

duots are equal to good linseed cake, and as a manure, are on a par with groundnut refuse.

The excessively high temperature which reigned during some fifteen days has hastened the maturity of cereals; by this the harvest may be considered as completed. If the yield leaves something to be desired under the head of quantity, the quality is excellent. Nearly all grain crops ripened simultaneously, a circumstance which conclusively demonstrated the utility of reaping machines; small cultivators have found it advantageous to hire steam threshing machines; this season they have clubbed together to secure the services of a reaper. For tying sheaves, cord appears destined to cut out wire and supersede straw bands, although the latter can now be twisted by machinery and cut into any length. Farmers regard the general result of the harvest as a good average, and are contented: the certainty that the grain crop of the United States is inferior to that of last year does not lessen their satisfaction. Forage crops have severely suffered from the drought, but this drawback will have its lesson even, by compelling farmers to cultivate hasty-growing green crops, and by preserving them, cut green, in trenches, secure valuable fodder, not only throughout the winter, but up to spring. After M. Goffart's system of conservation of green maize, farmers have no excuse for being short of cattle food. Of all the plants grown for trench preservation in the green state, maize appears to possess the most advantages.

M. Pasteur's experiments at Melun successfully demonstrated that sheep could be preserved from the decimating malady of *charbon*, by inoculating them with the disease specially prepared, while the virus not prepared produced, invariably, mortal results. Some farmers, Doubting Thomases, did not deny the results of the experiments, but desired to see the virus taken directly from a sheep just a victim of the disease, and its blood, in a word, injected into sheep already inoculated by M. Pasteur, and others perfectly healthy, but not inoculated at all. On the 17th July last, 19 vaccinated and 11 unvaccinated sheep were inoculated with the blood, taken from a sheep but three hours dead from *charbon*; in the course of three days all the unvaccinated sheep were dead, while the others remained in perfect health. Since, the demand is unanimous for vaccinating sheep. While on the subject of sheep, I may observe in reference to the discussion still taking place on the question of wool *versus* mutton, that in Germany, the prevailing opinion, as the results of ten years experience, leans to the simultaneous production of flesh and wool, that is to say, to precocious sheep.

Inventors have been occupied for many years in endeavoring to substitute the weighing for the measuring of liquids. Many dealers in alcohols adapt the metrical weight, to determine the volume of liquids. Wine merchants have tried to follow the footsteps of the spirit dealers, but have encountered the obstacle of varying densities, a difficulty even in the case of alcohol. M. Sourbé appears to have solved the problem; the ordinary Roman balance is retained: from the centre of the yard is suspended a recipient, capable of containing ten quarts; by graduated tubing, the liquid in the recipient measures the density of the liquid to be weighed; and the weight recorded, the volume of the cask is easily determined. Thus liquids measure liquids.

A good distributor of pulverulent manures seems still to be a desideratum. In Prussia and Belgium, the machine manufactured by Jaeschke, of Neisse, Silesia, is highly spoken of. But it has also its drawbacks: its capacity is limited to $1\frac{1}{2}$ cwt. and the hopper is not long enough; the running out of the stuff too, which of course must not be humid to avoid clogging, is very sensitive to jolts from a stone, a hard lump of clay, or a furrow.

The prospects of the sugar-beet crop are good since the alternation of rain and warmth; an average crop is expected, judging from the manner the roots are at present swelling. Within the last ten days I have taken a run through the north of France, Belgium, and the southern and eastern counties of England. Beet, mangolds, turnips &c., are better in France than elsewhere; in several turnip fields in England, the bald patches were lamentable to see. Belgium intends establishing a model farm, to be exclusively denoted to testing experiments connected with the culture of sugar-beet.

Respecting the phylloxera, it is the old, old story. There is a decided tendency to rely on American vines, and some persons commence to plant nurseries of such. In Burgundy, the sulphuret of carbon, save upon shallow soils with an impermeable substratum, has not given satisfactory results; however, in other vine regions chemicals are courageously tried to destroy the scourge. There is more of confidence now than of discouragement among vineyard proprietors. Rich manurings are in vogue, and enable the plant to struggle successfully against the insect. Not a few cultivators have been the victims of something like a practical joke; they were assured that boring a hole in the trunk of the vine, near the ground, and pouring mercury therein, would cause the insects to decamp.

Along the marshy borders of the Scheldt, (1) in Belgium, osiers are extensively cultivated; the rods are for basket work, but the bark, the peelings, till lately were made into cords, much in request among fishermen. Of late these peelings are exported to England, where they are subjected to a process for extracting their *salicine*, of which they contain 4 to 5 per cent. This *salicine* is presumed to replace hops in brewing; the Arabs cure the tertian fever by inhaling the fumes of burning leaves and branches of osiers, and a decoction of that plant is popularly considered efficacious against rheumatism. The refuse of the osiers, that is to say, the peelings, can be made thus to yield four times a greater profit than the rods, estimating *salicine* at its current price of 30 fr. per lb. The Belgians prefer to raise the osiers. (2)

A commission was appointed in Belgium, lately, to test the comparative merits of skimming milk after its repose, following the ordinary method in porcelain pans, or in specially constructed pans immersed in a receptacle containing running water or susceptible of receiving ice. The same quantity of milk, 30 quarts, was placed in the pans, and allowed to throw up the cream during 24 hours; the pans were then skimmed and the cream churned. There was, invariably, 11 per cent more butter, and of superior quality, obtained from the milk artificially cooled, than from that treated in the ordinary way.

The harvest this year has been very bad in Algeria, the yield below one half. To this misfortune is to be added, the mildew disease which has attacked the vineyards, the consequence of a very dry winter, and a wet and spring. The malady is a small fungus that destroys the vitality of the leaves. However, the Algerian Muscat grapes now selling here are very good.

OXFORD DOWNS.

One of the greatest advances in sheep breeding was made by Mr. Druce, of Eynsham, when he successfully crossed the Hampshire Down and Cotswold, and thereby produced the Oxford Down. The rise of this remarkable breed has been rapid, and it seems likely to extend further in its geographical distribution. It is undoubtedly a farmer's and a rent-paying sheep, possessed of great vigour of constitution, and it

(1) Escaut, in French.

(2) I had the pleasure of curing the amiable Mr. Sénécal's rheumatism with this remedy, last spring.—A. R. J. F.