

ground, shallow cultivation is given, so as to prevent, as far as possible, injury to the roots.

One fault of the average corn-grower is that he ceases cultivating his corn too early in the average season. If the season is dry and the condition of the soil demands it, shallow cultivation should be continued, even though the corn is tasseling. This later cultivation is best done with a one-horse, A-shaped cultivator, with teeth similar to that of a spike-tooth harrow, or the dragging of a mower wheel over the soil will do much to preserve the mulch. Late cultivation, where practiced, during the last two or three years, has made many bushels of corn.

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### A COW STALL WITHOUT STANCHIONS OR CHAINS.

Most of our readers will remember seeing in "The Farmer's Advocate," of Sept. 20th, 1906, a barn plan with description taken from a recent bulletin prepared by F. M. Logan, for distribution by the British Columbia Department of Agriculture. This bulletin contained some striking new ideas in barn construction, the two chief features being that the stables were frame annexes of the main barn, while the latter was distinguished by its arch-rib balloon frame. The bulletin also included an illustrated description of a cow stall, which was designed to do away with neck ties and stanchions, the cow being held in place by a gate on each side of her, and a chain stretched across behind. This cow stall

dirty the platform on which she stands; at the same time, this arrangement gives her more freedom than it would be possible for her to have if she were tied by the neck or head. A further argument in favor of this method is that it prevents a cow from slipping into the gutter when reaching for feed, or when turned out of the stable, which often proves serious, as abortion has doubtless been quite often caused in this way.

"When you wish to let a cow out of her stall, you open the gate at the side, which, by the way, serves as a division, giving each cow a separate stall. The cow turns and comes out through the stall next to hers, which permits her to step across the gutter instead of into it, as she would do if she were backed out, as is usually done. Before the cows are let into the stable again the gates are closed and fastened, and the chains are unfastened and hooked up at one side. This allows each cow to go into her own stall, after which all that is necessary to make them secure is to walk along behind them and again snap your chains or ropes. Cows tied in this way can be fastened and unfastened in one-quarter of the time required to do this if tied by the neck.

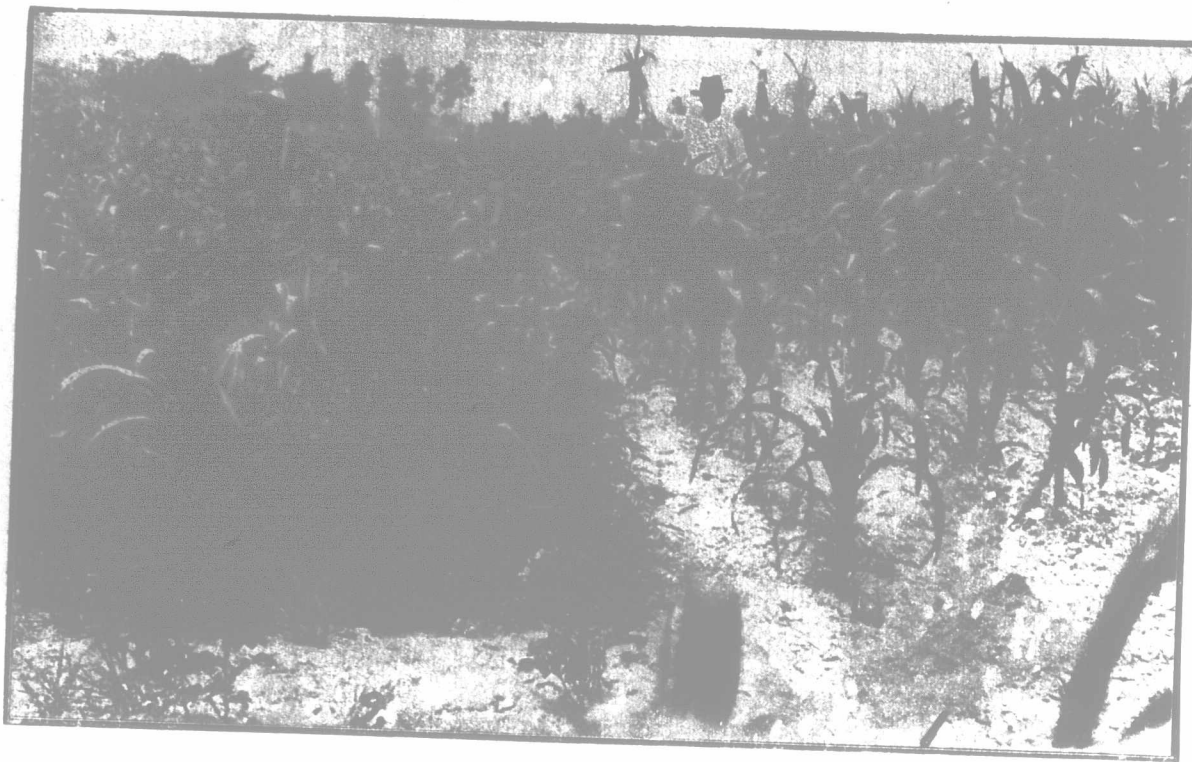
"When you desire to go in beside a cow for the purpose of milking her, you simply open the gate against the cow in the next stall, and the chain being fastened to the gate prevents this cow from backing out of her stall. By being able to swing this partition over against the next cow you have a good deal more space than you would have if the division between each stall were stationary. As a cow is always milked from the right side, this gate must swing to suit.

