minutely broken; this may be done either with a shovel breaker or revolvers in the tub. When the curd is completely broken, as much of the heated whey is mixed with it as suffices to raise it to 80°; the temperature at which the rennet was added. Nothing more is done to it for another hour: and then a few pails-full of whey are drawn off and heated to a higher temperature than before, the curd is then as minutely broken as before and after this is carefully done, an assistant pours several pails-full of the heated whey into the mass. During the pouring in of the whey the stirring with the breakers is actively continued in order to mix the whole regular, and not allow any portion of the curd to become over heated. The temperature at this time is raised to 100° as ascertained by the thermometer: and the stirring is continued a considerable time until the minutely broken pieces of curd acquire a certain degree of consistency. The curd is left half-an-hour to subside.

At the expiration of the half-hour the curd has settled to the bottom of the tub.

Drawing off the whey is the next operation. To facilitate this part of the work, the tub is made with a convex bottom, and the curd is cut from the sides of the tub and placed on the elevated centre.

It is carefully heaped up, and then left for fully half-an-hour with no other pressure than its own weight. After this interval it is cut across in large slices, turned over once on the centre of the tub and left in a heap as before for half-an-hour. The whey drips away towards the sides of the tub, and runs off at the spigot; and no pressure being applied it continues to come away comparatively pure.

After undergoing these simple and easy manipulations, and lying untouched during the intervals that have been mentioned, the curd is ripe for the application of pressure, but great care is taken not to put it into the vat to be pressed at too high a temperature. If the heat be above 60° and it usually is higher at this time, the curd is broken a little by the hand and thrown upon a lead cooler until it is brought down to the desired temperature. It is then put into vats and subjected to a moderate pressure for fully half an hour.

The next process is to take the curds from the vats, break them finally by putting them through a simple curd mill, mix them with salt and make up into cheeses. A pound of refined salt is sufficient for half-a-cwt. of curd.

Next morning the cheese is reversed in the vat and a calico cloth put upon it to give it a smooth surface; and the following morning another fine cotton cloth is put upon it. The third morning it is laid upon the shelf. The cheese of Monday is thus laid out on Thursday morning: which gives three days to the process from the time when the rennet is added to the milk until the cheese is finally turned out of the vat.

During at least two of these three days the pressure is continued for consolidating rather than for drying the cheese. When the cheese are taken from the press they are each laced into a peice of canvass, called a filter; this is done for the purpose of preserving the shape.

A temperature of from 55° to 60° is regarded as the best for ripening Cheddar cheese.

I, am respectfully, yours,
AYRSHIRE.

HANTS, May 30, 1867.

To the Editor of the Journal of Agriculture.

LUCERNE.

MEDICAGO SATIVA.—PURPLE MEDICK.—LA LUZERNE CULTIVE OU SEOIN DE BOURDOGNE.

The cultivation of Lucerne is of unknown antiquity in Italy, Spain and France; it is also largely cultivated in Asia, Peru, the Canadas, and United States. In Britain it is a favorite as an early plant for yielding fodder before the red clover, and its cultivation is attended with great success. This climate is generally considered as too cold for the growth of Lucerne, but I consider the failures which have taken place may be more justly attributed to an improper choice of soil and cultivation than to any other cause. The soils most congenial are those of a light and dry nature. It will thrive well although exposed to the direct influence of the sea breeze, and will be fit for cutting a fortnight earlier than rye grass or red clover. Provided the subsoil is dry, it is not indispensible that the surface be very light, but undrained lands, which have a very damp subsoil, or of a very tenacious nature, are unfit for its cultivation.

Various modes have been employed in its cultivation, but that which is decidedly the best is to sow it in drills eight or ten inches apart, and well manuring, keeping it free from weeds, and thinning so as to leave the plants stand about three inches apart. If proper attention be paid to the young plants, they yield considerable the first season, but it is the second before they arrive at full maturity. They will continue to produce fine crops for eight or ten years, provided they receive a good top dressing of stable manure, (which will be a great protection to the plants) in the late autumn, and kept free from couch grass and other bad weeds.

The quantity of seed required per acre is 15 lbs. if sown in drills, and 20 lbs. if sown broadcast.

Although the purple medick (which is decidedly the best) is in general cultivation, there are many other varieties—three of which I have seen cultivated in France, viz.:—Medicago sativa, vas rustica, Intermediate Lucerne, La Luzerne rustique of the French,—Medicago falcata, Yellow Lucerne, La Luzerne faucille, fr,—Medicago Lupulina, Black Medick, Luzerne Lupuline. There are many other varieties more or less worthy of cultivation, but these are the only four, in my opinion, worthy of cultivation; many of the others are bitter and cattle are found to reject them.

ALFRED SAUNDERS, *Seedsman.*
168 *Argyle Street, Halifax.*

INFLUENCE OF THE STOCK UPON THE GRAFT.

There are things in Fruit Culture that have not been more than dreamt of in Vegetable Physiology. In a recent number of the *Journal of Agriculture* attention was called, by one of our correspondents, to a singular apple freak, which was described as follows:—

"On a tree bearing Pound Sweet apples growing in the garden of C. C. Hamilton, M. D., in Cornwallis, three apples formed and grew on a small twig the size of a goose quill and eight inches long. Two of these apples had all the characteristics of the Pound Sweet, in colour, size, shape, and other peculiarities; while the middle one was smaller, perfectly russeted, and different in shape, more ribbed at the blossom end, and having a shorter stem. The twig with its three apples was exhibited at Somerset, and recently the fruit was tested by the Council of the Fruit Growers' Association, when it was found that the apples differed also in their qualities. The two apples appearing to be Pound Sweets had all their true characteristics, whereas the middle one, which was russeted, was smaller, less fine in flesh, with a finer oily grain, inclined to wilt, and with a yellow cast of flesh. When tasted, the flavor seemed somewhat different, being by some considered slightly acid.

"Nothing was done to bring about this singular phenomenon; and the fact of the three apples growing upon the same twig, and differing as they did, was not known to the proprietor until about the first of October.

"It is for fruit growers to speculate upon this subject, and assign if they can, the true cause of this singular "apple freak;" there is not a tree bearing russeted apple within ten rods of where these apples grew."

We reprint the above because we think the matter is one of practical importance as well as of scientific interest. No Fruit Grower has vouchsafed a reply to the appeal made, and we shall therefore offer a few remarks on the subject, and notice one or two kindred facts.