

Pease and clover.—We do not think that any artificial manure will do any good on pease or clover, except perhaps, plaster. A regular course of good farming is the best thing for them. Top-dressing the young seeds the first autumn with well rotted dung is our English practice, but superphosphate, bone-dust &c., we prefer to apply to the root-crop.

Ground phosphate-rock.—We observe a statement in an exchange; the reference we regret to say is lost; to the effect that in certain experiments made last year on the relative values of different artificial manures, "the results seem to show that mineral phosphates untreated, no matter how finely ground, have little or no effect as a fertiliser, and that the effects observable, where nitrate of soda and wood-ashes are used in conjunction with the untreated mineral phosphate, are probably due entirely to the action of these added fertilisers." The fact, proved by innumerable experiments in Britain, is that Carolina-rock, the coprolites of the green-sand formation, and other non-crystalline forms of phosphatic rock, are, when finely ground, a most valuable manure, though of course not so rapid in their action as the soluble form of phosphoric acid found in the same rock when dissolved in sulphuric acid; but that the crystalline form, such as our apatite, is, as the late Augustus Voelcker, chemist to the R. A. Soc. of England, A. P. Aitken, chemist to Highland and Agricultural Society of Scotland, and Sir John Lawes, wrote me word in December, 1882 (v. p. 113, Journal of Ag. for that year): "It is in results, when not dissolved in acid, equal to the no phosphate plots. . . farmers should be warned not to use it in its undissolved state... it would indeed surprise me to hear that it succeeded better in Canada than it has done here." But if any one wishes to try to grow turnips or swedes with artificial manures alone, the addition of, say, 300 lbs. of finely ground Carolina-rock or coprolite, an acre to the superphosphate, &c., used, will prove very useful towards the end of the season, when the powers of the more soluble fertilisers have been mostly exhausted; and if the phosphoric acid in the mineral phosphate has not been entirely utilised by the growing crop of roots, it will not prove useless to the succeeding crops of the rotation.

As for the effects of the wood-ashes, spoken of in the passage cited, they were probably due to the phosphoric acid contained in them, for, as we have mentioned previously in this periodical, we have grown a fair crop of turnips with no other manure than about 30 to 40 bushels of lixivated ashes; the potash having of course been almost entirely washed out of them, the result can only be attributed to the phosphoric acid.

Guernseys.—Two years ago, a propos of the Guernseys at the Montreal Exhibition, we wrote as follows: "As to the place assigned to the Guernseys in the prize-list, we shall only say that we should hardly have dealt with them as the judges did." This year, at Toronto, the fine blood of the late Sir John Abbot's herd, now the property of Mr. McNish, of Lyn, Ont., shone out in its full splendour, as the following extract from report in the *Farmer's Advocate* will show:

"W. H. and C. H. McNish, Lyn, had the first prize bull-calf, and the first prize cow; J. N. Greenashiels,

Danville, Que., won second and third prize for cow, Messrs. McNish taking first prize for herd, and Mr. Greenashiels second. After all, the herd-prize is the great test of merit.

Cheese.—According to the *Farmer's Advocate*, the Quebec cheeses exhibited at Toronto "showed good workmanship, and scored high in texture, quality, and finish, but were very much lacking in flavour. They seemed to have a flavour peculiar to themselves, which could be noticed by smelling, but was more noticeable by tasting, invariably leaving a rank, bitter taste in the mouth." All the prizes were given to Ontario cheeses, and the lion's share to Western Ontario.

The Phylloxera.—It does not appear that the \$6,000 prize offered by the French government for the discovery of a means for effectually destroying the phylloxera and ridding the vineyards of this scourge, has yet been claimed under the terms offered. Our consul at Bordeaux says that flooding the vineyards temporarily with water, a thing which is impracticable on steep hillsides, has shown the best results. Treating the roots also with sulphureted carbon is finding favor with many. Just as land has got clover-sick with us, under a four-course shift, so it is evident that any vegetable production may be grown till nature itself cries out against it. We almost find it so in our own hop fields.

Eng. Ag. Gazette.

Marvels of color from coal tar.—Writing about that marvellous color producer, coal tar, a writer in *Longman* reminds us that it is only thirty-six years ago Perkin 'gathered up the fragments' in coal tar and produced the beautiful mauve dye. Now, from the greasy material which was considered useless is produced madder, which makes coal tar worth a hundred pounds a ton. This coloring matter alone now employs an industry of £2,000,000 per annum. One ton of good cannel coal, when distilled in gas retorts, leaves twelve gallons of coal tar, from which are produced a pound of benzine, a pound of toluene a pound and a half of phenol, six pounds of naphthalene, a small quantity of xylene, and half a pound of anthracene for dyeing purposes. According to Roscoe, there are sixteen distinct yellow colors, twelve orange, thirty red, fifteen blue, seven green, and nine violet, besides a number of browns and an infinite number of blendings of all shades. — *London Daily News.*

Science as an aid to agriculture.—Mr. Warrington, one of the best known and most modest (*O, si sic omnes*) of all the English agricultural chemists, has been lecturing lately the above subject. His idea is, that agricultural science should mean the best knowledge of the day on the subject of agriculture, and that a farmer will surely do well to obtain its aid in all his operations; a position no one will quarrel with. But when he goes on to propose that a complete agricultural library of agricultural and horticultural books should be formed, by the Board of Agriculture; a staff of officers representing all the sciences connected with agriculture, with laboratories for their use, appointed; &c., &c.; we feel sure that his proposal will not be appreciated by the English farmers as a body; and not only because the outlay of public funds

would in their opinion be too large, but because they have seen enough of the waste of funds devoted to this matter in other countries to feel very uncertain as to the advisability of the proposal being carried out.

