

washed away, the buttermilk which destroys the flavour of all butter excepted. Besides, the best butter in the world and that which in all markets commands the best price, viz. Dutch butter, is invariably made in this way; and where the example has been followed by others, it has rarely failed of success. If any, however, doubt the propriety of washing butter, they may use any method they choose, provided the milk is separated perfectly. Perfectly freed from the substance that causes it to assume that putrid frowy taste of bad butter, it may be kept with almost as much ease as tallow; and solidity in packing, clean, sweet vessels, and a low temperature, will ensure its keeping for any reasonable time. Let no one expect good butter, however, so long as coarse impure salt is used, or a particle of the buttermilk is allowed to remain in it.—*Albany Cultivator.*

#### KNOWLEDGE IS POWER.

In a late admirable report by Horace Mann, Esqr., Secretary of the Board of Education of Massachusetts, the following striking exemplification is introduced of the maxim that "knowledge is power":—

"M. Redelet, in his work, '*Sur l'Art de Bâtir*,' gives the following account of an experiment made to test the different amounts of force which, under different circumstances, were necessary to move a block of squared granite, weighing 1,080 lbs.

In order to move this block along the floor of a roughly chiselled quarry, it required a force equal to 758 lbs.

To draw the same stone over a floor of planks, it required a force equal to 652 lbs.

Placed on a platform of wood, and drawn over the same floor, it required 606 lbs.

By soaping the two surfaces of wood, the requisite force was reduced to 182 lbs.

Placed on rollers of three inches diameter, and a force equal to 34 lbs. was sufficient.

Substituting a wooden for a stone floor, and the requisite force was 28 lbs.

With the same rollers on a wooden platform, it required a force equal to 22 lbs. only."

"At this point," says Mr. Mann, "the experiments of M. Redelet stopped. But, by improvements since effected, in the invention and use of locomotives on railroads, a traction or draught of eight pounds is sufficient to move a ton of 2,240 lbs.; so that a force of less than four pounds would now be sufficient to move the granite block of 1,080 lbs.; that is, one hundred and eighty times less than was required in the first instance. When, therefore, mere animal or muscular force was used to move the body, it required about two-thirds of its own weight to accomplish the object; but by adding the contrivances of mind to the strength of muscle, the force necessary to move it is reduced more than one hundred and eighty-eight times. Here, then, is a partnership, in which mind contributes one hundred and eighty-eight shares to the stock to one share contributed by muscle; or, while brute strength represents one man, ingenuity or intelligence represents one hundred and eighty-eight men!"

From observations kept for the last half century, it appears that 1793 is the only year which can be brought into comparison with the present as to long continuance of heat and drought. For some days, however, in 1802 and 1811, the thermometer rose to

a higher degree, and in 1802 it was above any former instance known in Paris (being once up to 39.5-10ths of the centigrade scale, 105 Fahrenheit). Those who pretend to be weatherwise predict that the ensuing winter, or at all events, the winter of 1843-1844, will be extremely rigorous.—*Selected.*

(From an English Paper).

#### HORNCASTLE FAIR—ON BREEDING HORSES.

MR. EDITOR,—The great horse fair at Horncastle has just terminated, and, as a neighbouring gentleman of that town, I rejoice to say its character for receiving some of the finest horses in the world has not diminished. We have been visited by London, foreign, and other dealers from various parts of the United Kingdom, in great numbers, and notwithstanding the unsettled state of the manufacturing districts, much business has been transacted. First rate hunters and carriage horses fetched high prices, and were difficult to procure. Good cart horses were sold readily at remunerating prices, but the "machiner" half-bred and inferior class of horses more difficult of sale, and at low prices. The great coach and posting establishments having been so generally reduced since railroads were established, there is no demand for the half-bred or inferior class of horses.