"I could have designed a fastening for this gate which would have been nearer automatic than the one shown, but it is difficult to have an arrangement which would be automatic and at the same time absolutely secure. This fastening, while not automatic, is not unhandy, and it would be about impossible for an animal to get a gate open if fastened in this way. They are certainly not expensive, as any blacksmith can make them by simply cutting up a bar of half-inch iron, and bending one end in the form of a loop, which serves as a handle, prevents the rod from dropping through the staples, and makes a place to which a string or small chain may be attached for hanging it up. This string can be fastened to a staple, which should be driven in the edge of the upright stud, over the gutter, so the bolt will always hang where it will not interfere with closing the gate, and at the same time be in a convenient place when wanted. Two large-sized wire staples with this bolt makes the fastening complete.

"These stalls should be about 3 feet 6 inches from center to center for the ordinary sized cows. Some make them only 3 feet wide, which does fairly well for small cows, but is too narrow for large ones. It looks better in a stable to have the cows graded according to size rather than to have them indiscriminately mixed. If this were done, the width of the stalls could be made to suit different sized cows. If you should find that a cow is able to turn around in her stall, after the gate is fastened, you can very easily prevent her doing so by making a sort of rack to put on the side of the gate. This can be done by using pieces 1 by 3 inches to put on edge, up and down the gate, and then nailing slats on horizontally, thus making the stall 4 inches narrower than it was before, which will no doubt have the desired effect. This can be put on with screws or wire hooks and removed easily when no longer needed.

"You will, of course, have cows of different sizes, and in order to make them stand so all the droppings will fall in the gutter, I have devised a movable feeder, as shown in the figure. As a cow, in lying down, will lower her front part first, she will always lie far enough back in the stall to keep the platform clean, so it is only when she is standing that we need to regulate her position. This fender will compel the cow to stand in the proper position, and can be adjusted to suit different lengths of animals, by merely taking out the wedges which hold the braces of the fender at a certain notch, and sliding them to the notch desired.

"The manger of the ordinary stable in Canada is not only a disgrace to the different stockmen, but is an actual menace to the health of the animals. Most of these stables have a manger for each animal, which is desirable, for if there are no divisions the best fighters will not get enough. The objection, however, to individual mangers is that there are four corners to collect rubbish and dirt, and these are usually very difficult to clean, with the result that the manger is always dirty, and in ordinary cases decidedly unfit for stock to eat out of. To do away with the four objectionable corners in each manger, I have devised a plan whereby the lower board in the division can be made to lift up, about six inches, say, so when you wish to clean the mangers you would walk along the passage and hook



Effect of Cultivation of Corn Crop.

Plot 1 received ordinarily good cultivation, and yielded 64 bushels of corn per acre. Plot 2 received no cultivation, and yielded 4 bushels of corn per acre.

## THE DAIRY.

### IMPORTANCE OF SHAPE IN UDDERS.

We have frequently had occasion to lay emphasis upon the importance of paying attention to the shape of the udder in cows. As all breeders of experience are aware, there are udders and udders, the best of all being the deep, square vessel, whose fore part rises well up under the abdomen, and whose point of attachment behind is also very high up between the quarters. The squarer and flatter the bottom or floor of the udder is, the better, as a rule, will the cow prove as a milker. And, conversely, the narrower and more pointed the lower aspect of the udder is—and, therefore, the more closely together the teats are placed—the poorer will be the milk-yielding capacity of the animal possessing it. The symmetry or shape of the udder is another point of considerable importance in this connection. In experiments which he conducted a few years ago, a well-known dairy expert found that in a number of cows which had the front part of the udder much smaller than the hinder or the rear part, over one-half as much more milk was obtained from the latter portion of the udder than from the former. The better developed the udder is—in other words, the better balanced its fore and hind quarters—the better the milker the cow possessing it will prove.

