small farms which render a mixture of ripe and unripe, 2-rowed and 6-rowed barleys unavoidable, to hope to compete with the farmers of the banks of the Saale, and other parts of Europe, who have been so well taught by the agents of English brewers that they now lead the London market by one or two shillings a quarter.

Some interesting particulars were given by Dr. E R. Moritz, analyst to the Country Brewers' Society, in his annual report to that Society relative to malting barley. The *Times*, in a summary of the report, says :—" Dr. E. R. Moritz remarks upon the altogether exceptional quality of the English barleys grown during the hot, brilliant summer of 1893, when the climatic conditions approximated more closely than in any recent year to those normally prevailing in many foreign barley-growing countries. Nevertheless, though a series of summers like that of 1893 would probably give us seed admirably suited for growth in a sunny climate, such a season coming exceptionally is likely, on the whole, to be productive of mischievous rather than beneficial effects. The barleys of 1894, which are now being malted and brewed, are as different as possible from those of the preceding year. They are, indeed, typical of, but superior to, the English grain of the better seasons within the last ten or 15 years in spite of a somewhat cool and rainy summer and a particularly wet harvest. In view of such conditions of season the prevalence of 'idle" corns might reasonably have been anticipated; yet, as a matter of fact, maltsters are finding that, after sweating, corns are growing particularly well and evenly. Dr. Moritz inclines to the opinion that the cause of this favorable result is mainly to be sought in the dryness of the barley used for seed in 1894. The "condition" or dryness of the seed is no unimportant factor in the character of the resulting crops of both wheat and barley. Reference is made to the 'deterioration' of English barley, alleged by brewers to be due to the employment of large quantities of chemical manures and the consequent lessened use of farmyard dung. Dr. Moritz questions whether this has been the chief cause, if a cause at all, of the change for the worse in the bulks of English malting barley compared with what they were, say, 20 years ago. It is rather in the altered economic condition under which barley has been grown and marketed since the repeal of the malt-tax that he would look for the special cause of deterioration. A good deal of barley which, prior to 1880, was marketed simply as feeding material, is now brought forward for malting purposes; and this tendency towards the cultivation of barley on inferior land for malting purposes has been aggravated of late by the increasing unremunerativeness of wheat crops, and the consequent devotion of heavy land to barley (1) which had previously been under wheat. It does not seem improbable that much of the prejudice against the use of artificial manures for barley-growing is based upon experience gained where such fertilizers were employed ignorantly and with regard solely to price. On the whole, it is very questionable whether there has been any real 'deterioration' in English barley. Adulteration or falsification seems to oppose the English farmer in every direction. Dr. Moritz expresses his belief that a great deal of mixing in of inferior foreign with superior foreign or English malt is carried on by the less scrupulous firms of maltsters."

(1) And yet, the Chevalier barley grown on the Essex clays sells at the highest market price to the maltsters of Saffron Walden, Bishop Stortford, &c.—Ed.

The Norfolk experiments on manures for grain-crops seem to have proved a failure this season on account of the too rich state of the land experimented on. Sir John Lawes taught a better lesson many years ago. He began, in 1840, to carry out experiments upon crops and manures, by exhausting a field of about 12 acres by removing four unmanured crops—turnips, barley, clover, and wheat; and in 1844 he sowed the whole of the field with wheat, which has been grown continuously up to the present time—the crop now in the land being the fifty-second in succession. In 1843 he selected another field to grow continuous root crops, and other fields followed, about 50 acres being now under experiment. Judging from some of the reports of experiments in the U. S. papers, we should fancy that the managers of the stations have not paid attention in many cases to this, the first requisite of satisfactory experimentation.

Grain and pasture.—If the addition of extra food, such as grain, cottonseed cake, &c., to the rich pastures of Britain is found to be remunerative, how much more profitable would it be on some of the poorer pastures of our province. With such rains as we have had during the past month—May—many cows have been troubled, if not with actual diarrhœa, at least with a looseness of the bowels far from conducive to sturdy health. No better cure for this than the addition of from 2 lbs. to 4 lbs. of cottonseed cake. Why do English dairymen lay so much stress on the need of beans or pease in compounding a ration for their cows? Not so much because they expect to see an immediate return for the cost in the extra milk yielded, as because they know, from experience, that, as Mr. Goodrich sensibly remarks in the following extract from the " *Breeder's Gazette*", " the cows hold out better in the fall, and give more in winter " than when there is no extra food given :

Our neighbor, C. P. Goodrich, gives the facts of his experience in feeding grain to cows in summer as follows, in the *Breeder's Gazette* :

I had always supposed good pasture was good enough—as good as anything could be for milk production—but in 1887 I determined to try grain-feeding with it. I fed a small ration of corn and oat meal. It seemed to add but little to the flow of milk, and some men of good judgment who knew about it were of the opinion that I was throwing away and wasting the grain so fed. But the cows held out better in the fall and gave more when it came winter than in previous years. When I came to figure up at the end of the year, I found my herd had averaged fifty pounds of butter more per cow than ever before. I was satisfied that for every dollar's worth of grain fed on pasture. I had got back in butter $2. You may be sure I have fed grain every summer since.

I intend that cows shall be fed all that they will eat and properly digest every day in the year except during the short time they are dry. Then, the grain feed is partly dropped off In summer when they are put in the stable to be milked, in addition to their grain feed, there is always put before them some nice early-cut clover hay, and they never fail to eat some no matter how good the pasture is. In winter they are fed as great a variety as possible.

