as selling timothy, and little faster than potatoes. One reason why it is so seldom sold is because there is little call for it in the cities, and it brings less per ton when sold than timothy.(1)

2 The question of plowing under clover for manure is simply one of relative prices and circumstances. I think it has seldom paid the regular farmer in Obio during the last 20 years.

3. As a rule, the really wise farmer sells condensed products, *i. e.*, those in which the "money value" far exceeds the "manure value." As a rule, too, articles of human food or use are the condensed products, but not always. For example, hay may be in a just sense a more condensed product than potatoes.

than potatoes. 4. The horror about the sin of selling is not well founded. It may or may not be wise to sell it. There is no cast-iron rule. The farmer must use his judgment and common sense like any other business man. But I do not now remember to have heard of any one's plowing under timothy or potatoes for manure. And yet they contain about as much "manure value" as the clover. W. I. CHAMBERLAIN.

AGRICULTURAL.

T. H. Hoskins, M. D., Editor, Newport, Vermont. EXPERIMENT STATIONS-A STATE CHEMIST.

We think it is time to draw a distinction between the fertilizer-control stations, which some states are establishing, and true agricultural experiment stations, like the one established by the state of New York, and which is now under the able control of Dr. E. Lewis Sturtevant. The former are useful and necessary, as a part of the police system of the state, but the only excuse for the name which is given to them is to be found in the hope which doubtless attended their foundation, that they would in time grow up to their name. As they now exist they bear about the same relation to a genuine agricultural experiment station that a laboratory set up for the analysis of flour and baking powders would bear to a bakery—or perhaps, more exactly, to a cookingschool.

A true agricultural experiment station has for its function exactly what its name describes-the making of experiments, the purpose of which is to investigate the unsolved questions connected with the practical agriculture of the state or country which establishes them. These unsolved questions are very numerous, and many of them are intricate, requiring much laborious exertion and the tabulation and comparison of results over a long series of years. Very high qualifications arc required in the head of such an establishment, and though in some minor matters valuable results might be obtained without great delay, yet in most of the proper subjects of investigation the attainment of perfectly reliable knowledge would result only from work that could not be hurried. For plainly, if this knowledge were easily and quickly won, there would be no need of the state's taking the matter in hand. The easy questions have already been answered, and nearly every farmer can test the correctness of these answers on his own farm. When the state is called upon to help agriculture in this way, it should only be to provide for that sort of work which the ordinary farmer cannot do for himself-the sort of work which takes time, money and trained skill, in order to obtain trustworthy results.

Some minor work, indeed, might properly be required of such an experiment station. It would be quite proper to charge it with the testing of all known varieties of plants in ordinary cultivation, with the purpose of settling their comparative value on different soils, and under different treatment in the

1) Simply, because people won't make clover-hay properly.

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way of manuring, tillage, etc. Insident to this would be the equally proper work of testing so-called novelties, and the sifting which would be necessary to show how many identical kinds are being distributed, ignorantly or fraudulently, under different names. Such work as this has been done at the New York station with beans, corn, potatoes, tomatoes, oats and other crops, and the results obtained are valuable to the public.

Still, the heavy work of such an institution, in order to justify its support from the public funds, should be done for the solution of great problems in agriculture. The best model we have for such work is that set at Rothamsted, in England, by Sir J. B. Lawes. There, experiments begun nearly forty years ago are still going on, and the significance of some of these is only now beginning to be realized, so that their real teachings can be made available in practical agriculture.

Such an experiment station requires money, and a good deal of it. It also still more requires men who are not easy to find, and when found will also be found to be in request for other kinds of work, for which large compensation is willingly given by rich and intelligently managed corporations, or combinations of capital. This being the case, and all the above named facts being taken into account, it is quite easy to see that the farmers of the smaller and poorer states are not likely to ask for, or favor, the setting up of genuine, wellequipped and manned experiment stations, at least until the success of those already established has amply demonstrated their local usefulness. On the other hand, any cheap attempt at dabbling in this class of work, with no proper conception of what it is, what it will cost and what kind of men it will require to make it effective, is to be earnestly deprecated. Better do nothing in the matter than set cheap fools to fooling with it.

But as to fertilizer-control stations, every state is bound to have one as the only protection its farmers can have against the fraudulent fertilizer trade. In our judgment this would be best accomplished by the appointment of a state chemist, with a suitable laboratory at the capital, whose functions should not be limited to this work, which would only require a few weeks of his time annually. He should at other times be at the service of the state agricultural society, the state medical and pharmaccutical societies, or of any of the county societies, or of the board of agriculture, the dairymen's association, and of all the departments of the state government all of course under proper conditions and regulations. Chemistry now enters into nearly every concern of life, and a state chemist would be perhaps the most useful of all our public officers. We believe that, when we have one, we shall wonder how we ever got along without him.

Vermont Watchman,

FATTENING POULTRY

BY "HENWIFE."

A ROUGH-AND READY method of fattening fowls may be pursued by simply confining the birds in a small house, and giving them as much food as they can consume; but I believe this way to be productive of waste, both of food and results, as the chickens fight, souther the food, dirty the dishes, and fly round their prison in a manner which exhausts the system and causes indigestion. Many coops, on the most scientific principles, are now offered for sale, but I would prefer to give a few hints as to the best way for farmers to construct sheap pens for themselves.

On most farms there is some disused barn, cow shed, or old stable, which can be utilised as a fattening house, and if it be water-tight in the roof, the wooden sides can easily be repaired sufficiently to keep ont FLOW and cold winds. The floor,