

trot of the thoroughbred or well bred hack.

The Hackney has been a very hardy, breed. Is it so now? There has been some controversy, as might be expected, between Hackney breeders and trotting horse men in the States. A sort of competition test for endurance between the two breeds was proposed, but it never came off.

The trotting horse men wanted their trial, on a track, with very light road waggons, while the Hackney men naturally held out for English traps of the ordinary weights, and an ordinary road, and it never came off.

Nothing can be more attractive in general appearance, shape, style of action, than high class English harness horses, whether pure Hackneys, or nearly so, as anyone who has ever seen any of the annual sales; Sir Walter Gilbey's, or other high class harness horse breeders in England.

That the Hackney of to-day, is considered to be softer than he was formerly, is evident from the enormous petition on the part of Irish hunter breeders, not to send Hackney Stallions for the use of the congested districts in Ireland. The great and sole objection being that, by introducing an element of softness into the breed, it would work injury to the Irish hunter, now known for his endurance and stamina. Both the Editor of the Field and many writers in it, in England, apparently well informed, and competent to judge, have completely assented to the reasonableness of the Irish demand in this matter? After all has been said and done, the breeders of the Modern Hackney, have sacrificed almost everything else, to the one great desideratum of incomparable action.

This action however must be well balanced and level all round. It is better that a Hackney should have inferior all-round action, than that he should step faultlessly in front and drag his hind legs behind after him. Breeders of Hackneys attach so much importance to action, as to have somewhat neglected excellence and beauty of conformation. Consequently, in breeding carriage horses, it is often advisable to look to the Hackney Stallion for action alone, and to trust to the mare for conformation.

I am cutting lucerne now for the third time. It is rather short, but very sweet and the horses like it very much. I shall have to give it a rest now for a little while. I have not got quite enough of it; with another acre or two I think I should have enough.

I mean to start a thorn hedge, in October. I shall transplant thorn trees about 3 or 4 feet high, and see how they will do.

C. F. BOUTHILLIER.

### A LARGE TEAM FOR FARM WORK.

"Eds. Country Gentleman"—The advantages of large horses on the farm, as recently advocated in your Journal, are so great that I believe they may be profitably emphasized by a second article. I have used large and small horses. By large I mean a horse that will weigh above 1400 pounds in working flesh, and by small one that weighs less than 1100.

It is the man-power on the farm that requires the large outlay, so that any plan by which the time of a man can be made more efficient is in the line of wise management. Foremost among

the provisions in this line I place a strong, fast-walking team. It has been my experience that these qualities cannot be gotten in a satisfactory degree in less than a 1500 pounds horse. For the man who is content to plow not more than one and a half acres a day, a team of 1000 pound horses may do. But when one desires to plow six inches or more, and the work to be done makes it necessary to plow two or two and a half acres a day, (1) at least 3000 pounds of horse power are required; and I think it much easier to harness it with two sets than three.

Then, as a rule, the larger team can walk faster—a most important consideration. In so many kinds of farm work the quantity done in a day depends directly on the walking speed of the team. I have no use for the large, clumsy horse; but I can find a type of high-grade Percheron that combines action and size. I do not mean action on a trot; I care very little about that. The farmer cannot make much money on the road, and has not much time for pleasure driving. If he has much driving to do, I think it well to keep a horse specially for the purpose.

I know it is often said that a heavy team is needed for plowing, but that a lighter one can do the cultivating. We find that in harrowing and rolling, as well as plowing, the work accomplished is in proportion to the size of the team. We find that a heavy team will run a six-foot cut mower, a binder, draw a hay-loader behind a wagon, and do many other things without overtaxing them, that our lighter team cannot do.

I cannot say that the heavier horses will not require more feed. We find they do. I believe it a principle in feeding that animals require quantities in proportion to their weights. But this varies greatly, owing to peculiarities of animals, so that some large horses may require no more than some small ones. But I would never urge the adoption of large horses on the expectation that more power is to be gained from the same feed. I urge it rather on the ground that the greater power now needed in farm work is more conveniently handled in two than in three horses.

H. P. MILLER.

"Delaware County." O.

### Notes by the Way.

**WEEDS.**—Harrowing for the destruction of weeds soon after a crop is a hoed ground is not a bad practice if carried out with judgment. It all depends upon the crop sown and the depth at which it is sown. Barley we should not care to harrow at any time, as it is very tender in the blade, but wheat will stand a good deal of hard usage, particularly if sown at the depth we recommend, namely from 2½ to 3½ inches, so as to allow both the coronal and germinal sets of roots to take a firm hold of the soil. Fall-wheat, in our English practice, is almost invariably harrowed in early spring, and the crop is greatly improved by the operation, as the tillering sets to work at once. The Sorel folk were wonderfully shocked when they saw some of our friends harrowing wheat then some three inches high;

(1) Will any one say that 2½ acres of land can be "ploughed" by a pair of horses in a day? One acre and a-fourth is quite enough for any thing but skinning.—Ed.

but the piece won the first prize that year, in spite of the harrowing. Light harrows are the best for the job, on spring sown crops, as all ours are here. Oats, like wheat, may be treated in the same way, not as the practice of Mr. Safford, mentioned in the subjoined extract, seems to be, "with a four-horse drag, but with the ordinary harrow used after the drill."

