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THE FARMER'S ADVOCATE.

should be skimmed off. If it is the first boiling of the season, or the beginning of a new run, the first sap in the rear pans must be drawn off and returned to the storage tank after the fire is well started. After this, syrup will come in the rear pan, and at the proper density it must be drawn off. An imperial gallon of maple syrup should weigh thir teen pounds, a wine gallon eleven pounds. The surest way to have your syrup uniform, so that it will keep without souring but will not crystallize or candy in the bottom of the cans, is to use a saccharometer, which will tell when the proper density has been reached. Another way is to draw off a gallon and weigh it. In this hot condition it should weigh twelve and a half pounds, and when cool it will weigh thirteen pounds. The syrup should be strained, while hot, through a flannel cloth, or, better yet, a felt strainer or filter, such as chemists use. This straining removes the malate of lime, and the syrup can be canned hot without further treatment. The strainers should be rinsed in cold sap, which will remove the lime, and after allowing the lime to settle, the sap may be turned back into the storage tank and the lime thrown These strainers should also be thoroughly away. washed in soapsuds every night. If an evaporator is used, the syrup should be drawn off as fast as it is of the proper density, which will be every twenty or thirty minutes. If plain pans are used, it is best to syrup off three times a day. By allowing the syrup to cool before it is canned, a little more of the lime may be extracted, but it will also lose flavor; so it is best to use great care in straining and can it while hot. Be sure and have the cans perfectly clean and sweet. Great care should also be used to have the syrup just the right thick-If over thirteen pounds to the gallon it will ness. crystallize, which is very objectionable, as it injures the syrup and the crystals are very hard to remove from the bottom of the can. If less than thirteen

The Farmer's Table.

(TO BE CONTINUED.)

pounds it will sour.

It is a fact that a great many city people live better than the majority of farmers, notwithstand ing the fact that the former class pay cash for what the latter can produce with very little outlay. Roast turkey on a farmer's table is more rare than there is any reason for. Thirty or forty young turkeys grow up on a farm with very little attention after they are a few weeks old. These will furnish a great many enjoyable dinners, and much better health, than day after day of pork, pork, pork. Who can have an abundant supply of pears, plums, cherries, currants, and berries as easily and cheaply as the farmer? and yet how comparatively few pay any attention to these things. What are known as "hard times" would not seem half as hard if a little better living on these cheaply produced luxuries were indulged in.ª Even a swarm of bees would play a desirable part in furnishing a treat now and then. All the so-called luxuries just mentioned are not of the sort which impair digestion and shorten life, but in reality they promote healthfulness and extend life, besides all the pleasure they afford. For less then five dollars, enough really choice fruit tees and bushes can be procured to supply in a very few years as much fruit as a large family can use, so there is really no reason for not having it. Unfortunately, this sort of reasoning does not appeal to strong, hard-working men who come to their table three times a day with an appetite fit to take anything eatable, while very often their more delicate wife has to buy, with

DAIRY.

Butter-fat vs. Casein.

SIR,-Pressure of work has prevented me replying sooner to the letter of Robt. McCulloch Secretary Edmonton Cheese Company), which appeared in the ADVOCATE of January 1st. I shall endeavor to throw some "light" on a few of the points raised.

1. Three years' experiments at the Dairy Department of the Ontario Agricultural College have hown that the composite test, properly handled, will give accurate results, whether continued for one week, two weeks, a month, or even two months. For a full report of this work, and best methods of handling composite samples, I would refer readers to the dairy section of the College reports for 1892, 1893, and 1894.

2. The chemical added to the milk in composite samples does not prevent the cream from rising; it orevents souring of the milk.

3. Yes, it is customary to set the sample bottles in warm water (not too hot, as it may break the bottles), in order to loosen the cream from the sides of the bottles and enable it to be thoroughly mixed with the milk again. (The temperature of the water needs to be from 110° to 120° .) The shaking should he done by a rotary motion so as to avoid churning, and when the cream has been loosened from the sides of the composite bottle, finish the mixing by pouring from one vessel to another two or three times.