Ferocious sheep! Now, here is a marvellous story! "Mr. G. F. Cooper, a farmer near Maxwell, Iowa, went into the sheep yard with a lantern in the dark : the lantern was, presumably, lighted. The animals," again presumably the sheep, "attacked him and he was seriously injured. When the light was put out by the rush of the sheep *onto* (*sic !*) the farmer, the animals knocked the man down and stamped over his body. The lantern (not the light in it?) seemed to make the sheep crazy." Not a word said about the breed of the sheep; fortunately, we are able to supply the defect. They were *merinoes*, descended evidently from those gallant Spanish sheep, against whom the illustrious knight-errant, Don Quixote, sallied forth when they advanced under the banner of Pentapolin, of the hundred arms, as narrated in the *veracious* chronicles of the historian Cervantes!

Richness of milk—In England, people engaged in the production of milk do not seem to entertain much doubt as to the possibility of enriching milk by rich food. Mr. Nuttalel, one of the largest dairymen near London, "thinks the standard has been placed too low, and is not quite sure if it ought not to be considerd fraudulent so to feed cows that they give unnaturally poor milk ; if cows are well fed no penalties would be imposed by raising the standard. Of course, such a dietary as distiller's *wash*, *brewer's grains*, *and mangels*, if chiefly given, would cause cows to yield milk of poor quality. If owners of cows do not know this, they might perhaps be brought before the magistrate: but it would serve them right."

Mr. Embrey, F. C. S., one of the government analysts, holds that the standard is absurdly low. *It is a fact that a cow may be so fed as to yield a very poor milk*, which every public analyst *must* report as adulterated : if it fell below the standard he could not help himself.

FARM WORK FOR JULY.

Haying—This is the great haymonth throughout the Western part of the province. In the Montreal district, most of the clover will be down by the 10th of the month and the timothy will be quite ready by that time. By the bye, we saw a queer piece of advice in one of the American Agricultural papers the other day. We are told to sow clover in our orchards, and either to turn the pigs in, *unrung*, and let them root the whole up; or to mow it and leave the crop as a mulch. Excellent advice! seeing that our winters are so mild and the abundance of food so great, that in spring we have always a quantity of hay over that we do not know what to do with! (1)

Green-fodder.—As about the middle of the month, the early potatoes will be fit for market in most parts of the Montreal district, as well as in the Eastern-Townships. We cannot too strongly advise all who have such for sale to prepare the land, as fast as a half-day's work of the potato land is clear, for a crop of Hungarian grass. Why let the land stand idle? No ploughing is necessary ; pass the grubber once or twice over the piece, harrow until a fine tilth is produced, sow the seed thickly—about 3 pecks to the acre—, harrow it in lightly, and finish by the passage of a roller. If sown at any time during the month, there will be a good bite for sheep or cows by the 1st September. Unfortunately, this *millet* will not stand much frost, though 4° or 5° do not hurt it greatly.

(1) Such a piece of clover and timothy in the Seminary orchard off Sherbrooke St., Montreal, three tons an acre, at least!—Ed.

Rape.—The rape will be ready for the sheep by the 20th Remember that the flock should not be admitted to it for the first time till the afternoon, when their bellies will, it is to be hoped, be full. A few pease and oats given in troughs will benefit the sheep, and not only the sheep, but the land will tell of it in the grain-crop of next year. It is really a pity that this most valuable plant is not more generally grown here. The cultivation is so simple! Six pounds of seed sown broadcast, covered with a bush-harrow, if you have no chain-harrow, and rolled. Hurdling off is not absolutely necessary, though more economical, for in the great county of Lincoln, Eng., large fields of rape or cole are to be seen with the flocks, several hundreds each, wandering about as if in a pasture.

Roots.—The earliest sown roots—mangels and carrots—will now be ready for the singlers. Strike out mangels into bunches with a seven inch hoe, and let women and children single the bunches. Do not be afraid of leaving the roots of mangels bare of earth : the more the ground is cut up the better for the future grain-crop of 1896. If the swedes come on quickly to the hoe, there will always be dewy morning in which they can be dealt with during the haying; at all events, do not let them run up and spindle for want of chopping out, for they never recover this feeble growth ; better chop them out into bunches if you have no time to single, and do that a little later.

The flock.—A great fly month, this; keep your sheep in the open as much as possible, not forgetting to dip them a second time if you can afford it : the lambs, too. Each sheep should remain in the dip at least a minute. Keep the tag-locks (1) under the tail free from clotted excrement by a judicious use of the shears : Do not let your ewes get too poor, if you have any intention of breeding a few early lambs for next year's market: nothing pays better than February lamb n the Montreal market.

The herd.—You will, of course, have made a plentiful preparation of *green-fodder*, which, in our part of England, is called *green-meat*, for your stock. Nothing, we repeat, is better for milch-cows, as well as for all the other animals on the farm, swine included, than oats, vetches (tares), and pease. But the great thing is to have a variety to come in at different seasons. Calves are now out at grass, and should have some sort of shelter to get under during the heat of the day; it is not nice to see a good lot of calves with their ears all blistered by the sun.

To day, June the 6th, we observe

(1) Rather curious why this word, *tag-locks*, should be applied to the unfragrant solution of *fusel-oil* in the rectifier's business! Ed.