

as other cows possessing small, round-shaped udders, with teats so close together that they almost touch one another at the points, may invariably be put down as poor pail-fillers, no matter how fine their appearance may be, or how good-looking in other respects.—[Farmer's Gazette,

GARDEN & ORCHARD.

HOUSE GARDENING.

Editor "The Farmer's Advocate":

A house is poorly furnished without a good truck garden. It is all the better to have the garden near the house, in a field where the labor can be effected by horse-power. No soil can be too good for garden purposes, as the appetizing qualities of the vegetables depend to a great extent upon the nature of the soil in which they grow. Yet, much may be done even when the soil conditions are not altogether favorable, as I have found out from experience. My own garden, a plot of ground fifty feet square, was, four years ago, a miserable failure for lawn purposes, and offered small inducements for vegetable gardening. The soil was a stiff clay, and its covering a tough, wiry, matty grass. I had it carefully plowed and thoroughly disked the first spring, and planted it in potatoes. I was not long in finding out the need of better drainage. The yield of potatoes was large, though the quality was unsatisfactory. Manure was applied in the fall, and the garden plowed, though I neglected to secure the required drainage. The next summer I planted in general garden truck. The product was first-rate, though the neglect of drainage caused considerable loss. The following spring I had the plot thoroughly drained with three-inch tile. The whole garden was covered three inches deep with manure, composed of one-half horse manure and one-half hen manure and coarse litter, all thoroughly mixed. This was plowed under, and planted according to a previously arranged plan. The result was as follows: Plenty of rape for cutting for a flock of thirty hens, six baskets of fine early potatoes, a basket of onions, four baskets of green beans, two bushels of carrots, three bushels of beets, twenty bushels of mangels, a half-dozen egg-plants, and a dozen and a half thrifty tomato plants, besides all the green peas and lettuce that we cared to use. This little garden is not yet working up to its maximum capacity, but even its present crop is a big advance upon its old product of coarse grass and weeds. If anyone has a similar bit of ground near his house, let him begin this fall. Cut down the weeds, give a liberal coating of manure and plow, in order that the rotting of the sod may begin as soon as possible. Work carefully next spring, and see if you will not live, on the fat of the land next summer. This all means work, but it is work that pays for itself over and

creasing the yield. Until the results of these experiments were published, there had been practically no reliable results of fertilizer experiments with tree fruits in America available. The results obtained at the New York Station do not confirm this opinion.

The experiment was begun at Geneva in 1893, when 94 average trees were selected in an orchard which had been planted for 43 years. There were five varieties of apples represented, namely, Baldwin, Fall Pippin, Greening, Roxbury and Northern Spy. Forty-seven trees were treated, and the same number left untreated. The soil is not an ideal one for apples, and is no better than the average soil of apple orchards in Western New York. It is a heavy clay loam, from twelve to eighteen inches deep, resting on a still heavier, compact, clay subsoil. It is moist, but well drained.

Each year, from 1893 to 1904, with the exception of 1901 and 1902, there were 100 pounds of wood ashes applied to 47 trees annually, or at the rate of 4,800 pounds per acre. "The ashes were thoroughly mixed, weighed separately, for each tree, and applied broadcast to a line midway between adjacent rows. Applications were made in the spring, and were well worked into the ground." For the first five years no other fertilizer was added to the soil, with the exception of that contained in cover crops, which were plowed under each year. For the last seven years acid phosphate was applied, in addition to the wood ashes, at the rate of 8½ pounds per tree. It was estimated that, during the twelve years, there were added to the soil from the wood ashes 2,031 pounds of potash, or an average of 169 pounds per acre annually. From 50 to 100 pounds of potash per acre, annually, is what is usually recommended for orchards. It was estimated that, in addition to the potash, there were added to the soil from the wood ashes 72 pounds of phosphoric acid per acre each year, and 32 pounds of lime. By means of the acid phosphate, there were added to the soil during the last seven years of the experiment 399.84 pounds of phosphoric acid, or 57 pounds per acre annually. The amount of phosphoric acid usually recommended for apples ranges from 30 to 60 pounds per acre. "The phosphoric acid was applied, as were the wood ashes, scattered broadcast in the spring over an area slightly greater than that covered by the branches of the tree; a disk harrow was used to work the fertilizer rather deeply into the soil.

