

### Drainage Surveys Popular.

That many farmers in Eastern Canada are earnestly alive to the immense advantages of tile drainage, is shown by the rapidly-increasing demand in Ontario for the drainage surveys made by the Physics Department of the Ontario Agricultural College. These surveys are made, and a plan given the owner of the farm, at no charge to the individual, save for the expert's travelling expenses; and, as his railroad fare is only one cent a mile, the cost of this valuable service is ridiculously low. It is certainly being appreciated. Prof. Wm. H. Day, head of the Physics Department, tells us his staff has done more drainage surveying this year than in all the previous years since the work was commenced. Engaged in the work were ten field men, three draughtsmen, and one supervisor, besides two stenographers kept busy with publicity work. Nor does the influence of the work end with the individuals whose farms are surveyed. Advantage is taken of the opportunity to hold local drainage meetings, with field demonstrations. One hundred and thirty-two of these have been held this year, with an average attendance of twenty-four interested auditors and spectators. Thus is the good seed sown, and thousands of additional men interested in an investment which most farmers who have experience declare will be repaid in from one to three years, depending upon the seasons, the soil, and the kinds of crops raised. Prof. Day has been collecting data as to the past season's output of the tile-yards, and informed "The Farmer's Advocate" recently that 68 out of 150 yards had already reported. Most of these showed a larger make, the average net percentage of increase being 28.2. At this rate, the year's output should be about thirty-five million tile, which, if all used in field work, would drain seventy-five thousand acres.

## THE DAIRY.

### Ideas of Maine Dairymen.

At the annual meeting of the Maine State Dairy Association, Prof. H. D. Evans, Director State Laboratory of Hygiene, spoke of dirt that can be seen and the sources from which it came, then, taking up bacteria, he called it dirt that could not be seen. It was an accompaniment of visible dirt, and was more dangerous because a menace to health, especially in the case of infants. A healthy cow, cleanliness at every step, and cold, were the chief agents in keeping down bacteria, and involved the expenditure of time, rather than money.

Dr. George M. Whittaker said that, in recent investigations, cost of keeping was estimated at anywhere from \$32 to \$102, production varied from 3,000 pounds to 10,000, and cost of a quart of milk was from three to ten cents. His advice was: "Get busy with the common cows; weigh the product, study economic feeding, and keep no unprofitable cows." Middlemen were sometimes necessary; he would not advise the producer to market his own product, unless he could do it at a profit over the cost.

By weeding out the "boarders" by means of scale and test, Rutillus Alden had built up a herd of thirty cows that would pay him a gross income the present year of \$3,000. His average butter production per cow was 375 pounds, and he hoped to raise it to 400. Two cows give 500 pounds of butter per year now.

The Association passed resolutions in favor of establishing demonstration work on farms in the various agricultural sections as part of extension work; continuing the judging contests in live stock and agricultural products at agricultural fairs, and the slaughter of tuberculous animals at the State Fair for educational purposes; the installation of minor agricultural courses in secondary schools of the State; endorsing the work of the cow test and local breeders' associations, and extending it as fast as possible; appointing a committee to act with that of the Live-stock Breeders' Association to act as a legislative committee on all matters relative to securing a new law for eradication of tuberculosis and other contagious and infectious diseases of our domestic animals.

MAINE.

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### The Milking Machine in Use.

Because of the scarcity of efficient help, and particularly of good milkers, those in charge of dairy farms where many cows are kept naturally turn their attention to the milking machine as a sanitary apparatus that may serve to keep down the cost of production. In the 100-cow herd of the Clifton Springs Sanitarium farm, Ontario County, N. Y., six B.-L.-K. milking machines were installed some time ago, and have been given a very rigid trial, checked by a bunch of hand-milked cows. W. A. Fitch, the farm manager, a dairyman of extended experience, says he was guided, to a considerable degree, in deciding to try the milking machine upon the favorable advice of the New York Experiment Station at Geneva. The necessary power is furnished by a three-horse-power gasoline engine. During December, about 75 cows, in all, were milking, a good many being strippers. Each machine milks two cows at a time, and, by the watch, from start to finish, the milking of two cows occupied about ten minutes, after which they were stripped by hand, which is necessary. With experience, one man can look after three machines. In a herd of this size, one will be required to carry away the milk, and another to do the stripping. Considerable manipulation of the udder is done, especially toward the close of the operation; more in case of some cows than others. With some cows the udder will appear to be well milked out, and yet, in a few minutes the stripper will secure a half pint of very rich milk. As a rule, cows take kindly to the machine, as it is not noisy, and the cups fit comfortably, and there is little or no trouble with heifers that have not been educated in the hand-milking process. After milking, great care

