Chemistry—Wool.

H. Hayward, in the *Bulletin*, says:

Having been a farmer from youth up, and much interested in manufactures since 1849, I have found it indispensably necessary in either department that chemistry should walk hand in hand with practice. My memory carries me to Jonas Webb, of England, whose farm I visited about the year 1840, to view, with many others, the finest flock of Hampshire downs England has ever produced. These sheep, at that time, were grown more for mutton than for wool, but by analysis of the wool off the backs of these sheep, or any good breed properly fed, in comparison with the wool from an inferior animal. improperly fed, we have the following results: First, wool being a phosphate, like bone, must be stimulated and kept healthy by food containing phosphates, such as turnips and many other roots, which vary in phosphates. The fibre of wool from the properly fed animal is strong, though fine and not split, and will consequently full and felt better than the wool from the half starved or inferior blooded animals, the wool of which, although containing fifteen to twenty per cent. less yolk or waste, has a weak coarse fibre; and frequently these small fibres (only to be seen by a microscope) are partially and irregularly destroyed. Thus, for fine cloth, they are altogether unfit, and in all manufactures they should be mixed, as they usually are—chiefly from knowledge gained by practice that they will not work advantageously alone.

Feed a flock of sheep on this side the fence on turnips and hay, and another flock of the same breed on the other side on oil-cake, malt-dust and hay. The former having received a larger amount of phosphates than the latter, the wool is more healthy, though one pound lighter in fleece. It is well known to our manufacturers that wool from certain districts works better and makes finer goods than that from other parts, the grasses of some districts containing as they do seventy-five per cent. more of phosphates.

Phosphates are contained in various grasses, but not in all; and to keep pasture good for sheep feeding, bone dust or bone meal must be applied to the extent of 500 pounds to the acre every three or four years, mixed with coal ashes or fine soil—coal ashes hold and wood ashes liberate ammonia. This phosphate is taken up by the grasses, and all animals wanting phosphate for support will pick out such grasses. For instance, a cow giving milk and fed on pasture containing but little phosphate, will frequently be seen gnawing a bone. Milk is the life of the bone, so the bone must give the life in like manner. The hen, when she cannot get lime to form the shell for the coming egg, will greedily devour egg shells; and the farmer in his ignorance orders his boy to "wring her neck."

Sheep imported into this country do, and always will, degenerate, unless strict attention is given to proper feeding, by pasture, culture, or otherwise. Nature arranges all things, and man has to be guided by matters and facts before him, of which he sees only one-half without the aid of chemistry.

Rearing Calves Without Milk.

We well recollect when it was considered a calf could not be raised properly without having for several weeks or months the whole milk of a cow. Indeed, a cow was often purchased for the express purpose of letting the calf run with it in the field, so as to suck whatever it wanted. This necessarily made a very fat calf, and just as surely ruined the cow. In our early farming days we practiced this expensive folly; and if the object is to raise an animal for dairy purposes, its tendency is to defeat the object. A growing animal should be kept thriving only, and such food should be given as will promote the growth of its bones, muscles and tissues (what may be called a normal growth), and not to make it fat for the butcher. There is no objection to having it thin, providing it is healthy and in a growing condition. We clip the following without knowing where the credit for it belongs, but it strikes us as sound advice:—

With good pasture, hay, oilcake or fine oatmeal, and one cow, three calves may be kept successfully after they are ten days old, and all the cream from the milk of that one cow made into butter after the calves are four months old. We have seen it done. Recipe—Boil one pound of good timothy hay in six quarts of water under cover for one hour, and strain the tea into a bucket to cool. Stir three tablespoonfuls of oilcake or fine meal inte a quart of boiling water slowly, as in making hasty pudding or mush, and when well cooked stir it into the hay tea, and to the whole stir in the milk of the cow. Feed warm at first, but after a few days it will be quite as good cold. Increase the quantity of oil or oatmeal, one tablespoonful for each calf every second week, and the calves will each look as well when three months old as those fed entirely on milk. When about four weeks old, if allowed to run in good, tender pasture, they will begin to feed until they will depend entirely on the grass. Add a very little salt to each feed, and if they should begin to scour, boil the milk and stir in a tablespoonful of flour before it is added to the tea. After the first week the danger from this cause will be over, unless they are fed to excess.—*American Practical Farmer.*

Breed for Milk as Well as for Beef.

Dr. Schneider, of Thionville, treats an important subject from a new point of view. He demands—why not encourage precocity in animals for milk as well as for meat? In the latter case, the object is to fatten an animal in thirty-six instead of sixty months, by good feeding. On the contrary, the powers of reproduction—that is, the yielding of milk—are most active or precocious where the dietary is sober, if not miserable. Poor families are most prolific, and weeds most productive. Fecundity is the ally of humble rations, and fat, the emblem of opulence, is not an attribute of virility. Embonpoint is incompatible with the faculty of generation. If a sterile cow or an ox exact thirty-six months and good diet, to be precociously converted into meat, a heifer could in that period have produced, upon a modest regimen, one calf, perhaps two, and from twelve to fourteen months of milk. The production of milk is less costly than that of meat. It can be less expensively disposed of, and if meat has increased in price, so also have butter and cheese. The properties for fattening are but one and the same thing, and pre-exist in the animal, only both aptitudes cannot be developed at the same time. Thus in France, Dutch or Normal cows are kept for the express purpose of yielding milk to the calves of the Durham breed.—*Paris Cor. Lancaster Farmer.*

Brine that Will Preserve Butter a Year.