### COW-TESTING ASSOCIATIONS.

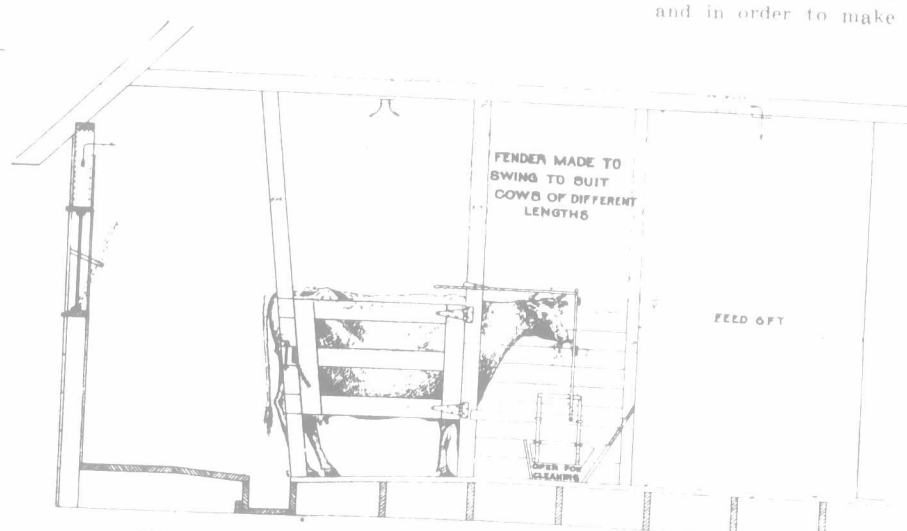
The following are reports of the results of cow testing under the associations named:

Shearer, Ont., for the 30 days ending 30th January, 1907: Herd average—Daily yield, 828 lbs.; test, 3.2; lbs. fat, 27.1. For 30 days ending 28th February: Herd average—Milk, 816 lbs.; test, 3.3; fat, 27.4 lbs. For 30 days ending 28th March: Herd average—Milk, 794 lbs.; test, 3.0; fat, 24.5 lbs.

Keene, Ont., for 30 days ending 28th March, 1907: No. of cows tested, 21; average yield of milk, 812 lbs.; average test, 3.2; average yield of fat, 26.5 lbs.

Cowansville, Que., for 30 days ending 25th January, 1907: No. of cows tested, 71; average yield of milk, 365 lbs.; average test, 4.8; average yield of fat, 17.6 lbs. Highest herd average—Milk, 526 lbs.; test, 5.3; fat, 28.2. Highest individual yield—Milk, 1,115 lbs.; lowest test, 4.8. For 30 days ending 28th February: No. of cows tested, 53; average yield of milk, 481 lbs.; average test, 4.6; average yield of fat, 22.3 lbs. For 30 days ending 27th March: No. of cows tested, 56; average yield of milk, 583 lbs.; average test, 4.2; average yield of fat, 24.6 lbs.

was not described or illustrated in our paper, because we confess a degree of dubiousness concerning the practical utility of these ingenious cow-stall improvements. A great many have been introduced only to be discarded eventually. However, we were assured that Mr. A. C. Wells, one of the leading dairymen of British Columbia, and an unusually level-headed as well as enterprising farmer, has a stall after which Mr. Logan's was modelled, and which it very much resembles. Some weeks ago we were favored with a contribution from Mr. Wells, in which he described briefly and favorably his cow stall. We at once wrote him asking for a sketch to illustrate it, and meantime held his article, which appears in this issue, together with four cuts. On account of the similarity between his stall and Mr. Logan's, we decided it would be an opportune occasion to publish also a cut of Mr. Logan's stall, which is here given, along with the subjoined description, quoted from the above bulletin:



Side elevation of Logan's sanitary cow stall and manger.

### THE LOGAN SANITARY COW STALL.

"A cow tied by the neck with a chain, or with the old-fashioned stanchion, has the privilege of stepping forwards and backwards for a distance of two or three feet. This liberty permits her to step back into the gutter, and after getting her feet covered with manure, she will step up on to the platform, where she deposits this dirt, and then lies down in it, with the result that some (far too much) finds its way into the milk pail. The device shown here prevents this entirely. With a rope or chain stretched across the stall just back of the cow it is impossible for her to step back into the gutter, while the fender in front prevents her from going so far forward that she is liable to

actual menace to the health of the animals. Most of these stables have a manger for each animal, which is desirable, for if there are no divisions the best fighters will not get enough. The objection, however, to individual mangers is that there are four corners to collect rubbish and dirt, and these are usually very difficult to clean, with the result that the manger is always dirty, and in ordinary cases decidedly unfit for stock to eat out of. To do away with the four objectionable corners in each manger, I have devised a plan whereby the lower board in the division can be made to lift up, about six inches, say, so when you wish to clean the mangers you would walk along the passage and hook