tageously. At noon, a feed of dry corn fodder or clover hay is given. The cows are turned out once per day to drink from tank; if very cold, the water is warmed slightly. Watering twice per day was tried, but was not found advantageous.

### Once Again Profits from Dairy Cows.

Editor "The Farmer's Advocate":

Will you kindly allow me space in "The Farmer's Advocate" to make a few remarks on the criticism I received on my former communications by the Editor and H. S. Austin. In the first place, I had no intention to create the idea that the farmer should receive the same rate of pay per hour as the professional, but I stated those cases to show the wide difference there was between the pay received in other callings and the ten cents per hour which the farmer has to be contented with in order to show a profit; and I still protest against the idea that the farmer should only allow himself the same pay as he gives his hired man; or, by the same reasoning, the lawyer or editor has no right to more pay for his work than he has to pay his clerks to do it for him. My idea is that a farmer's pay should equal what he would have to pay a foreman to take the whole management of the farm, besides doing his share of the labor, and I think we would have to pay at least 20 cents per hour, and what was left after paying running expenses should be counted as profits from the farm.

It is no wonder that the hired man leaves the farm to go where he can get more pay and shorter hours than are his lot on the farm.

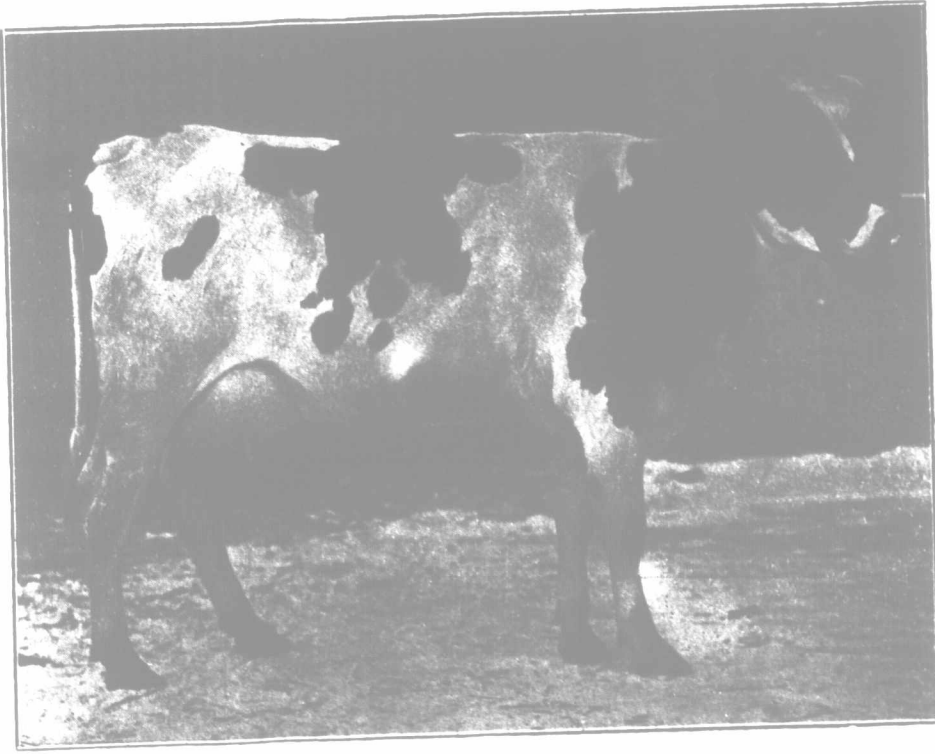
Let us examine H. S. Austin's feed bill. He values the silage at \$2 per ton. Webster Bros., writing in the Weekly Sun, on the value of silage in comparison with clover and timothy hay, place a value of \$4 per ton on the silage. Which is right? If Webster Bros.' figures will stand, then \$80 will have to be wiped out on the profits of those cows.