It may therefore be worth while to make a few remarks on the breeding of horses, for there is no part of England where there are more spirited, and at the same time more careless, breeders of horses than in the limits of the circulation of your paper. The first axiom I would lay down is, that "like will produce like"; that the progeny will inherit the qualities or the mixed qualities of the parents. It is also certain that the foal will inherit the diseases of the parents, or at least the predisposition to them. There are proofs upon proofs that blindness, roaring, broken wind, spavins, curbs, &c., &c., have been bequeathed both by the sire and the dam to the immediate or more distant offspring. Peculiarity of form and constitution will also be inherited. The unskilful or careless breeder will often so badly pair the animals, that the good points of each will be in a manner lost, the defects of both will be increased, and the produce will be far inferior to both sire and dam. Of late years these principles have been much lost sight of in the breeding of horses, and the following is the explanation. There are nearly as good stallions as there used to be: poverty or indifference has induced many of the farmers to use that mare on his farm which has cost him little money, but still he determines to have a foal from her, and she is put to the horse; but by what rule does he select the horse? Why, a horse is selected because "they say" he is a good one, or because they only charge so and so for his covering, and a foal is still a foal; or neighbour So-and-So has a horse, and you know we must not go by him, for it would not be neighbourly. Under these considerations, not having the least reference to the points of the horse or the mare, a foal is produced, in all probability a worthless animal. I wish to impress upon the minds of all farmers that the excellence of the mare is a point of quite as much importance as that of the horse, and that out of a bad mare, let the horse be as perfect as he may, a good foal will rarely be produced. Farmers should also bear in mind that a foal which, when arrived at maturity will sell for 15*l.*, requires as much more food as one that will sell for 100*l.*, and that the latter (if worked) will perform as much work for the breeder as the one that sells

only for 15*l.*, but should the 100*l.* horse happen to receive a blemish during his work, he will at any rate bring as much as the unblemished 15*l.* horse. I have been induced to make these remarks in the hope they may catch the eye of those farmers who breed horses, and are careless about the stamp of mare they put to the horse, and who by being thus indifferent, are the cause of producing the inferior class of horses we have recently witnessed at Horncastle fair, and which I trust we shall see by degrees diminish in number.

Your obedient servant, " " T  
August 20th, 1842. " " ID.  
" " A

#### ON GREEN MANURING.

The following trial of manuring with green crops was made by Herr Zahlbrückner in the year 1839-40, and was communicated to the Agricultural Society of Vienna at the meeting in April last year. Three pieces of ground were selected for trial. No. 1 was treated as a clean fallow, and afterwards thickly manured; No. 2 was sown twice with Vetch seed, and when the plants had grown were ploughed in; No. 3 was sown with Lupine seed, and treated in the same manner. The first piece of ground contained about 800 square yards, the two latter about 400 square yards each. The vetches and lupines were both strong in their vegetation, and the first crop of the former was ploughed in at the end of June, and the second crop with the lupines in the middle of August. In the middle of Sept'r. all three portions were sown with winter rye, in the proportion of three pecks of seed to the acre; in all three pieces the plants appeared about the same time, the green-manured a day or two sooner. No difference was observable in the character of the young plants, and each crop passed through the winter of 1839-40 without any injury, and in March, 1840, when the snow and ice had melted away, little or no difference was perceptible in the crops. At the time of flowering, the fallow and lupine plots were more vigorous than that of the vetch; and at the time of the ripening of the new seed, the lupine plot had attained the highest and strongest growth. In thrashing the corn the following was the result of these experiments: No. 1 delivered 32½ pecks to the Austrian acre; No. 2, the vetch-manured, yielded 26½ pecks per acre; No. 3, the lupine-manured, yielded 34½ pecks per acre. In some previous experiments made in the year 1833, the green-manuring with the lupine yielded a larger produce than the thickly-manured fallow. That the vetch-manured did not produce so large a quantity of seed as the lupine, may be ascribed to the heat to which it was exposed during the latter part of the season; but still, the result proves the value of this kind of manuring. This mode of providing manure for corn crops may be of great importance in those cases which sometimes occur, in which the farmer cannot obtain the requisite quantity of animal manure. Although these experiments in some measure contradict the recent doctrine, that all manures are derived from the inorganic kingdom, yet the practical farmer will not fail to avail himself of this ready way of obtaining manure. This mode of manuring may be conducted with other plants, especially those with large or abundant leaves. The families of Cruciferae and Chenopodiaceae offer an abundance of species fit for this process; and there are numerous common weeds which might also be employed for the same purpose, without any expense. The *Madia sativa* would also be a good plant for green-manuring. Abstracted from *Verhandlungen der k. Landwirthschaft-Gesellschaft in Wien*.