

to 150° F., and then cooling down to 50° F. Several apparatuses are made in Germany for the purpose.

Bone manure. A correspondent wants to know if bone manure is worth the money paid for it; would not mineral superphosphates with some nitrate of soda added be just as good. Is phosphate of lime in Carolina rock not as good as the phosphate in bones?"

There is not the slightest difference between soluble phosphates derived from bone and soluble phosphates derived from any source whatever. Does not my correspondent see that what is wanted is soluble phosphoric acid. That is why sulphuric acid is added to the phosphatic material and whether that be bones, Carolina rock, coprolites, or apatite, the result is the same. phosphoric acid and sulphate of lime, i. e. plaster. As a matter of fact, no such perfect result is ever arrived at, but a good superphosphate should contain at least 15% of soluble phosphoric acid. Four cwt. of mineral superphosphate and one cwt. of nitrate of soda will be a richer application than five cwt. of bone superphosphate, and less in cost by \$8.00 a ton. There is a new manure just put on the market in Germany—Thomas, precipitated phosphate of lime.—It is dissolved out of the slack in the basic iron works by hydro-chloric acid and lime, washed, and dried. It contains about three times as much phosphoric acid as ordinary superphosphate, and is of course in a much finer state of flour than any grinding can make it. I have not heard what the price is.

Hops.—Hops are looking well. No fear of insect damage with these heavy downpours, though perhaps mould (1) may be prevalent. Prices are abnormally low, good sound hops bringing only ten cents a pound. As I told my readers three years ago: leave hops alone, unless you are fond of gambling.

Meat.—The price of meat in England, is lower than it has been for many years. Good wether mutton is only fetching 14 cents and fine short-horns 12½ cents a pound. Some of you perhaps do not understand the quotations of the London markets; I will try to make the thing plain. In London all live stock is sold by the stone of eight pounds. There is no weighing alive: the butchers don't like the idea, as from constant practice they are capital judges of weight. Suppose a sheep is in question; the butcher guesses his weight at 10 stone the four quarters, and if the marked price is that day four shillings a stone, the sheep will bring to the owner forty shillings—*sinking the offal* as it is technically called. The offal consists of the viscera, pluck, head, skin, and loose fat, and is generally supposed to be worth one-fifth of the value of the carcass, so in the case I mentioned it would sell for eight shillings, and this is supposed to be the whole of the butchers legitimate profit, though, in reality it is a very small part of it.

ARTHUR R. JENNER FUST

Firm Cheese and overheated Milk.

One of the best cheese makers in the province writes to the Director of Agriculture as follows:

I have given a good deal of thought to the making of cheese and butter together and have now struck upon something, I think, that ought to place it in favor at least in some districts.

Mr. Jocelyn on teaching how to make full-cream cheese advised heating the curd up to 98° but no higher, as do most of the best authorities in the States. Now those very buyers who speak so loudly against making the half-skim cheese would not buy our cheese if only heated up to 98°, as

the cheese—from this milk at least—would not be firm enough for their tastes. To get a fine good firm cheese from our milk herd this spring time I heated up as high as 102°, and it would even then have borne higher heating. I know of others round here who heat up to 104° and 106° even. Now, at 99° any little bits of grease floating at the top of the whey will melt, and so must it do the same in the curd. Now if to get a firm cheese it is necessary to heat up to such a high degree, it is not the whey only that we drive out of the curd but the fat or butter, which melts and runs off into the whey tank. I think then that this is pretty good proof that all the cream cannot be worked into the cheese and that in some districts at any rate, we ought to take this cream before hand and while it is still fit for use.

Our cows are most of the time in deep and very nice pastures, and so the milk is very rich.

Another thing I notice in your letter is an allusion to factories arranged after Mr. Jocelyn's plans. I can truly state that in all the factories I have yet seen,—and I have already seen a few—I have not yet found any to come up with the one Mr. Jocelyn fixed up at St. Denis, for convenience in arrangement.

We should like to hear more on this subject.

LARGE AND SMALL POTATOES FOR SEED.

The past season's experiences ought to solve the question as to whether small potatoes are as good as large ones for planting. The scarcity of potatoes last spring occasioned the planting of many small inferior tubers, and the resulting crops will convince many that there was little lost from using the small seed. At least this has been the result of my observations in this section. In my own experience small-sized potatoes of the Beauty of Hebron variety, have produced a crop of excellent quality and size, but of small yield. The same is true with the Burbank variety planted later, both varieties yielding as fine tubers as I ever grew—the yield, however, being small. A circumstance has lately come under my observation, which has had considerable weight in my mind in deciding this question. A party came to me last spring after I had finished planting potatoes, and after I had sold all of my surplus seed with the exception of a bushel or so of my small potatoes—the culls from previous assorting, which averaged but little larger than a hickory nut in size. Seed being very scarce, the party referred to decided to take these small specimens, and although I freely expressed my belief that they were too small for seed, they were planted. The soil was favorable, being a clover and timothy sod, and somewhat to my surprise, the yield and size of tubers is large for this season. I am decided in my own mind that the only advantage in large potatoes over small ones for seed, is in the extra amount of nourishment which the large potatoes afford the young plants during their earlier stages of growth. The difference is much less on rich than on poor soil, because on rich land the young potato plants require less early nourishment, and are better able to take care of themselves. For this reason I am not in favor of cutting potatoes to a few eyes as recommended by some potato growers. Much better results will be secured, I believe, especially on light soil, by planting whole tubers and thinning out the stalks, leaving but two or four to a hill. In this way large, stout tops are produced, which are better able to resist the effects of drouth or the depredations of insects, and usually such strong-growing tops (unless of over-size) will produce large potatoes and a desirable yield.

(1) Formed by certain fungi or parasitic plants—not by insects.