

How many holidays does a dairy cow need, anyhow? Some farmers seem to think 5 or 6 months, but these "half time" milk factories are about as unprofitable as all others that run in that style.

After two years experiments at Cornell Station, the Professors almost conclude that there is no profit in feeding grain to cows on good pasture.

In some of the famous Scotch dairies one man makes it his business to *oversee* the job of milking. Thoroughness, cleanliness, and the immediate removal of milk from the milking sheds are absolute requirements.

"The fact is, the chemist is not yet able to analyze milk correctly, for the fact that no two samples are alike. When we have a breed of cows all of the same temperament, fed and cared for alike, and that give the same quantity and quality of milk, then we may hope to get something like a correct analysis of milk. Until then the dairyman will have to content himself with the results of the churn."—*Jersey Bulletin*.

What foundation there may be for the above declaration we will not stop to discuss. It is, however, an absurdity to ask a factoryman, who proposes to pay for milk "according to value," to "content himself" with the churn, when such cheap, speedy and accurate results are available, as, for instance, with the Babcock test machine.

How Many Meals for the Cow.

Governor Hoard says:—"It may seem a small matter to discuss, whether a dairy herd should be fed twice or three times a day, yet if twice is enough, as many believe, it is not so very small a matter. No doubt that instance could be cited on either side, which, taken alone, would seem to settle the question. If a cow is underfed in two meals, or if her two meals are void of proper nourishment, even if in full quantity, the addition of a third feeding may increase the flow of milk or add to her weight of flesh. There is no doubt that cows may be fed so they will do about all they are capable of doing by either two or three meals a day. Both systems have been practised, and it can hardly be said that there is very much difference so far as the cow is concerned. She can take her food in two meals, or in three, according to the convenience of the feeder, and will do well either way if the food is sufficient in quality and quantity. It is a great convenience to have our stock accustomed to the two-meal system. It is especially convenient in the winter season, when the days are short and the cattle are taking but little exercise. In a very cold barn, possibly, cattle might need to be eating most of the time to get food enough to keep warm, but dairymen have no use for cold barns for their cows. Stables should be so warm that no excessive amount of hay and grain will be required for maintaining animal heat.

The cow has a stomach made to hold a large quantity of coarse, partially masticated food that can be remasticated at leisure. When confined to the barn, we are usually satisfied that two meals for average dairy stock are fully as acceptable to the cow and fully as profitable to the owner as three meals. We have been surprised to see how quickly the cows would adapt themselves to the two-meal system, and would lie and chew the cud at noon when persons were about the premises. They not only learn not to expect feeding, but soon learn not to care for it. The morning or night meal is not necessarily given at once, but is better given in small feedings continuously till enough is given."

The Farm.

Reply to "Our Seedsmen and Some Needed Reforms."

BY JOHN S. PEARCE.

Under the above heading Mr. W. A. Hale in the October number of the *FARMER'S ADVOCATE* takes the seedsmen to task for what he chooses to call or term the "intentional frauds or culpable carelessness of his trusted seedsmen." His article is somewhat ambiguous and indefinite, for while he blames his "trusted seedsmen" he does not tell us who these seedsmen are, that is, whether they are Canadian or American; neither does he tell us whether these seedsmen are regular seed dealers of good standing and with reputations at stake, or some one-horse or "Cheap John" affairs that do not know or care what they send out; for bear in mind there are plenty of so-called seed houses, both in Canada and the United States, who know very little about the seed business and care less, and are always ready to offer cheap seeds and make extraordinary promises about what they know and can do. But in any case it matters little to me, for what I shall have to say on this matter will take Mr. Hale and the readers of the *ADVOCATE* over entirely different ground from that over which he has been leading us. After giving the result of some tests of seeds from six different dealers, Mr. Hale goes on to say: "I would suggest that they be graded up to a fixed date." Now this grading of seeds may appear very simple and very nice to Mr. Hale in theory and on paper, but we venture to say that it will not work, and if Mr. Hale were a practical seedsman and in the business he would fully agree with us on that point, as we shall presently show him. He then goes on to say that by this means seedsmen would be able to guarantee their seeds, as this would give them a safe means of doing so. And just here, while on the question of guarantee, I would ask Mr. Hale would he be prepared to warrant and guarantee the growth of any of the ordinary farm seeds, such as turnip, carrot, mangold, etc., (to say nothing about the hundreds of delicate and tender sorts of seeds); sent to say one hundred farmers scattered all over the country and not one of whom he knows anything about, and whom he has never met, and who may be all honest or may not be such. Let Mr. Hale think this matter over carefully before saying he is willing to do this with thousands of customers all over the Dominion. If he did he would have a happy time of it with his correspondents, and would want a stenographer and two or three typewriters, to say nothing about lawsuits and threats of law. But to return to the question of the vitality of seeds, permit me to say that any first-class house knows and has a record of the growth and vitality of all the seeds in his or their establishments, but not one, with all this knowledge, would for one moment think of guaranteeing seeds to grow up to any named average or percentage, for the following reasons:—Seeds of the best possible quality will fail through improper treatment. Thus, if a small seed be sown so deep that the young plant cannot reach the surface, the seed however good will fail; and we know of plenty of instances where this was the cause of failure and no other. But more failures result from a want of proper knowledge of the conditions necessary to germination than from bad quality of the seeds themselves. These

