

What Stock most enriches Pasture.

It is generally accepted as a fact that soil under pasture grows fertile. When land is ploughed and cropped, an 1 pasture forms part of a systematic rotation, the soil under grass recuperates in power to grow grain. This is due to several causes, prominent among which is the thick turf ploughed under, thus supplying a quantity of manure for the succeeding crop. If a field were left in grass for a long time, and all the growth allowed to rot on the ground, we see no reason why the soil would not increase in fertility so long as this practice was continued. But were the grass removed in the form of hay each year and no compensation made, no practical farmer would contend that the soil grew richer when subjected to such treatment for a long time. Land, in grass, then, becomes rich only in proportion as the growth of vegetable matter from it—as roots, stems, leaves and seed—is returned for manure.

Land is enriched by pasturing for the production of grains in two ways; the formation of a sod to be rotted for manure, and the deposition of the solid and liquid excrements of the stock. It is important for the grain farmer to consider the kind of stock which, feeding on his pastures, will enrich them most. There is, perhaps, not much practical difference in the amount of manure made by various animals on the same pasture, but the form in which it is deposited, and the habits of stock in choosing their resting places ought to be well considered. Horses are the very worst fertilizers of pasture; they are very close feeders, and they delight to graze the summits of knolls, and all spots where the herbage is short and sweet. On such spots they are continually feeding, yet their manure there is very little. The observer will find their droppings mostly in rich hollows, and places where the herbage is rank and coarse, showing that the soil is already fertile above the average of the field. In this respect cattle have not the same instinct as the horse, and they are neither so close nor so dainty feeders, but the objection holds against them, as the horse, that their manure is not scattered sufficiently for the good of the land. This is, indeed the chief objection to employing horses or cattle to enrich land by pasturing. If the grass is turned into hay and fed to them in the yard or stable the manure therefrom may all be saved and applied judiciously. But this course involves much labour in the field every observant farmer knows that the droppings of horses and cattle seem to fertilize the soil but little when their bulk is considered, and the best effects are invariably seen not from the solid but from the liquid manures that fall on the field. In pasturing cattle and horses we conclude that not more than one part in a hundred receives any manure while the ninety-nine other parts are impoverished as much as though the grass were cut and removed in the form of hay.

Without doubt sheep are the very best stock with which to enrich land by pasturing. They range over the whole field and refuse hardly anything. Their manure is scattered in the very best form it could be applied as a top-dressing. If they frequent the knolls where the grass is sweet they also enrich them, and they choose for their resting places at night, and therefore fertilize, the highest part of the field. If desirable, a flock may, with little trouble, be tightly folded on the poorest spots of the field. In hot weather they will frequent the shade of trees, but from such places the accumulated manure is easily scraped up and distributed to other parts. And the farmer who is mainly a grain grower will find no stock more profitable and convenient for all his purposes than sheep.—N. Y. Farmer.

BREEDING IN AND IN.—Sir John Schright, in his pamphlet on "Improving the Breeds of Domestic Animals," pronounces strongly against continuous close interbreeding. He states: "Breeding in-and-in may have the same effect in strengthening the good as the bad properties, and may be beneficial if not carried too far, particularly in fixing any variety which may be thought valuable. I have tried many experiments by breeding in-and-in upon dogs, fowls and pigeons. The dogs became from strong spaniels weak and diminutive lapdogs, the fowls became long in the legs, small in the body, and bad breeders. There are a great many sorts of fancy pigeons; each variety has some particular property, which constitutes its supposed value, and which the amateurs increase as much as possible, both by breeding in-and-in and by selection until such particular property is made to predominate to such a degree, that in the more refined sorts they cannot exist without the greatest care, and are incapable of rearing their young without the assistance of other pigeons kept for that purpose."