4. I could not agree with Mr. McCulloch about taking samples two or three times a month, for the following reasons: (a) The per cent of fat in the milk delivered by patrons of cheese factories varies from day to day and from week to week. Taking a sample two or three times a month would not give a correct basis for de-termining the total nounds of fat delivered termining the total pounds of fat delivered during one month. The milk might be lower or higher in the percentage of fat than usual on these particular days, consequently it would be unfair, ither to the patron himself or to the other patrons. (b) Taking samples two or three times a month is a careless plan and would encourage carelessness in both maker and patrons, whereas daily sampling keeps both on the alert all the time. (c) Daily sampling is a correct business principle. leaves no room for doubt or guess work if properly done. (If the testing cannot be done properly, do not start the system at all, would be my advice, as it will cast discredit upon the plan.)

5. The remarks of Mr. McCulloch on the three systems of pooling are to the point. He seems to have a thorough grasp of the subject of which he is writing, but I cannot agree with all his conclusions, especially those in reference to the market value of fat and casein. He says that "butter-fat has a market value of its own, and a much greater value than casein." Now, I would like to ask what it is that gives butter-fat its value? Of course this leads to a discussion of what determines the price or value of any commodity, which it is not my intention to enter upon at present. I shall simply say that it is cheese which largely determines the price of butter (fat). In support of this statement, I would observe this fact : If all the milk which is now manufactured into cheese were made into butter, the buttermakers of the country, in order development. People often say a chicken does not to sell butter at even the present prices, would be compelled to do more "bawling" than all the Jersey cows of America ever did. 6. The question of quality in cheese was quite

Devonshire Clotted Cream.

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The following receipt is given to us by one of the best Devonshire Dairies who supply the London (Eng.) market in small pots. The milk is strained in large, deep pans and put in the dairy house, where it is left eight or ten hours. It is then taken out and scalded by placing the pan in an iron skillet or large cauldron, partly filled with water, upon the stove. At the bottom of the skillet there is a grate on which the pan rests to prevent burning or scorching. The milk is slowly heated till it nears the boiling point, and when the first bubble rises to the surface of the cream it should be removed from the fire. Some experience is necessary in applying the heat to a nicety, otherwise the cream is spoiled. When properly scalded the milk is removed to the dairy, where it stands from 12 to 24 hours, according to the condition of the weather, when the cream should be a thick, compact mass an inch or more deep. It is then divided with a knife in pots of various, convenient sizes, and sold at the rate of 10c., 15c., 25c., and always finds a ready market.

POULTRY.

Broiler Raising.

BY R. C. ALLAN, NORTHUMBERLAND CO., ONT. (Concluded from page 52.)

If you use artificial incubation, remove the chicks from the incubator when the last hatched chicks are dried and strong on their feet. Sometimes a good many hours pass between the time the first and the last chick leave the shell, and the first gets hungry in about twenty-four hours. For the first month I keep the heat in the brooding-place at 100° to 104° . The chicks may be apparently comfortable at a lower temperature, but will be sure to take diarrhœa, one by one, and die. A proper heat is more essential to their health and growth than any other thing. From four weeks old, the heat may be gradually lowered until at ten weeks you can maintain it at 70°. If the chicks should have the scours, I have never found a better remedy than common white chalk reduced to a fine powder, mixed with boiled milk as thick as they will drink it. Give half a teaspoonful of the mixture at two different times, just when the chick will drink it. This rarely fails to affect a cure, but of course I do not allow the disease to weaken the chick before I give the remedy. But proper food, such as I have described, and a right temperature maintained in the brooder and brooder-house, will bring your flock through with very little loss from disease. If old fowls are kept out of the brooder-house there will be no lice on the chicks. The careful manager looks out for this. An ounce of prevention is worth pounds of insect powder, days of time, and dozens of young chicks. I never had lice among brooder chicks. The brooders must be kept clean. The sand should be renewed every other day. The floor of the house should be raked over with a fine rake and the droppings taken out. Everything must be sweet and clean. In providing a variety of food, the chick obtains the necessary essentials for the growth of bone and muscle, flesh and feathers. They do not become too fat, or go off their feet,

money, delicacies, or live upon what is not relished, if, indeed, it be not positively hurtful. Farmers, live better yourselves, and think of those about you by providing some of these good things which need not cost much, but will furnish, every year, many dollars' worth of health, comfort, and enjoyment.

APIARY.

How to Handle Bees With Safety.