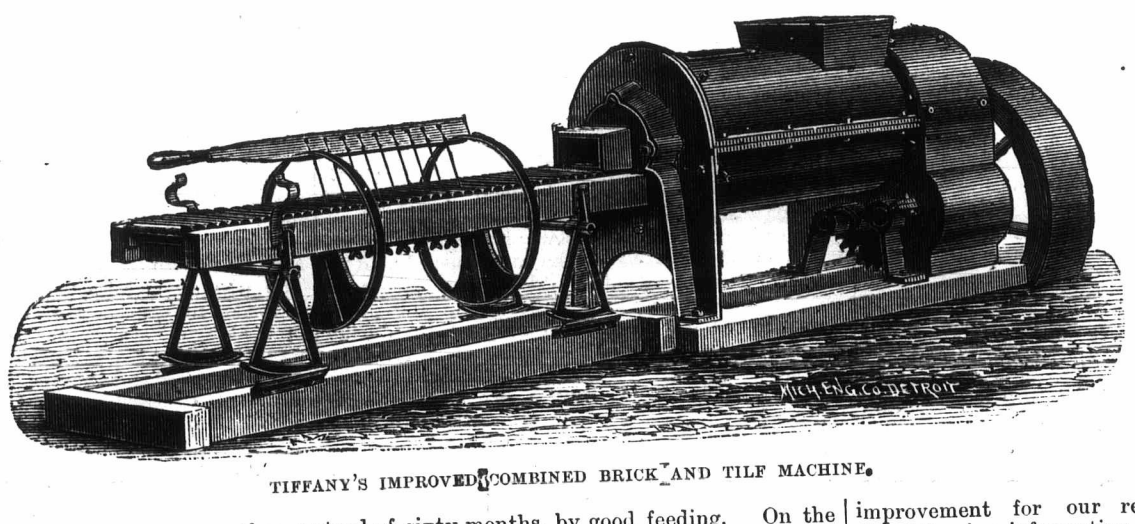
Among the many devices for keeping butter in a manner that will preserve the fresh, rosy flavor of the new, with all its sweetness, is the following, from the *Duchess Farmer*, which is said to be entirely successful:—To three gallons of brine, strong enough to bear an egg, add a quarter of a pound of nice white sugar and one tablespoonful of saltpetre. Boil the brine, and when it is cold strain carefully. Make your butter into rolls, and wrap each separately in a clean, white muslin cloth, tying it up with a string. Pack a large jar full, weight the butter down, and pour over it the brine until all is submerged. This will keep really good butter perfectly sweet and fresh for a whole year. Be careful not to put upon ice butter that you wish to keep for any length oi time. In summer, when the heat will not admit of small jars, take large ones, and, using the same brine, allow it to cover the butter to the depth of at least four inches. This excludes the air, and answers as well as the first method suggested.

Hungarian for Cows.

The following is the valuable and reliable testimony of Dr. Loring respecting Hungarian grass:—I believe I can make more milk with this grass, cut and mixed with corn meal and shorts, than I can with the best timothy hay, cut and mixed in the same manner. And when you remember that you can raise on ordinary land, by sowing the seed of Hungarian grass late in June, from two and a half to three and a half tons of good fodder to the acre, and that this crop can be sown after we have ascertained whether we are to have a good crop of hay or not, you will see the value of this grass. I have such a high opinion of it that, on my farm this year and last, I raised from seventy-five to one hundred tons of it, for the purpose of feeding to my milch cows during the winter.—*Ex.*

Tiffany's Improved Combined Brick and Tile Machine.

The accompanying lllustration represents the machine which is named in the heading of this article. It is manufactured by the well known firm of E. Leonard & Sons, of this city. One of these machines has been sent to the Centennial for exhibition. Quite a large number of the machines are at work in Canada and the United States. From what we hear of it, we think it unequalled, and that it will tend very materially to cheapen draining tiles — that means larger crops and more profit to the country. We highly approve of every improvement for our requirements, and give the following information regarding the machine:



TIFFANY'S IMPROVED COMBINED BRICK AND TILF MACHINE.

It is nearly all iron, and is very strong and durable.

It will make any form of brick or tile that may be made by forcing clay through a die.

It will make smoother bricks than pressed bricks.

It will make smoother and stronger tiles than any other machine in the United States or Canada.

It will mould clay into bricks that is too stiff to make good bricks, or too soft to bear handling without the use of pallet boards.

It will work most kinds of clay directly from the bank.

It saves labor. One man can operate the cutting table and deliver 15,000 bricks on the barrows, and two men can put them in the hack in ten hours.

The hopper is only thirty-seven inches from the foundation. The machine may be set low and bridged over, so that it may be driven over with horse and cart, and the clay dumped at and into the hopper.

There is no sanding or washing of moulds. There is no striking off. No emptying of moulds. No pallet boards. No lubricating of dies or moulds. No water used about the cutting table. The work is clean, and may be done by common laborers.

It is the result of fifteen years' experience in the using and designing of clay-working machinery, and contains no essential feature that has not been proved to be good.

The following recipe will cure worms in hogs:—A dose of two quarts of milk and two tablespoonfuls of soft soap, stirred together, and given to a hog three times a day for two days, and once a day for four days.