

ties for Dyers. 4. The Planting of Hops, Saffron and Liquorish, with their Advance. 5. The Planting of Rape, Cole seed, Hemp, and Flax, and the profit thereof. 6. The great advance of Land by divers Orchards and Garden Fruits. *The Experimenting whereof makes good the Improvement promised.—Cultivator.*

### On Superphosphate of Lime.

The enormous quantities of material that have been sold under the name of superphosphate of lime, within a few years, with a prospect for increased sales in the future, prove that the use of a genuine article is remunerative, and make all contributions to our knowledge of this subject of exceeding interest.

In the Eastern States, where the soil is poor and the market good, this and kindred artificial fertilizers, have now become almost indispensable to many of our best farmers.

In 1852, I published in this paper, the analyses of two superphosphates, then the only ones sold in this country, so far as I knew. Both were of a quality not inferior to good samples made in England, the birth-place of this manufacture.

Since 1852, the business of making artificial manures has increased to a great degree. There are now in market in our Eastern cities, eight brands of superphosphate alone, which I can recollect without looking up the advertisements. Last summer seventeen analyses of superphosphates, on eight different samples from five manufactories, were made in the Yale Analytical Laboratory, either under my eye or by my own hands. The results, published in detail in "*The Homestead*" of July-17, demonstrate that of these five brands, only two, viz: "Deburg's No. 1, Ammoniated," and "Coe's Improved," were manufactured with any respectable combination of knowledge and honesty, two indispensable requisites for this kind of business. And these manures contained respectively but  $2\frac{1}{2}$  and  $4\frac{1}{2}$  per cent. of soluble phosphoric acid. Hildreth's Superphosphate (New York) contained but  $5\frac{1}{2}$  per cent. of phosphoric acid, and of this none was soluble!

In face of these facts, he is a bold man who now buys superphosphate of lime. Farmers have communicated to me their experience of the past summer, confirming the accuracy of the deductions I have drawn from my analyses, and recently I have had application for advice in the home manufacture of this fertilizer.

The most advantageous method of preparation that has come under my notice, appears to be the following, by Dr. Alexander Mueller, Chemist to the Ag. Experiment Station at Chemnitz, in Saxony. It refers to the article made from ground unburned bones. I translate the essential part of the account from the *Landwirthschaftliches Centralblatt* for June, 1856.

After remarking that, in the ordinary

method, when the ground bones are directly treated with acid, the action of the acid is chiefly spent upon the finest parts of the bone meal which least need solution or decomposition, and scarcely affects the coarser portions—he proceeds to describe his process which has a reverse result, as follows:

"The bone-meal is passed through two sieves so as to divide it into three portions, one consisting of particles less than one-twentieth of an inch, another of grains less than one-tenth of an inch, and a third of fragments over one-tenth of an inch in diameter.

The bone-meal should be so fine that not more than 40 per cent remains upon the coarsest sieve.

Of 100 lbs of meal, the coarsest portion is now well mixed with 25 lbs of oil of vitriol, and after a little time 12 to 13 lbs (6 qts.) of water is gradually added (a quart at a time) the whole being stirred. The heat thus produced greatly facilitates the solution. The mixture is allowed to stand 24 hours, after which interval, the fragments of bone will be found so soft that they can be crushed in the finger. The meal of medium fineness is now thoroughly mixed with the mass, and the whole allowed to stand again two or three days; finally the finest meal is stirred in, which brings the preparation to a convenient state of dryness, or it becomes dry by a short exposure to the air, if thinly spread out.

By acting on 100 lbs of bone-meal in this manner, with 25 lbs of oil of vitriol and 13 lbs of water, about 130 lbs of superphosphate are produced, which is indeed dearer than an equal weight of the common preparation; but is equal in effect to 200 to 300 lbs of the latter, and is therefore cheaper, to say, nothing of easier transportation.

The superphosphate thus made is a light gray, crumbly or powdery mass; in dry air it does not become moist in the slightest degree; to the taste it is not perceptibly sour, and therefore can be conveniently preserved in sacks.

The advantages of this plan of treating bone-meal over the common method are:

1. The acid acts most powerfully on those parts which are most difficultly soluble.
2. Therefore a much smaller quantity of acid is necessary, and thus the loss occasioned by the conversion of so much acid into comparatively worthless plaster is avoided.
3. The greater concentration of manure cheapens transportation." *Yale Analytical Laboratory, Sept. 27, 1856.*

THE FARMER'S WIFE.—It is a common saying, and perhaps as true as it is trite, that one woman is worth two men on a farm. It is certainly beyond dispute that those branches of husbandry which come mostly within a woman's department are among the most profitable parts of the business. The dairy is a source of large profit, if well conducted. It would not be a remarkable cow

that would give thirty dollars in butter yearly,—and with a dozen cows yielding at that low estimate, the farmer, with the addition of a garden and a hog, will very nearly have a support for a family. And this is in great part, from the care and labor of his wife. In the report of the committee on butter and cheese to the Hampden County Agricultural Society in 1846, it is said, the value of butter, according to the statistics of the assessors returned to the Secretary of the commonwealth for the year 1844, was nearly double that of all the sheep then in the State. It also exceeded the aggregate value of wheat, rye, barley, buckwheat and oats raised during the year.

The dairy, however, important as it is in the labors and profits of the farm, is not the only branch of rural economy which requires the care and labor of the wife. Poultry, though smaller in amount, is, in proportion to the expenditure, an object of much profit. And the domestic manufactures, wrought out by the spinning wheel, (for there are some left yet) loom, needle, and other modes and processes of woman's handwork, are not inconsiderable.

All these labors are in addition to the house-keeping cares and duties, which alone are considered by the industrious wives of the city, to be quite sufficient for any woman.

The farmer's success depends very much on the industry and good management of his wife. It is in the power of the woman, at least, to do a large share in making up the yearly income of the farm, if she is not really equal to two men.

With a few good cows, and a wife who is skillful and careful in the management of the dairy, the farmer always has a safe dependence, even though the drought or depredating insects should somewhat diminish his crops. But the farmer's wife must not have too much required of her. Good, dry fuel, and plenty of soft water, should always be conveniently supplied, and all heavy and exposed work be performed by the farmer or his men. Then he will have a cheerful, tidy help-mate, who will bear up her end of the yoke in such an even, easy, and agreeable manner, as to make the domestic duties a source of contentment and bliss.—*N. E. Farmer.*

PRESERVING SHINGLES ON ROOFS.—Some paint roof shingles after they are laid. This makes them rot sooner than they otherwise would. Some paint the courses as they are laid; this is a great preservative, if each shingle is painted the length of three courses. But about as sure a way to preserve shingles, and that with little or no expense, is a mode recommended in a letter to us by Hon. David Hunter, of Clinton, on the 23rd of Feb. last. We republish so much of his letter as relates to this subject, in hopes that it may be of service to many of our readers.

"There is one thing more, that nearly all