his personal observations:

Perhaps there is no element of successful horse-management that requires more careful attention than the arrangement of the work of a young horse just purchased from a farmer for town purposes. It must be conceded that the entire change of food, stabling, work, and general treatment and surroundings, renders this period one of the most critical of the animal's existence, and one when the greatest watchfulness and care are required from his attendant; he may be plump, gay, blooming, and in fair working condition, and perform a full day's work at once to his new master's entire satisfaction, but on the morrow he will most probably come out stiff, and sore, and dull. An indiscreet horse-keeper thinks all these conditions are of little importance, and that a continuance at the same labor will remove them; but this is rarely ever so. If an equally severe exertion is re-exacted for several succeeding days, the appetite diminishes, the horse loses flesh, and should no acute disease supervene, he will almost certainly gradually become unfitted for work, and have to be entirely rested or his

labor eased, the probable result being that he will never regain his natural standard of vigor and strength. By gradually inuring him, on the other hand, to his new occupation, increasing it in severity from week to week, the horse will ultimately acquire greater capability for endurance and strength than he ever before possessed.

It is a matter of surprise how widely practical men differ in opinion upon the amount of work a horse of average strength is able to perform. Such diversity is probably attributable to several causes. 1st. No equally important subject appertaining to the management of draft horses seems to have engaged so little attention from farmers and team-owners. 2nd. Hastily formed and dogmatically expressed opinions are often based solely upon the quantity of work that can be accomplished under one set of conditions, no latitude being allowed for the numerous circumstances which may and do entirely alter results. 3rd. When the subject of horse work forms the theme of discussion, the general tendency is to relate instances of the possession of more than ordinary powers of endurance possessed by certain animals, the result of whose capabilities may be invariably taken as exceptions, rather than examples of what should constitute a fair day's work. 4th. Work is estimated sometimes by the number of hours employed, often by the distance traveled; and again by the weight transported, or the resistance overcome. The two latter items only should be considered, but they must be taken collectively when an estimate is made—the time occupied in the work, as will be subsequently shown, is to be regarded as an influencing condition, and one of the utmost importance.

The circumstances which conduce to variations in the results of horse-work are so numerous that it is impracticable to deal with them in detail; they will, however, become evident to every experienced owner when his individual requirements are reviewed.

"It's the pace that kills," is the proverb of the hunting man, race-horse owner, and four-in-hand coachman, and although not generally so considered, the aphorism is equally applicable to farm and road teams. It may be accepted as a fact that in proportion as pace is increased, so must the hours of labor and the weight to be moved be decreased. From tables of calculation founded upon experiment, it has been ascertained that the greatest advantage in the employment of horse-power is obtained when the hours of labor are increased and the pace correspondingly diminished. My personal observations tend to prove the correctness of the above statement, and I am entirely opposed to the view expressed by an eminent railway authority (Tredgold), who considers that the amount of work ordinarily accomplished in eight hours may frequently be performed in six hours with advantage to the horses. Draft horses can work long hours, and draw very heavy loads, if they are not over-paced, but to demand from them quick movement, in order that a day's work may be completed at an early hour, will, if continued from day to day, materially shorten their periods of usefulness. In illustration I submit the following problem, with its solution in two different ways. It is required as the daily work of two pairs of horses, equal in every particular, to transport twenty-four tons of merchandise a distance of two miles from a given place. The one pair is occupied only six hours in drawing three four-ton loads, and returning with the lightened dray. The other pair, similarly loaded, is two or three hours longer doing the same distance. The effects of the two arrangements will become perceptible in a few months. Although the first pair will rest in the stable at least two hours of the twenty-four more than the second pair, the latter will exhibit less fatigue, maintain better condition, and wear the longest. I hold a strong opinion that the individual qualifications of each animal must be taken into account, and that if his natural pace is three miles an hour he may, if not overloaded, be permitted to cover his fourteen or sixteen miles in from five to six hours; but to force a horse whose natural pace is only two or two and a half miles an hour to accomplish the distance in the same time, is a certain means of very greatly abridging his life; while if allowed to work for ten hours if necessary, he will last as long and probably longer than his more active