COWS IN THE YOKE.—On his way from Paris to Geneva, Mr. Willard, of the *Utica Herald*, saw for the first time cows in the yoke before the plow. He says: "Many of them were in milk, but the udders indicated that the production of milk and the tilling of the soil did not go well together. The color of the beasts is of a light cream. They are of medium size, compact, and many of the herds were in fine flesh. We often passed points where a half dozen cows were being led to water by women. They had ropes attached to the horns, and one woman would manage six or more at a time."

EXTRAORDINARY PROLIFICACY.—The *Ingersoll Chronicle* says:—It will be remembered by many of our readers that in the issue of the *Chronicle* of the 31st March, 1865, we recorded the extraordinary fact that a cow belonging to Mr. John Cannom, 3rd Con. West Oxford, gave birth, a few days previous to the above date, to five calves—perfectly formed. We have now to record that the same cow, on Monday last, gave birth to four calves! Three were perfectly formed, were as lively as crickets, and would probably have thriven had not Mr. Cannom killed them, which he did twenty four hours after their birth. The cow is six and a half years old, and this last batch makes thirteen calves she has given birth to within four years! The cow as before stated is of the Durham breed.

BREAKING COLTS.—I am strongly opposed both in principle and practice, to "breaking colts,"—that is, allowing them to attain the age of two or more years before they are taken in hand for learning the principles which are to form so important a part in their future life. There should be no "breaking" about it. The education should begin as soon as the colt is born, and, if properly attended to, will be perfect by the time he is large enough to drive. Being led or tied with a halter should be his first lesson, and the sooner he learns it the shorter the struggle and the more permanent the lesson. Never give him a chance to break loose, for once done he will remember it for a long time, and, if the lesson be too often repeated he will make a proficient in this not desirable art.—E. Cor.

The Dairy.

Management of an English Dairy Farm.

THE *Agricultural Gazette* gives the following interesting account of the dairy farm carried on by Lord Granville, near London:

The following are the leading particulars regarding the farm: It is 340 acres in extent, of which about 300 are pasture. All this grass land is mown twice. When the cow-stalls are full, holding from 100 to 120 cows, about three-fourths of an acre are needed daily as cut forage carted home, and the whole land is twice cut over in this way between the end of April and the beginning of October; all that is fit for hay being, both in June and again a second time as "rowen" in August, mown and made. The remainder is grazed with sheep during the autumn months, 300 being purchased for this purpose in September, and sold at Christmas. There are thus about 600 loads of hay made annually, and of this nearly half is consumed upon the premises and one-half is sold. The produce of the land is thus (at an average yield of first and second cuts equal to 26 cwt. of hay per acre) about 3,000 tons of grass from the pasture land (of which 1,000 tons are sold as hay, leaving 2,000 tons to be consumed), and probably 600 tons of mangel wurzel and cabbages from the arable land, making 2,600 tons of green food, either succulent or dried as hay, consumed per annum by 120 cows, which amounts to about 1½ cwt. daily a piece (taking both grass and hay into account.) In addition to the produce of the farm, some 80 loads of straw per annum, and 150 quarters of grains per week, and probably twenty or thirty tons (2 to 3 cwt. a day upon an average) of peas, barley, and pollards, are purchased and consumed per annum. The cows receive 1½ to 1¾ bushel of grains in two meals daily—in winter they receive 15 lbs. of hay and 30 lbs. of mangel wurzel, and in summer grass—about ½ of an acre of a crop, equal to 30 cwt. of hay, sufficing for 100 or 120 cows. In addition to this they receive 2 to 4 lbs. of meal a day when in full milk, and again when their milk is shrinking rapidly, and when it is desired to fat them for the market. As soon as a cow shrinks to five quarts of milk a day, she is dried off and fattened, and in this way continual purchases of stock are being made to keep the houses full; 150 to 160 are annually purchased and sold to keep 120 cows in constant milk. Where the state of the market recommends it, the cows are fattened up to nearly their