Records were made of the effect of the fertilizer from two standpoints, that of yield, and that of color of the fruit.

These records are given in detail for each year, but the summary will suffice here: "The annual average increase in yield per tree on the treated plots for the varieties were, in bushels, as follows: Greening, 0.84; Northern Spy, 2.55; Fall Pippin, 1.05; Roxbury, 2.65; Baldwin, 0.28."

It will readily be seen that, for trees 55 years of age at the close of the experiment, and capable of bearing very large crops, the increase was not great, and when estimated on the basis of five acres, the following calculations showed that there was little actual gain financially.

"Let us calculate the financial gain from the

use of the fertilizers. Taking the sums of the gains and losses for the five varieties for a hypothetical five acres, and we have in round numbers an annual gain of 99 barrels, including firsts, second and culls. At \$1.00 per barrel, a fair average for twelve years for the three grades, we have \$99 greater income from the treated five acres than from the untreated. With potash and phosphoric acid at five cents per pound each, the value of each fertilizer applied is \$74.50, and we have a gain of \$24.50, not counting the work of handling, applying and working in the fertilizers to five acres of orchard, which practically offsets the gain. So that, in practice, if not strictly in fact, the results from the fertilizers as to yields have been negative."

The results as to color were also of a negative character. Some years the fruit of some varieties was a little more highly colored on the treated plots, and some years there was no difference apparent. The conclusions reached as re-

EIGHT SECONDS PER MILKING.

Editor "The Farmer's Advocate":

We started recording the weight of each cow's milk three years ago, but have kept no account of butter-fat. It takes about eight seconds to weigh and mark each milking.

Among the things that can be learned from the records is the increase in milk as the result of good feed and care, and a six weeks' rest and grain before freshening; also the drop in flow caused by flies, short pasture, cold winds and rain; also many other things that otherwise would not be noticed. During 1905 our herd of 22 cows produced 120,350 pounds milk, which sold for \$1.40 per 100 pounds; total value, \$1,685.20; cost of feed per cow, \$43.00; feed for herd, \$946.00; profit, \$739.20; average milk per cow, 5,475 pounds; value, \$76.60. The four heaviest milkers gave 30,719 pounds; value, \$430.06; average per cow, 7,679 pounds; value, \$107.51. The four poorest ones gave only 17,140 pounds milk; value, \$246.96; average per cow, 4,285 pounds, and \$61.74. If the whole herd was as good as the four best, the result would have been 168,938 pounds milk, and \$2,365.13. The cost of feed would be a little higher than it was, say \$4.00 per cow, or total of \$1,064.00; profit, \$1,301.13, instead of \$739.20. Part of our milk was retailed, also some cream; the balance was shipped to Sydney. In this account the cost of retailing has been deducted. The herd is no better than it was when we started weighing, because, for several years we raised few calves, and although we were weeding out the ones that gave the least profit, the cows we bought were no better than those that they replaced. We hope, however, soon to do better, as we now have ten young heifers from a pure-bred sire, and have bought a bull from a heavy-milking dam, selected for us by Prof. J. W. Robertson out of the herd of Ayrshires at the Macdonald College. Even if a man is already taking as good care of his cows as he know how, the keeping of records will increase his interest, pride and profit in his herd. His knowledge, also, will increase, and his care will be given with greater intelligence.

Antigonishe Co., N. S.

F. W. TAYLOR.

PRESERVATIVES IN BUTTER.

The report of the principal chemist of the British Government Laboratory, upon its work for the year ended March 31, 1907, has been issued as a Parliamentary paper.

Of 1,875 samples of imported butter examined, 642 were from Holland, and of these 45.6 per cent. contained boron preservative, and 28.6 per cent. contained added coloring matter; 93.8 per cent. of the 161 French samples, 93.6 per cent. of the 141 Belgian, 83.3 per cent. of the 72 Australian, 80.4 per cent. of the 46 South American and 79.5 per cent. of the 117 New Zealand contained boron preservative; 67.3 per cent. of the Belgian samples contained added coloring matter. Of the 56 samples of Canadian butter, 53.5 per cent. contained boron preservative, and 16.0 per cent. had added coloring matter. There was a slight diminution—from 50 per cent. in 1905-6, to 44.4 per cent. in 1907—in the proportion of samples containing boron preservative, and there was a decrease in the number of samples containing added coloring matter, the number in 1905 being 42.7 per cent.; in 1906, 32.9 per cent., and in the present year 25.1 per cent.