The investigations carried on by the Department of Agriculture at Washington cost not less than \$300,000 a year, and the National Government contributes \$750,000 a year towards the expenses of the fifty-five experiment stations, which also receive considerable sums from the several States Governments. We do not think the American people get an adequate return for this large expenditure. "If," says the *English Agricultural Gazette*, the organ of the more advanced English Agronomes, and a most thoroughly unprejudiced and practical paper; "if agricultural science as been advanced to any considerable extent by the investigations of the Central Department, we should be glad to be informed of a few points in proof. As to the experiment-stations, with a few exceptions, their emanations are among the most striking examples of "much cry and little wool" that we can call to mind. Many of their trials are of the most trivial description, and not a few are intended to throw a light on questions settled a generation or two ago in this country." And then follows a most outting indictment of the uselessness of these costly establishments to the American farmers in general. "What have they learned of any importance from their endowed teachers in agricultural science to help them in their farming? Very little indeed, so far as one may judge from statements relating to their practice, or from articles and correspondence in their papers. Judging from some of these publications, we should say that American farmers, as a body, are almost as ignorant of the manurial requirements of crops, and the constituents of the manures they buy, as the most benighted peasantry in a country devoid of endowed scientific teaching. The best work done in the States is in relation to the feeding of animals, and Mr. Warrington says that the results of some digestion experiments have been published, thus obviating the necessity of relying solely on the German tables. Would he rely upon these American tables? We venture to doubt it; for, as a rule, American experiments appear to us to have been conducted in a slipshod manner, on too small a scale to inspire confidence, and without sufficient uniform repetitions to entitle their results to credit."

We reluctantly confess that our frequent perusal of the bulletins sent to us from the Department at Washington has landed us in the same state of distrust of the value of the institutions from which they emanate as above expressed by the paper we have quoted from.

Lathyrus Silvestris.—This forage plant is now well known in England, but is not considered superior to vetches. As for the *Sacaline*, we hear nothing about it, good or bad, but arguing from the silence observed, we fancy that it has not been a desirable acquisition as a *foeder-plant*, though we should feel inclined to try it as a *wind-break*.

Estimate of the world's wheat-crop in the years 1888 to 1895, inclusive:

1895.....	305,795,000
1894.....	318,607,000
1893.....	309,192,000
1892.....	390,448,000

1891.....	293,187,000
1890.....	279,864,000
1889.....	269,113,000
1888.....	281,344,000

The above is from Dornbusch's list, and is in quarters of 8 bushels measured. The United Kingdom's production during the same years was:

1895.....	5,000,000
1894.....	7,588,000
1893.....	6,364,000
1892.....	7,597,000
1891.....	9,343,000
1890.....	9,499,000
1889.....	9,485,000
1888.....	9,321,000

MARK LANE: PRICES CURRENT; OCT: 14th

WHEAT, per 504 lbs.; British s. s.	
White.....	25 29
Red.....	24 27
Household flour per 280 lbs...	25 —
Barley per 8 bushels.....	—
Malting.....	30 38
Grinding.....	16 21
Oats, English per 8 bushels...	—
White pease.....	32 36

FOREIGN.

Wheat - Manitoba.....	27 28
Canadian white pease.....	27 —

London Cattle market, Oct. 14th:

Milch cows, per head. £15 to £22 10s.

BEASTS.

Herefords per stone of 8 lbs..	s. d.
Welsh (<i>runts</i>) " " ..	4 7
Shorthorns " " ..	4 4
Fat cows " " ..	3 6

SHEEP.

Small Downs " " ..	6 0
Half bred " " ..	5 6
Canadians " " ..	4 6
Calves " " ..	5 2
Pigs " " ..	4 0

BUTTER.

Fresh, (Finest factory) per doz. lbs.....	s. s.
English Dairy butter, fresh...	14 16
Irish (creamery).....	11 1
Danish.....	12 2

CHEESE.

Cheshire per 112 lbs.....	74
Cheddar, finest.....	56

BACON.

Irish.....	55
Canadian.....	46
Hams, Danish.....	54
American.....	54
Irish, small.....	98

HAY, per load of 2016 lbs.....	—
Prime meadow.....	90
" clover.....	100
STRAW, per load 1296 lbs.....	—
Best.....	38
Hops from 40s to 105s. per 112 lbs....	—

REVIEWS

Cookery; By Amy G. Richards, of the Montreal Cookery School: E. M. Renouf, Montreal; 1895. (\$1.25.)

We do not eat well in this province of Quebec. Smearing the bottom of a frying-pan with fat or rancid lard; breaking a dozen eggs into it, and putting them on a blazing stove to cook at their will: that is not likely to turn out an appetising dish. In fact, the cookery in country inns and private houses is detestable, and hard-

(1) Extra fine, any prices. Where only one price is mentioned, it is the highest quotation.—Ed.