original value when in full milk; at other times they are allowed to go sooner, and the original value is not realized. In two years of which Mr. Panter has been good enough to give us an account, the average price on purchase was £19 17s. and £19 18s. respectively, while the price obtained on sale was only £14 11s. and £13 11s. respectively. This, however, represents a much greater loss than usual, owing to the severity in these years of pleuro-pneumonia and the foot-and-mouth disease. On an adjoining dairy farm, in 1863-4, about 90 being continually in milk, the cows, kept a shorter time and continually fed as well as milked, reached on sale within £1 of their purchase price. But 163 were purchased and sold per annum to keep a stock of 90 good, so that they could not have been kept longer on an average than seven months each.

In 1862-3, upon the Golder's Green Farm, 100 cows being daily milked upon an average throughout the year, the return for milk sold was £3,900, or £39 per stall. In 1861-5, 120 cows being kept, the return was £1,900, or upwards of £40 per stall. In the latter year 164 cows had been bought for £3,077, or £18 15s. a head, and 161 were sold for £2,317, or £14 8s. apiece, being a loss of £760 in all, equal to nearly £5 per cow, more than £6 per stall; and it must be borne in mind that the return stated above, amounting to nearly £40 per stall per annum on an average, corresponds to only £30 or thereabout per cow during the eight or nine months' feeding spent upon her. On the whole, the return in 1864-5, may be stated at £4,140 for about 2,000 tons of grass, 80 loads of straw, 8,000 quarters of grain, and 20 to 30 tons of meal and cake, a large expenditure on labour, and the use of a large amount of capital. The men employed upon the farm and in attendance on the cows, correspond to one to every ten cows, and in addition to this there is the cost of hay-making, let at 25s. an acre, or thereabouts, and the cost of horse labour, including 13 or 14 horses in five or six teams. To the receipts from the cows must be added the proceeds, about £300 per annum, from wheat and potatoes grown on the arable land, and some £100 or thereabouts realized from the sheep, together with the price of 200 or 300 loads of hay; and to the expenditure must be added a good deal of extra labour connected with harvest work upon the arable land. The reader will work out the calculation for himself. But keeping to the return in milk for the 2,600 tons or thereabouts of grass, both succulent and dried, consumed by the cows, we make the net profit, deducting rent at £3 per acre, and 5 per cent. upon the probable capital employed, to be about 6s. or 7s. per ton of the grass thus grown and consumed.

Churning, Washing, and Coloring Butter.

The following directions for churning milk and working butter are supplied by a correspondent of the *Rural New Yorker*:

"The churn should be as nearly straight up and down as possible, as the dash should stir all the milk every stroke it makes, so that the butter in the churn should all come at the same time. If the milk is too cold, the only plan to warm it is to place a pail of milk in a large boiler of warm water to bring it to the exact temperature, which is about 55 to 60 degrees—a few degrees warmer in cold than in warm weather. As soon as the butter has come and gathered, take it immediately from the churn in its warm state and put it in a large wooden bowl, which is the best vessel for the purpose; then put it in cold soft water; then commence pulling the butter over with the ladle in so gentle and careful a manner as not to affect the grain, for as sure as that is injured at the washing or the working, the butter becomes oily and can never be reclaimed. Every particle of milk must be washed out, and then season with the best Liverpool salt. Set the bowl away until the next day, and when sufficiently cool, work the mass thoroughly, but not so as to make it oily, and on the third day pack it away if it has assumed the right colour. Examine it well before packing, and be sure that no milky water runs from it, for if packed with the least drop, you will hear from it in next April.

"If your spring or well is hard water, save ice from streams, as lime never congeals with ice. Save rain-water, and then with ice you will have soft, cool water to wash your butter, without which you cannot get the milk out without injuring the grain. Soft water is as indispensable to wash butter as it is fine linen. Washing butter is not positively necessary if it is to be used within a few weeks.

"The idea of colouring butter with anything after it is made is as absurd as painting rye bread white, with the expectation of making it taste like wheat."