conditions are: A proper temperature, sufficient moisture and free access of air; besides these, the soil must be in proper condition and present no mechanical obstacle to the growth of the young plants. If heavy rains have compacted the surface or the soil and the sun has baked it into a hard crust, it will be impossible, even if all other conditions are favorable, for the seedling plants to force their way through it and they may perish from this cause alone. Then, again, seeds differ greatly as to the temperature required for germination. Beets, peas, cross, carrot, etc., germinate readily at a temperature of 45 degrees, but if melons and other seeds of that family, also beans and other plants of a sub-tropical origin, are sown under the same conditions and temperature they will be very apt to decay, for they require for their prompt germination a heat of at least 60 degrees. For this reason many seeds fail yearly from too early sowing, and the seedsman is blamed. Again, proper moisture is most likely to be violated by an excess rather than by too little moisture. Free access of air is all important and this is interfered with by an excess of water in the soil. In germination complex chemical changes take place in the seeds in which the air performs a most important part. A portion of the seed is consumed, carbonic acid gas being given off in changing the starch and other constituents of the seed into nutriment to forward the growth of the germ or embryo plant which depends upon the contents of the seed for support until it has formed roots below and leaves above the ground to sustain itself. Then very often the young plants, after they have made their way to the surface, are liable to various accidents, such as a sudden current of cold air, or continued drying, harsh winds. These causes may check their growth or destroy them entirely. Besides these there are numerous insects, both below and above ground, that may attack the plant, some of these being so small and others so very destructive that they often destroy a crop before they are discovered. In addition to all these trials and difficulties that the young plants have to contend with, they still have the careless and the indifferent farmer or gardener, who virtually throws his seeds into the ground and then leaves them to their fate.

The failure of seeds to germinate may result from causes that the utmost care of the most experienced cultivators cannot control, and the maturing of crops also repeatedly fails, so as to be a total loss from causes that no human being can foresee or avert. Hence, to guarantee seeds to invariably grow or produce a perfect crop, is little short of the height of folly, and no sensible business man would do so.

Mr. Hale draws the comparison with illuminating oils, but I cannot see the slightest similarity. Illuminating oils, or any other manufactured product, is left and remains just as it has left the manufacturers' hands, and no change can possibly occur. Not so with seeds. One illustration and I am done: Suppose that Mr. Hale were a chemist, and I went to him and purchased a number of chemicals, which, when properly and carefully mixed and compounded, would combine and produce something very desirable and very useful; would Mr. Hale guarantee to me that the result of the compounding of these chemicals by me should be just what I wanted, not knowing whether I had the apparatus or ability to so compound these chemicals as to bring about the desired product? I don't believe he would. We think the same argument will apply to the seedsmen, for the very good reason that the seedsman has no more, and, perhaps, not as much control over the product of his seeds as the chemist who sells the ingredients to compound a certain article, but has nothing to do with the preparation or the compounding, nor any knowledge of the ability or integrity of the buyer of these goods who does compound them.