Many more farmers than now keep bees would own a few colonies for their own honey, at least, were it not for the fear of being stung at every attempt to do anything with them.

As regards the advice frequently given, not to blow smoke into the entrance, we would say that such a practice is not necessary unless the bars are to be removed, but in every case when a thorough examination is to take place it is always wise and safe to give a few puffs into the entrance. Whenever damage arises through the use of smoke, it either arises from the use of wrong material or too much of it. Common fustian, dried before using. answers the purpose very well. For very viciou-bees the following may be used with caution :--Make a little touch-cloth by dissolving some saltpetre in hot water, steep a little cotton rag in the solution and then dry it in an oven; put a small portion of this prepared rag amongst the fustian. and the most vicious will show the "white feather" after the first sniff.

Lucern Honey.

In the train of blessings ushered in with the growing of lucern clover is the great boon to beekeepers by its copious nectar secreting characteristics. It is one of the plants that drouth has little effect upon, therefore when all other plants are dried up lucern will be giving a good flow when in blossom. Its honey is said to differ but little to that from white clover, and is, therefore, of the highest quality.

fully dealt with in my last article, so I need not repeat. This whole discussion of which is most important in cheesemaking-fat or casein-reminds me of the fable that we used to read about, if I mistake not, in the "old Third Reader," "Twixt nose and eyes a fierce dispute arose," etc.

For further "light" on this point, see I. Corinthians, 12: 14-22.

7. Time will permit me to refer to but one other point which might properly have been considered under 5, but which deserves a special note. The article says "butter-fat is worth from 18c. to 20c. per pound, while casein would only be worth from 3c. to 5c. at most."

The writer would like to know who determined that casein is worth only 3c. to 5c. per pound? So far as he is aware, casein by itself is not a common commercial article. Its use is very rare in the arts, and it is never quoted in ordinary market reports. To my mind, casein is worth per pound just what cheese sells for per pound. If cheese sells for eight cents per pound, then the casein is worth eight cents per pound. The average composition of 107 pounds of the cheese made in our experiments during the past season was as follows, according to our chemist :

, etc.

If 100 lbs. of such cheese were sold for \$8, the ourchaser would pay as follows: \$2.68 for the water, \$2.60 for the fat. \$1.67 for the casein, 33c. for the albumen, and 72c. for the sugar, ash, etc.

I have endeavored to answer what seemed to me the chief points raised by your correspondent, who is evidently a seeker after the truth. O. A. C., Guelph.

H. H. DEAN.

development. People often say a chicken does not development. Feople often ray a chicken does not eat much, but if you are feeding even four hundred little chicks, you will think it takes a good deal to go around, five times a day. But it pays to feed well. You cannot afford to neglect your chicks. It takes more to bring a neglected chick to maturity than one that has always been properly fed and cared for.

Toward the end of the feeding a large proportion of the food may be of corn. It makes yellow meat and is more fattening than wheat. It should be ground or cracked. Wheat is the best grain to feed whole. It pays best to buy good wheat. Damaged grain is dear at any price. They should be plump and well feathered at eight or ten weeks. Every day you have to keep them after they should be fit for market is just so much deducted from your profit.

From February till August are the best months for marketing broilers. I doubt if chicks sold after the latter month pay for care and food, unless raised in small flocks and allowed to secure most of their food on the range. It is not of that way of raising chicks that we are treating, but of broiler raising more as a specialty.

I find it a difficult subject to present to a Can-adian public, owing to the lack of knowledge prevailing among all classes as to what a broiler really is. Thousands of our people think a broiler should weigh two and a half or three pounds. If you told them that large quantities were dressed to weigh one-half pound and sold on the American markets, you would simply be disbelieved. And so they keep and feed their chicks till they are the size of hens, and sell them at a loss, where they should have fed them well for ten weeks and sold them at a profit. Just as eggs for a large part of the year are sold at cost of production, so exclusive summer broiler-raising is proportionately unremunerative to many. Those who combine winter with summer work, thus retaining steady customers, realize a better average of prices for their summer as well as their winter product.

33.5	lbs.	of	water.
32 5	**	44	fat.
20.9		4 6	casein.
4.1	4.4	66	albumen.
9.0	4.4	66	sugar, ash