

and then covered with 18 inches of oat straw placing over this two layers of boards, breaking joints. Still skeptical, and haunted by the idea that all was not well, at the expiration of four weeks I made an examination of one silo, and found the ensilage already well advanced towards rottenness and *very hot* as far down as I could investigate. I began using from it at once to save what was possible, and promptly covered the other with two feet of earth. I estimate the loss in the first silo at not less than 25 per cent. I opened the second silo in January and found that my promptness in weighting had prevented serious loss, as not more than a foot of ensilage from the top had spoiled utterly. Though affected to the depth of two feet or more yet it was eaten by my stock. Also I find, what I had never seen before in my ensilage when heavily weighted, frequent patches of mould at intervals from top to bottom. I also find the ensilage not so compact, and liable to mould after short exposure. Altogether, the experiment has been satisfactory, if not satisfactory, the loss, a serious one to me, and the lesson one I shall not forget.

Another point on which my experience differs from that of some very eminent authorities. I have been following directions for securing ensilage sweet and of the greatest feeding value. Does not science tell us that by allowing the corn to "glaze over" in the ear before cutting, we not only get sweet ensilage which is most desirable, but also harvest our crop at the stages of greatest value? The alembic of the analytical chemist tells us that maize at that stage contains a greater amount of digestible nutrients than when the ears are silking. Very true, but just here the analytical cow steps in with her alembic, and tells me a different story, both at milking, pail and churn. In other words, my cows have yielded more milk and butter when fed on corn ensilage made from corn cut when the roasting ears were in the milky stage, than when fed on ensilage made from matured corn. It may be that my cows—graded Jerseys—are peculiar in this and different from others, but such is the fact. The ensilage from the unmatured corn is more acid, but the milk and butter from it is as sweet. In feeding matured ensilage I notice that my cows eat the corn and the leafy portions and reject the stalks, while, per contra, they eat the ensilage from the greener corn clean. They don't go at the former with the eagerness and avidity with which they devour the latter.

I think Prof. E. W. Stewart mentions somewhere that corn at the silking period is just as rich in feeding value as when at a later period glazing over and maturing the ear, but that the nutrient values are distributed at the former time through the entire stalk, blades and ear, and that at the later period they are withdrawn and concentrated in the ear. (1) If this is true, and I believe it, then I can readily understand why my cows pick out the pieces of ear and the greener portions of leaf and reject the remainder, partly for this reason and partly because the short-pieces of stalks hurt their mouths.

Again, by the time my corn had glazed over last season, the stalks had "fired up" at least two feet above ground, and all of the lower blades were in a similar condition and absolutely worthless. Now this was another source of loss and waste. At the time the corn was in full silk it was perfectly green from the ground to the tassel, and had it been cut then, my supply of ensilage would have been at least one-fourth greater.

For all these various and combined reasons I have resolved unambiguously that: Firstly, I shall continue to weight my silo heavily, as the one method giving me the best results; and secondly, I shall cut my corn in the future when in the early roasting-ear stage, as at that time my entire corn crop can be harvested without loss and with the assurance that it possesses, for my cows at least, its maximum feeding value.

Buncombe County, N. C., Feb. 15. JOHN K. HOYT.

(1) This is, theoretically, true. Whether it is true practically, remains to be shown. A. R. J. F.

A POTATO LETTER.

SHALLOW TILLAGE—THE EARTH MULCH—BREED'S WEEDER—COST OF PICKING UP SACKS FOR HANDLING—SPROUTING WITH MACHINERY.

EDS. COUNTRY GENTLEMAN—Mr. Chas. A. Councilman's article on potato culture in Maryland (p. 264) is one of the best I ever read. That heavy mat of clover left on the ground until plowing time in the spring the "rows perfectly straight and just 30 inches apart," and the dropping of every thing else to harrow the crop at just the right time, sounded particularly homelike to the writer.

But we can all learn of each other, and if friend C. will allow me, I think I may be able to suggest how he can slightly improve on his culture in two or three respects. He speaks of using a double-shovel, twice in a row, as the last working. Now the soil was made for the roots of plants to grow in. They would have none too much room if given all of it; but practically we cannot give them quite all, as we must stir some of the surface to keep weeds down, and, in the potato field, to check evaporation and let in the air. (1) To obtain these desirable results, however, we need only to work the surface to the depth of an inch, or at the most an inch and a half. The rest of the soil can be given to the roots undisturbed after the first working which may safely be deep and thorough. (2) The roots of potato plants occupy all the space between the rows by the time the plants are from four to six inches high. We sometimes forget this. To tear off a part of them after this time by deep tillage, is simply putting the plant to the expense of growing more when it might be better employed—that is, putting all its force into growing tubers. With such a growth of clover turned under and so much fertilizer used, the injury from roots destroyed of course would not show as where there was a less abundant supply of food. But is it worth while to feed plants to grow roots to destroy unnecessarily? Many corn growers in this State have found that they cannot plow corn deeply, destroying many of the roots, as their fathers used to on the then rich, virgin soils. On our ordinary fertile soils I think the same rule holds good in the cultivation of potatoes, although not quite to the same extent, as potatoes naturally root deeper than corn. I feel certain that I know of fields of potatoes that last season were greatly injured by deep cultivation after the tops were half grown or more. This on soil only moderately fertile. And more particularly were they injured, because a dry, hot spell followed the deep culture, with rain just after they might have been recovered. Abundant fertility would have helped them get over this injury also. They were early potatoes, in addition, with no time to spare for making surplus roots. (3)

My tillage after the first cultivation (usually done before the potatoes are up) will all be shallow this year the same as last. Instead of C. A. C.'s spike-tooth harrow we shall use Breed's weeder, a very light smoothing harrow (now advertised in your columns), going over the field about once in five days on the average, until the tops are half grown. Then we shall end with the Planet Jr. and light teeth, seeing to it that they never go more than 1½ inches deep under any circumstances. No careless boy or man will be allowed to "ride" the cultivator, thus sinking the rear teeth three or four inches deep right next to the drills, and tearing off masses of little roots. Of course all harrowing and cultivation will be done just at the right time to check evaporation, as soon as it is dry

(1) I never earth up my potatoes. If, here and there, they throw up a few green ones, keep them for seed. A. R. J. F.

(2) Good, indeed! A. R. J. F.

(3) Early potatoes should be hoed once by hand, and once by the horse-hoe, and then left alone. Like co. this first work can hardly be too deep. A. R. J. F.