

or aërial organs, that the plant commences the rapid development of the tubers. Suppression or thinning of the stems, is only justifiable when they are over luxuriant and keep out air, sun, and light from the soil. According to Steckhardt, the chemical value of clover as compared with potato haulm, is as 3 to 2: he and also de Stecher testify, that the haulm neither affects the yield of milk nor the quality of the butter; these drawbacks are only produced, when the apples or berries are attached. With 30 lbs. of haulm, 15 of beet leaves, and 7 of straw, cows thrive well, suffering at first slightly from diarrhœa: the latter disappeared, so that 60 lbs. of haulm, could replace a proportionate reduction in beet leaves.

Oxen are extensively employed in farming operations; in summer their daily labor is divided into two periods, so as to avoid the hours of highest temperature. Taking 7 or 8 hours a day, as ample for them working, the oxen are yoked at two periods: from 4 to 8 a. m. and 4 to 7 or 8, p. m. White colored oxen support the heat best, as do also those bred in the plains.

Mr Pasteur is prosecuting new experiments bearing upon inoculation against peripneumonia in cattle; so far, his labors lead to the belief little he will be as successful in his new field as he has been in the case of the *charbon malady*. Having stated he required funds to purchase subjects, the sum of 10,000 fr. was immediately subscribed by agriculturists and societies.

At the Chateauroux cattle-show, a very simple and ingenious force pump with plunging piston was exhibited: the piston, which acts as a handle, working in a small tube sends the liquid into a larger one; the latter is in sections, the joints secured by india rubber rings; it pumps 100 quarts a minute of urine, or well water; is eleven feet long, weighs 80 lbs.; throws a jet of liquid to the height of 23 feet, and costs 50 f.

Despite the prevailing rains, farmers count upon this being a good season for cereals. The harvest in the south of France is over, but the draught has told on the yield. In these regions, canals, to irrigate the parched soils, are sadly needed. Green crops are making up the way, but would be greatly improved by sun: the vineyards are not likely to realise their promises.

Opinion is not at all satisfied at the Senate throwing out the bill for re-admitting pork from foreign countries. Bousingault, Chevrenl and Milne-Edwards, urged good boiling or freezing the pork, as the best plan to counteract the effects of trichinœ. Mice, it was maintained by Dumas and Milne-Edwards, were among the most prolific agents for propagating trichinœ: they consumed the diseased pork, and were in turn often devoured by the pigs. Veterinary inspector Bouley laid down, that the microscope was incapable of detecting the parasite in pork. One fact is clear, that the exclusion of American pork, is a serious blow for farmers with many servants to feed.

Agriculturists are commencing to find out, that it pays to compress hay, thus rendering it more transportable, and capable of reaching a dearer market. The Omnibus Company of Paris has realized last year an economy of 90,000 f. by purchasing forage in the provinces, pressing, and sending it up to Paris, by rail and canal.

A gardener steeps the mats he employs to protect frames and conservatories between October and May, for 24 hours in a solution of sulphate of copper, in a large hogshead: having allowed the matting to drain and become half dry, he plunges it for a few seconds in a solution of quick lime. Matting thus prepared, will last instead of one, seven seasons. The cord employed in the matting must not be oiled.

Mr Benoit, a gentleman of the highest reputation, has just

opened a depot in Montreal for the sale on commission of all sorts of farm produce. As will be seen in our advertising columns, he is able to refer to many of the most respectable firms both in Quebec and Montreal, and we feel sure that any one confiding his produce to Mr Benoit will receive due satisfaction.

Deep Cultivation.

An able correspondent of this journal remarks in a late number on "the mischief done by writers a few years ago, who gave credence to the error that 'deep down in the soil vast treasures lie,' and so the deep plowing craze had its thousand of victims." He quotes the examinations made by an eminent chemist in a locality where the soil contained less nitrogen as he went downward, as a proof of the justice of his remark. There is no doubt that the soil occupied by our correspondent was good near the surface and poor below, and the mistake he made—an error into which writers are repeatedly falling—is in making a general rule from a narrow locality.

There are two conditions of soil which are not benefited by deep plowing; these are such as have a sterile subsoil, and those which are porous below. A sterile subsoil does not benefit the richer top soil by intermixture with it, and a porous subsoil does not need loosening. But a soil rich above, and poor and impervious below, may be much improved for withstanding the effects of reserve drouths by subsoiling and loosening to some depth to receive like a sponge the heavy rains which fall upon it, and to give out from this reservoir the needed moisture to growing crops when drouths prevail. We have seen some striking instances. A row of potatoes planted over a covered ditch yielded double the crop given from either of the adjacent rows, the quality of the soil being the same; but the loosened earth over the ditch prevented the effects of the severe drouth which affected the adjoining rows. In the same way an advocate for manuring with electricity proved his theory, as he thought, by running a wire from a lightning rod under a row of beans, which were greatly increased in growth. The theory, however, was overthrown when it was found that the same increased growth was produced away from the wire by loosening the subsoil as much as was required for burying the wire. The great increase in the potato crop by thorough subsoiling was shown some years ago in a season of unusual drouth in a field of several acres, which yielded more than triple the amount per acre obtained from other fields which were planted after common or shallow plowing and the whole crop being sold at seventy-five cents a bushel, gave over a hundred dollars from each acre.

These instances occurred where the subsoil possessed no unusual fertilizing quality, the benefit arising from its acting as a sponge or reservoir for moisture, as well as for the deeper extension of the roots. But in very large portions of the country, a great positive benefit has been found by bringing up and mixing portions of the subsoil with the earth at the surface. A farmer in one of the western counties of the State, in preparing the land for wheat, set the plow to run two inches deeper than the plowing in previous years. The result was that his wheat crop was increased eight or ten bushels on an average. A still more striking instance occurred on another occasion, of the benefit of an intermixture of the subsoil with the surface. An open ditch had been cut through a field to drain a small pond. The earth taken from the ditch was scattered over the surface for a rod on two or each side. The field was then sown to wheat. The subsequent winter was very severe on this crop, and the following summer proved unusually unfavorable. On most of the field the product did not average over five bushels per acre—it was scarcely worth cutting. The two strips (on each side of the ditch)