**HARROWING CROP WEEDS.**—Mr. Safford, of Kelso, N. D., whose experience of harrowing over recently sown grain crops is referred to on page 209 of the November issue of "The N.—W. Farmer," has since made further explanations of his methods as follows: I usually harrow wheat, barley and oats three times. The first time, if the ground is not too wet, just as the grain is coming up, then I like intervals between, of about one week each, but if the harrow would cover too much grain and hold it down and kill too much I wait for it to get a larger growth. The early harrowing seems to kill more weeds and helps the grain more than the later tillage. My wheat this year, in twelve inch rows, was harrowed first with a common four horse drag with upright teeth, when the grain was coming up. As the ground was very soft, having been disced just before seeding, I did not dare to use the same harrow later, but harrowed between the rows twice with slanting teeth. I think it was harrowed too early the second time and too much wheat was covered and killed, but the crop, about 35 bushels per acre, was quite satisfactory.

**FEEDING CATTLE.**—How many kinds of grasses, clovers, etc., Dr. Daubeny found in one square yard of old pasture we forget, but the number of them in old grass, in England, is very great, and this variety is one reason why cattle do so much better on really good pasture than on any artificial food given in the house. And so we may learn that, however true theoretically the idea of a "balanced ration" may be a varied ration is even more desirable. Says the Rural New-Yorker on this subject:

A "balanced ration," when composed continuously of the same kinds of food, is not so appetizing as when the foods are changed in character, preserving at the same time the proper balance. For some unexplained reason, animals, as well as man, like a change of food, although the constituents of the food or the ration may be virtually the same as those used before. I suppose that this desire for change is due to physiological laws, and is founded upon the aromas or peculiar tastes which the foods have. After the salivary glands and digestive organs have become accustomed to any particular volatile oils or flavors they become, as it were, immune, hence stimulation is diminished. Now if a change of food, preserving the balance, can be introduced, we get a new kind and quality of volatile oils or flavors. These rouse the stomach to better action, hence there is no doubt that a change of food other things being equal and the change not being too radical, is beneficial.

**THE BREWERS' EXHIBITION** (England).—The annual exhibition of barley at this show was very excellent. The number of entries this year was 151, 42 of which were of foreign grain. The Champion-prize was awarded to a sample of Bohemian barley, it

being the finest bushel of malting barley exhibited in any class. Gloucestershire, Herefordshire, and, strange to say, Norfolk, were very successful in the cider-classes, but Devon was not by any means prominent. Norfolk has never been a cider-country, but men of science have of late been studying the art of cider-making, and have discovered that the proper management of the fermentation is of far greater importance than the quality of the land in which the apples grow. Mr. John Watkins, of Hereford; Harper and Sons of Stroud, Gloucestershire; and Crymer and Son, of Attleborough, Norfolk, have produced a thoroughly palatable drink, which has no ill effects, and of which the medicinal qualities are very considerable.

**CONSUMPTION OF MEAT IN ENGLAND.**—Not many months ago, a statement was made, at a public meeting, that the labouring man in Great Britain hardly ever ate meat more than once a week. This must be a mistake, as we shall endeavour to show.

In 1891, the population of England and Scotland was, in round numbers, 31, 000,000, and the consumption of meat was 3,255, 000,000, or 105 pounds a head. Now, the quantity of meat consumed in a family of the wealthier class is, on an average, half a pound a day per head, including men, women, children and servants. In such a household then will be a good deal of waste; meat for soups, will be largely used, and the men-servants are not economical feeders. One hundred and five pounds a year is equal to 4½ ounces a day, the quantity of meat remaining for the labourer, operative, etc., after all said and done, i. e., half of the quantity consumed by each head in a wealthy family, no deduction made for infants and paupers, who number at least 3,000,000 souls, or rather, bodies.

**CORNSTALKS.**—In the States, and in some parts of Canada, a machine has been in use of late that takes in the whole stalk of the corn, ears and all; threshes out the grain, and smashes the stalk all to ribbons, after which operation the grain is sifted out, and the shredded stalk, mixed with straw in alternate layers, is piled away in the barn.

**SHREDDING CORN.**—J. S. D., p. 594, asks as to the best methods of using corn stover. In view of the fact that I have used a shredder for corn to feed brood mares and colts, I will tell him my experience. The machine I used was manufactured by the St. Albans (Vt.) Foundry Co., with one of their internal double-geared two-horse powers, and has given me splendid satisfaction. We cut our corn when it was almost ripe, just as the kernel begins to dent, and began using it at once. After we were through with the work on the farm, the corn was hauled from the field and ricked just outside the barns, the carrier from the shredder through a small doorway deposited the shredded stover into a feed room, thus economizing labor. Our horsepower, while not giving as many revolutions a minute for the best work to be done by a shredder, still enabled us to cut enough fodder in two hours to last us easily for five or six days. It was shredded in splendid condition and the horses ate it eagerly, leaving the best hay for it. We think from our experience last winter that it would be better to leave the stalks in the