Take the whole feed bill, \$186, and take off the value of H. S. Austin's latest estimate of the manure, \$185; the total cost of feed over the value of manure is \$1.00. When I asked what those three veal calves were fed on, I was told that they took their feed direct from the cows, but, on referring to the essay, I find this statement: "Skim milk fed to calves and pigs, \$70." Now,

we will take the cost of feeding silage and caring for cows during the six months of summer—2 cents per day. I would like to see the reader of this paper who would be willing to climb into his silo twice per day for six months, let alone feed those cows and give them other necessary attention, for the sum of \$3.60.

A few words on the stand I took on the value of manure. I do not deny that fifty loads is not worth \$100, but can't make out how H. S. Austin got that much from five cows, and out of the material he fed to them; and, to prove my stand, I will give figures to prove as to the amount of manure made. My average stock consists of 10 horses, 25 cattle (mostly cows and feeding steers), 40 sheep, 20 hogs. I feed on an average 50 or 60 tons of clover and timothy hay, and two or three acres of dry fodder corn, and I use about 60 loads of straw, counting it as it comes from the field, for feed and bedding; in fact I keep the gutters full all the time, which takes up every drop of liquid excreta. The manure is kept in a shed, and tramped by the cattle when let out to water, as I keep a water tank in the same shed. Besides, I feed about 1,000 bushels of grain. Yet, with all this stock, feed and bedding, I never yet succeeded in producing 100 loads.

As to those hogs, with which I claimed to have made a profit of 100 per cent., it is easily explained: Cheap feed and the ten-cent hog did it. At the time I fed those hogs, oats were selling here at 30 cents, and barley at 40 cents, per bushel. Besides, if there is not 100 per cent. profit at those prices, what profit do we have when hogs are selling at 5 cents to the farmer,



Dot of Elmwood 10046.

Holstein heifer. Bred and owned by R. J. Kelly, Tillsonburg, Ont. First in class, under 36 months, in the Dairy Test, at the Ontario Winter Fair, Guelph, 1910. Yield of milk in three days, 186.1 pounds, testing 3.45 per cent.

is necessary in the cleaning of the cups, tubes, etc., and also when the cups are put on the teats for milking, that no bits of litter, such as even a small grain hull, drop within, as it will be sucked along the tubing to where the pipe is small, and stop the flow, thus causing delay. Until a longer time had elapsed, and his comparative trials were completed, Mr. Fitch did not feel in a position to express himself fully in regard to the merits of machine milking, beyond observing that, if he could secure efficient milkers who took to the work, and could do it as well as he could himself, he would probably not have had to re-sort to machines. About five quarts of gasoline per day were required for the engine, which, with per day were required for the engine, which, with oil, made the running cost about 18 cents per day. Good dairy cows are also difficult to secure nowadays, even though very high prices are paid. Dairymen who are under necessity of supplying certain quantities of milk the year round are obliged to buy in "fresh" cows, and farmers are loath to sell their best. The high prices prevailing for veal cause a great many promising calves to be fed for Buffalo and other markets. When \$15 to \$18 can be secured for a good six-week-old calf, the owner naturally thinks that an easy and profitable way of marketing his milk and young stock. To overcome the difficulty of purchasing good cows, Mr. Fitch proposes hereafter to raise more on the farm.

The system of feeding the dairy herd pursued by Mr. Fitch is simple. About 40 pounds corn silage per day is given in two feeds, morning and evening, with the addition of millstuffs, cottonseed meal, malt sprouts, as procurable most advan-