

much exhausted by ill management, that the two preceding crops had not returned a quantity of corn equal to that which had been sown upon it. An adjoining plantation afforded me a large quantity of fern, which I proposed to employ for a crop of turnips. This was cut between the 10th and 20th of June. I thought it necessary to place the fern a few days in a heap, to ferment sufficiently to destroy life in it, and it was then committed in rows to the soil, and the turnip seed deposited with the drilling machine in rows over it. Some adjoining rows were manured with the black vegetable mould obtained from the site of an old wood pile, mixed with the slender branches of trees in every stage of decomposition; the quantity placed in each row appearing to me to exceed four times the amount the vegetable mould, if equally decomposed, would have yielded. The crop succeeded in both cases, but the plants upon the green fern grew with more rapidity than the others, and even than those which had been manured with the produce of my stable and fold-yard, and were distinguishable in the autumn from the plants in every other part of the field, by the deeper shade of their foliage."—(*Trans. Hor. Soc.* vol. i. p. 248.)

*Potatoe haulm* is valuable either as a green manure, or as an adjunct to the farm manure. The stem and leaves of the potato contain a large share of the most valuable organic and inorganic elements of plants. According to Mr. Fromberg, 100lbs. of the leaves in their natural state, contain from 0.82 to 0.92lbs. of nitrogen, or 100lbs. of dry leaves contain 5.12 to 5.76 of nitrogen. By every ton of potatoe tops, therefore, we add to the land about 50 lbs. of inorganic salts, and a quantity of organic matter containing 20lbs. of nitrogen, or about 23lbs. of ammonia. The best Ichaboe guano did not yield more than 9 or 10 per cent. of ammonia; and, therefore, 1 ton of potatoe tops may in this respect be compared to 2½ cwt. of the latter.

The tops and tails of turnips, when the crop is taken up and harvested for winter use, are useful as a green manure. Speaking on this subject, Mr. Shier says: "I find that the ratio by weight of the tops and tails to the bulbs, is on an average as 1 to 33; but, as 25 tons per imperial acre is a good crop, this would give 7 tons, 11 cwt. 2 qrs. of tops and tails; which should produce as great an effect on the succeeding crops, as a dose of 10 tons of well prepared farm-yard manure. Of turnip leaves, no accurate analysis, so far as I am aware, has yet been published; but they are known to contain a considerable proportion of saline and earthy matter, not to mention the purely organic part, capable of nourishing the succeeding crops of the rotation. If Sprengel's estimate that green turnip leaves contain 1.8 percent of inorganic matter, the quantity above specified would contain 303lbs. Now, when the effect of a much smaller dose of mixed saline manures is

considered, it will not appear strange that so much stress has been laid on ploughing in green turnip tops, as a means of enriching the soil and securing good after crops."

The necessity for attention to spreading these tops evenly over the surface of the soil, and carefully covering them by ploughing in when in their green state, instead of allowing them to wither and decompose in heaps until their valuable organic elements are dissipated, will be apparent. Such a system, as it saves carting, is even more economical than taking them to the manure heap; while the results in practice are even more advantageous than the foregoing estimate of their composition would induce us to hope.

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*Address before the Members of the New York State Agricultural Society.* By B. Lewis F. Allen, late President of the Society. Albany: Weed, Parsons & Co.

THERE is one part of this very able address which will require no apology to our readers for its insertion. The whole paper abounds with information and sound views; but as the subject of agricultural education is attracting much attention at home, we venture to lay before our readers a short account of what is doing in this respect abroad.

Speaking of the wants of the farmers, Mr. A. says:—

Still there is a great class left: the substantial middle class of our farmers, who require for their sons, destined to follow in their own steady course, that necessary kind of education at present unattainable in our country, and which can only be properly given in agricultural schools. The young farmer painfully feels the want of advantages which these would confer, and the aid of which, he vainly seeks elsewhere; and the question, how are we to accomplish the object, remains to be answered.

Although keenly alive to the necessity, I, for one, am not prepared to submit to you a definite plan; yet am prepared for a prompt, vigorous, and decisive action. In the first place, I believe a trial of some kind—and experiment, if you please—should be made. Our state has not been fearful to make experiments in the establishment of any work, the practical utility of which has once been settled. A few thousands, nay, millions of dollars, have not deterred our legislators from either taxing the people, or appropriating its already accumulated treasures for works tending to the public welfare. Our literature and common school funds have been augmented in various ways, until common education throughout the State is almost free, and in some communities