At the request of the Local Government Board, a return was made to that department of the amount of boron preservative in the samples of butter examined. The figures showed that butter, from certain countries in particular, contained the preservative in excess of the amount recommended as the limit by the Committee on Preservatives in Food; but, in the absence of legislation on the point, and in view of the conflicting decisions in the Courts, it was not advised that proceedings should be taken.

THINKS DAIRY RECORDS TAKE TOO MUCH TIME.

Editor "The Farmer's Advocate":

I kept a daily record of each cow for two seasons, but discontinued it on account of the time it occupied. I do not believe a daily record is practical for the average farmer. A weekly record would not take so much time, and would give a good idea of what each cow was doing. However, the records were not without benefit. I found I was keeping too many cows, and, by weeding out and selecting the best, and taking good care of them, the results were better.

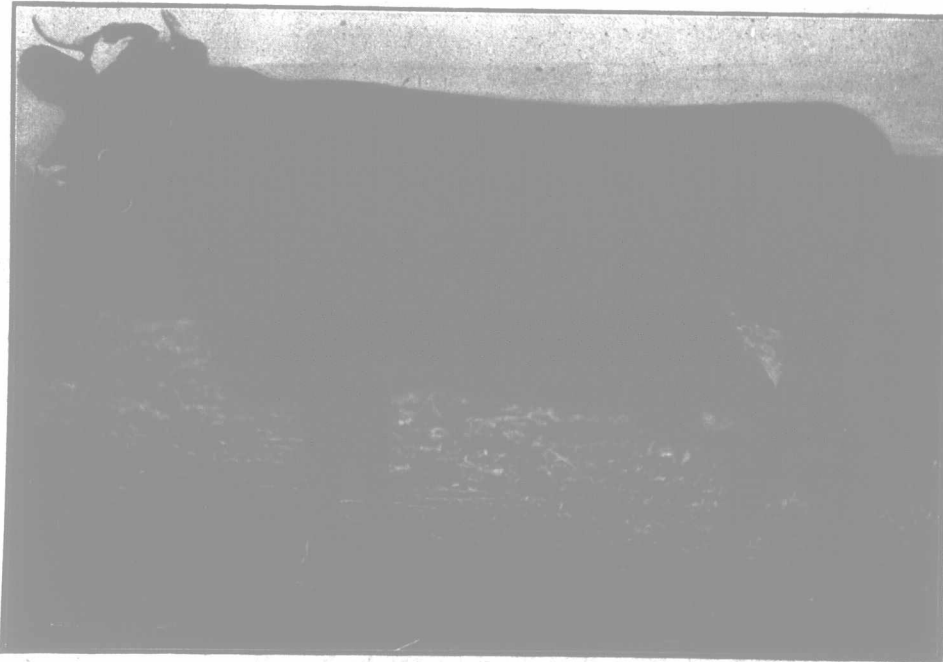
Lennox Co., Ont.

C. P. ALLEN.

HORTICULTURAL PROGRESS.

Prepared for "The Farmer's Advocate" by W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

"The Effect of Wood Ashes and Acid Phosphate on the Yield and Color of Apples," is the title of a recent bulletin prepared by U. P. Hedrick, and published by the New York Experiment Station, Geneva, N. Y., which deals with a subject of considerable interest to Canadian apple-growers, many of whom feel that their orchards need fertilizers. It is the general opinion among fruit-growers that potash and phosphoric acid used as fertilizers have the effect of heightening the color of fruit, in addition to their value in in-



Priceless Princess.

Pedigreed dairy Shorthorn. First and champion in class, Royal Show, 1907. Owned by C. W. R. Adeane.

over again. Half-measures will not do; but no work amounts to much anywhere that is only half done.

O. C. Wentworth Co., Ont.