

Queen's sale of stock.—The sale of stock at Windsor, in December, went off very well, says the Agricultural Gazette, and good prices were realised. Hampshire-down wethers fetched from \$26 to \$36 each; Hampshire-down lambs from \$15 to \$18; Southdown wethers from \$15 to \$15.25, a gain of 25 cents over the Hampshires at the expense of a twelve-month's feeding!

The catalogue comprised forty Devon, Hereford, and Highland bullocks, 450 Hampshire Down, Cheviot, Highland, and Southdown sheep, and 100 bacon hogs and porkers; and also thirteen Devon and Shorthorn bullocks and heifers, and thirty Berkshire pigs, bred and fed by the Duke of Connaught at Bagshot Park. The bidding throughout was very spirited, and good prices were obtained. Hampshire Down wether sheep realised from £5 5s. to £7 5s. each; Hampshire Down lambs, 60s. to 74s; Southdown wether, 61s. to 75s; Highland wether sheep, 57s. to 65s; half-bred Cheviot ewes, 62s. to 65s. A West Highland bullock, £40; a Devon show steer, £36; Devon bullocks, £29 to £37 10s.; a Shorthorn steer £27 10s.; a Devon heifer, £23 10s.; a Hereford heifer, £27 10s.; Berkshire bacon pigs, £7 10s. to £9; fat Berks hogs, £3 15s. to £6 15s.; porkers, 52s. 6d. to 60s.; fat hogs, Small White breed, £5 10s. to £7 15s.; Tamworth fat hogs, £5 15s. to £8 10s.; ditto porkers, £3 10s. to £5 5s. The amount realised for the Queen's stock was £3,500, and that of the Duke of Connaught £413. The Duke of Connaught's Shorthorn bullocks fetched from £20 10s. to £33 10s.

We have received from Mr. H. STOPES the report of the judges of Canadian barley at the Brewers' Exhibition. They state that it has come out exceedingly well in several particulars, but in respect of vitality, the most important of the points, several samples proved deficient. The indications afforded by these samples showed inequality of growth, improper maturing in the field, or harvesting at an improper stage of growth, improper exposure on the ground, and want of stacking. Nevertheless, the judges say that the barleys, and particularly the Chevalier and Golden Melon, compare favourably with French, Saale, Danish, and other European samples. They conclude that with proper attention, high-class malting barley may be grown in Southern Canada.

Ag. Gazette.

There never will any real good come out of the expenditure of money for industrial education so long as the control and instruction are placed in the hands of men who in their hearts hold manual labor and the arts of industry in contempt. At our present writing we do not know how the praiseworthy efforts to establish an independent industrial college in Vermont will turn out. We hope for the best. But supposing success is attained before the legislature, will there not be a rush of unsuitable men to obtain positions for the sake of the salary, whose whole spirit is antagonistic to, and contemptuous of the work they are willing to take only because they, being second and third rate men, can not get equally high positions in the older colleges? This is a great danger. The work in a large number of our agricultural colleges and experiment stations—if work it can be called—is of a very poor class. There seems to be scarcely any thought put into it, and the outcome is entitled to very little respect from the farmers or anybody else. The waste of money without any valuable results which has taken place at Burlington, and is a subject of ridicule among intelligent farmers all over the state, might and assuredly would be continued in an independent institution in the hands of the same or similar parties, and would surely bring the proposed state colleges into just odium among the classes for which such institutions are nominally designed.

The fact is, that there are not now in the country a quarter as many suitable men for the work as are required to make our industrial colleges and experiment stations worthy of respect. Without public regard and confidence, it is vain to hope for the moral and material support from the people, without which success is impossible.

DR. HOSKINS.

PAPILIONACEOUS LEGUMINOSÆ By W. F. Perkins: a paper read before the Hampshire Literary and Philosophical Society.—In this pamphlet we have presented a *résumé* of pretty well all that is known about the nitrogen question in connection with the nutrition of plants of the bean and pea kind. The first half is devoted to a short description of all the plants cultivated in this country belonging to the natural order *Leguminosæ*, and we notice that the author adopts the idea that Zigzag clover, or Marl grass (*T. medium*) is the true cowgrass, (1) but acknowledges that there is perennial red clover which it is common to call cowgrass. The most important part of the paper is that relating to the new theory on the nitrogenous food of these plants. The subject has already been discussed in the AGRICULTURAL GAZETTE and elsewhere, but we may so far repeat, in the words of the pamphlet under discussion, that a leguminous crop contains more nitrogen in its dry substance than any other crop; that nitrogenous manures have scarcely any effect on them; that the soil after a leguminous crop has been grown is richer than before; and yet nitrogen is not assimilated directly from the air. To account for these facts the conclusions of Frank and Hellriegel are shortly stated pointing out that the tubercles on the roots are the seat of a fungus belonging to the class *Ustilaginæ*, and which acts the part of a fixer of the free nitrogen of the air in a form in which it can be absorbed by the tissues of the legume. Our author does not consider the experiments conclusive as yet, and points out that we still want to know whether the nitrogen is accumulated in the plant or in the soil, and whether in water culture the tubercles appear when every care has been taken to free the solution from the germs of this particular tubercle fungus.

EXPORT OF CANADA CHEESE.—The remarkable development in the manufacture of cheese in Canada for the English market, within the last dozen years, is shown in the following figures from D. W. Lewis & Co's market circular, and affords an unpleasant contrast to the course of the export trade at New-York during the same period:

The exports from Canada from May 1 to Oct. 31 have been larger than ever before known, reaching a total for the six months of 1,277,000 boxes, or an average of about 213,000 boxes per month. In 1878 the exports from Canada for the same time were 358,000 boxes, an average of about 60,000 each month. This year the exports from New-York City for the six months ending Oct. 31 were 998,000 boxes, being about 280,000 boxes less than from Montreal. In 1878, for the corresponding six months, the exports from New-York were 1,902,000 boxes or about double what they have been this season, and at that time between five and six times as much as was exported from Canada.

DR. HOSKINS; IN THE VERMONT WATCHMAN.

The Question box of the New-York farmers abounds in curious interrogations, or rather in replies to them. For instance:

“What is the best way to kill quack-grass (couch or quitch)?

Reply: By summer fallowing, or by putting in hogs

(1) Where'n he is wrong. The *trifolium medium* is a very coarse clover, with creeping roots like couch-grass.

A. R. J. F.