

idle. What has been the cause of so many failure? Is it on account of the soil or climate? There is a general impression that the lack of tame grasses is the principal cause (*Watchman*). Permanent grass must be difficult to grow alongside of cotton. Still, there must be native grasses capable of improvement even in such a climate as that of Kansas. Would not irrigated lucerne do?

The value of cottonseed-meal.—The English estimate the value of the manure resulting from feeding one ton of this meal at more than the market-value (in this country) of the meal. (*Watchman*.) And Mr. MacPherson values the meal itself—for food and manure—at \$19 a ton more than its cost price, i. e. at \$45.00 a ton of 2,000 lbs., but though the theoretical value as given by Sir John Lawes, is \$27.67, no practical valuer of tillages in calculating the manurial value of cake in the case of an outgoing tenant in England, would put it at anything like that sum.

Discrepancy among experts.—Curiously enough, at the meeting of the Ensilage Associations last month in Montreal, Professor Robertson, of the agricultural department at Ottawa, advised farmers to grow the grain for their cows on their own farms, while Mr. MacPherson, advised them to buy it. I agree with the latter, as the consumption of cake, &c., imported from abroad must conduce to the augmentation of the fertility of the land.

Waste of nitrogen in dung.—As the nitrogen in recent dung is in the form of albuminoids, I cannot see how the application of such dung to grass-lands, as a top-dressing, can be likely to deprive it of its most valuable constituent. The phosphoric acid, being in an insoluble state, is safe enough, and the potash too. I do not mean to say that I should choose June for top dressing grass-land, for there are many reasons against it; but even in summer, the dews, the showers, and the action of the earth-worms would soon inter all the valuable parts of the manure. How about top-dressing the beet-crop or oats or other grain with nitrate of soda? As for old manure, the loss after spreading cannot be great, as the ammonia is, so to speak, fixed. All our great grass-farmers in England have to top-dress, or else the land could never be manured at all, as it is never ploughed. I would never top-dress heavy arable land, as the mere mechanical effect of a heavy coat of dung on such soils is invaluable. In the four-course shift, or rotation, on sheep land, the custom is to grow the root-crop with superphosphate, and apply the dung to the young clovers. "Fermentation of the dung of animals with litter, probably results in the formation of nitrogenous humus compounds, which are insoluble and decompose but slowly in the soil." v. Warington: On the Chemistry of the Farm.

Plaster as a fixer of ammonia.—Dr. Girdwood, the celebrated professor of chemistry at McGill, in reply to a question I put to him a few days ago, said. I cannot conceive that ground plaster sprinkled over dry manure in the stable can have any effect at all as a fixer of ammonia. This is precisely what Philip Pusey the well known English agronomer told me some 40 years ago.

Riding vs. driving.—Talking of horses, one of the Montreal evening papers had a trenchant sentence the other day. "Farmers' sons had better ride their horses than sit lazily behind them in boggies and sulkies." Just so. as a cow that is not trained to milk copiously soon gets weary of producing what nobody wants (the pedigree-shorthorns, Herefords, and others who suckle their calves); so, mares and stallions that are always used for harness purposes, become conformed to the style of build best suited to those purposes. Three generations of driving would spoil the form of the best family of hacks in England.

Phosphoric-acid.—Basic slag, in a very finely pulverised condition can be bought to-day in Liverpool, on the rails, at the works—bags free—for \$8.00 a ton of 2,000 lbs. This makes phosphoric acid only 2½ of a cent a pound!
Lots of matter crowded out. A. R. J. F.

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