

times, as much as the insoluble acid, such as we find it in mineral phosphates; and chemists are also generally agreed in giving to soluble acid the value of from twelve to twelve and a-half cents per pound. My own opinion is that it would be more correct to call insoluble acid worth only one-sixth as much as the soluble, or two cents a pound. Most of the experiments that have been performed with a view to utilize the ground mineral phosphate at once as a manure, without first converting it into superphosphate, or, in other words, first converting at least a part of its insoluble acid into soluble acid, have yielded such unfavourable results as to justify us, it seems to me, in setting such a low estimate on the value of the insoluble acid in such phosphates. In bone meal the insoluble phosphate is worth more than in mineral phosphates—the South Carolina material, for instance—because it is accompanied by other substances that bring about its solution more readily. The bone meal putrefies or decays wherever it is put, whether in the pile of rotting manure or in the field, and as it decays its phosphoric acid becomes soluble to a great extent, while the mineral phosphate suffers no such change.—*From the Toronto Globe.*

SUGAR BEET FOR FATTENING SWINE.

It is well known that a most important advantage to the farmers in Europe who are engaged in the cultivation of sugar beets is the securing of the pulp of the beets used in the sugar manufacture for the feeding of their stock. We have for years been urging our farmers to engage in the raising of the beet, so that as soon as the time for the manufacture of sugar therefrom should arrive, they might be prepared to enter upon the cultivation more extensively to supply the factories which would be erected for the purpose; at the same time paying them well in the excellence of the succulent food which the beets would at all times furnish for their cattle, more especially the dairy cows. But the following result of the trial of the beet in its natural state in the feeding of swine, which appears to be well attested, shows a value of the esculent which far exceeds any estimate which we had formed of its virtues:

An experiment was tried sometime ago by a New England farmer in fattening a pig which fed largely on sugar beets. The animal was about a year old, and the feeding on boiled sugar beets, tops and roots, began on the 16th of August, and was continued three times a day until the 1st of October, after which ground feed was given, consisting of two parts of corn and one of oats, three times a day until the animal was slaughtered,

the meal being mixed with cold water. The result was, on the 15th of August, when sugar beet feeding was begun, that the weight was 306 pounds; September 1,336 pounds; October 1,450 pounds; November 1,520 pounds. This is the substance of the statement given, by which we perceive that the increase the last of August, when fed on boiled sugar beets, was at the rate of two pounds per day; the rate of increase on the same food continued through September. When fed on ground corn and oats, made into cold slop, the gain for the next 50 day was less than a pound and a half per day.

The great drought which was experienced through the past summer and fall will severely test the utmost capabilities of the farm to supply food for the stock until the opening of the spring shall again furnish grazing therefor. In various sections of the country the anxiety in this respect is great, and farmers are selling off all the cattle they can get rid of, almost without regard to price. Happy they who availed of the earnest appeals last spring to put in patches of root crops, not only to save their hay, for which there is always a ready market, but as a most excellent aid to the healthfulness and increase of the powers of their cattle, especially the milch kine, in their succulent qualities. The large quantities of dry, woody and indigestible food consumed by stock in winter taxes the digestive organs very severely; and constipation, congestion, etc., are ever threatening danger to the health of the stock. A moderate quantity of roots or green food in the season of dry feed acts as beneficially on the stock as fruit and fresh vegetables do on the human system, in the course of the long, cold season when no perspiration purges the skin. In the season of verdure and plant-growing, fresh vegetable food is so common a portion of our daily diet that we scarcely notice the fact. And so it is with the animals whose care we are charged with.—*From the Baltimore American.*

CAN A LADY BE A FARMER, AND CAN A FARMER BE A GARDENER?

I am a farmer's daughter, and lived till past thirty years of age on a farm of 500 acres, and for some years I managed it, so I am not a townswoman who might think the task an easy one. Nevertheless I assert that a thoroughly good farmer can have a perfectly well cultivated garden. It seems indeed to me a disgrace, especially for farmers, not to be good gardeners. Who can at so small expense of labour and of materials turn them to good account in this way, only using odds and ends of either—fragments hardly worth the labour of taking to an arable

field? Never, Mr. Editor, let it be unchallenged in your pages that farmers cannot be gardeners, or that labourers are only to know one kind of work, or that their wives cannot know enough of cooking to make their husbands and families more comfortable and healthy.

The farm which I refer to was cultivated over thirty years ago by a master who could take any implement, on arable or pasture land, and show his men the right way to use it. He gave instructions as well as orders, and he never ceased teaching till the work was habitually well done. Some, perhaps, you cannot teach; but his plan seldom failed. He used to say, "Begin early enough with them as boys, and nearly all will learn." The boys came as bird-keepers, then as carters' boys, and when too big for that, they were put under the cowman to milk and attend the cows. There were 100 cows to milk. And afterwards, in whichever line they proved to have been best, their places as men were apportioned them on the farm. They could, however, all of them, more or less, turn their hands to anything their master wished. They were good mowers—from 200 to 300 acres of grass being made into hay; and the house men were always the best, whether as mowers, pitchers, rick-makers, or threshers. They could cut and plant fences; one or two could put up a stone wall as well as any mason; others hang a gate and do odd jobs as carpenters, drainers, diggers, and cleaners of land in every way. They had been taught how to do work at the least expense of labour to themselves; hedging, ditching, timber-felling—all could be done by the ordinary hands on the farm. We should have been sorry had it ever seemed possible to expect that a man or boy was not ready or willing to do all asked or expected of him. The best gardener I ever knew had been taught by this master. He used to feed the fat cattle all through the winter, make the ricks, and do other skilled work in summer; wash the sheep and help the shepherd shear; and mornings and evenings he got time to put in the garden crops in their seasons. The garden was $1\frac{1}{2}$ acre, enclosed within walls, fully planted, every inch of it, with the right crops in the suitable places. Peaches, nectarines, apricots, grapes were grown on the south and sunny walls; Morello cherries, currants, plums, where less sun was needed or could be had; asparagus and sea-kale were grown in abundance, enormous crops of strawberries and raspberries, and all other fruit.

The hedgerows on the farm were planted with fruit trees. Bushels of damsons were gathered from trees placed on ground which would not have been otherwise used. I have seen sacks of Blenheim Orange apples gathered from trees planted