

self-satisfied. He turned to "Present Problems in Agriculture." He spoke of the enormous wastes in agriculture and of the problems daily presented in the matter of the stopping of waste, touching in an entertaining and very instructive way on soils, plants and animals as bases for problems needing investigation and settlement.

Dr. Fletcher spoke fluently and helpfully on "Flowers," and was followed by a happy speech by Prof. Dean, of Guelph.

THE OFFICERS-ELECT.

The report of the Nominating Committee was read and adopted, the officers of the Association for 1902 being as follows, viz.:

President, D. Derbyshire; 1st Vice-president, Jno. McTavish; 2nd Vice-president, L. L. Gallagher; 3rd Vice-president, Jno. Echlin. Directors—Div. No. 1, Edward Kidd, North Gower; No. 2, Wm. Eager, Morrisburg; No. 3, Jno. R. Dargavel, Elgin; No. 4, Jas. Whitton, Wellman's Corners; No. 5, T. B. Carlaw, Warkworth; No. 6, H. Wade, Toronto. Secretary, R. G. Murphy, Elgin; Treasurer, P. R. Daly, Foxboro.

POINTS FROM INSTRUCTORS.

Instructors' reports were received from Messrs. Bensley, Lowrie, Howie, Purvis, Ward, and Rabb. The chief points emphasized were:

1. Cheap makers hurt the cheese business.
2. Less suits against dishonest patrons.
3. Shipping cheese too close to the hoop.
4. Some improvement in milk delivered.
5. Some makers use too much culture, and one instructor thought that this was the cause of much deterioration in cheese.

President Derbyshire expressed the opinion that makers of inferior cheese will receive more summary treatment at the hands of buyers during 1902 than ever before.

On discussion of the reports, Mr. Publow strongly denounced the too common practice of selling green cheese.

Prof. Dean discussed "Moisture and Salt in Butter." The conclusion of the O. A. C. experiments were as follows:

1. Butter made from pasteurized milk contained $\frac{1}{2}$ to 1 per cent. less water than butter from raw milk.
2. The churning temperature, up to variations of 10 degrees, did not affect moisture per cent.
3. Washing at 44 degrees F. meant 7 per cent. more water than at 54 degrees F.
4. Fine granules left 12.3 per cent. water; coarse (size of corn), 14.2 per cent. water.
5. Average experiments showed that less moisture was found in the higher salted butter.
6. Working once or twice made no difference when the two workings were near together, but when the second working was about 24 hours later than the first, two per cent. less moisture was found.
7. When one ounce of salt is used only one half remains in the butter on an average; in other words, one half the salt runs down the gutter.
8. The amount of moisture retained by butter is largely dependent on amount of working.

Prof. Ruddick dealt with "Pasteurization of Milk and Cream." Denmark, New Zealand and Australia have adopted this practice largely—indeed, almost wholly—and a number of creameries in Canada are also following this line.

FLAVOR.

The fresh-made pasteurized butter is not quite equal to the unpasteurized article in prompt full volatile flavor, but in judging butter for export it is to be remembered that it is not on the consumer's table in less than two weeks, and at that period the pasteurized product is in the lead.

The keeping quality of the unpasteurized butter is not equal to that of the pasteurized. Owing to the growing demand for a saltless butter, it is still more important that the milk be pasteurized (160 degrees to 180 degrees F.). Salt acting more or less as a preservative, it is important that a saltless butter be a very perfect, good-keeping article. As pasteurization destroys bacterial life, it is necessary to use pure cultures to assist in the ripening of the cream. An important phase of the matter is that pasteurizing the milk tends to remove objectionable food flavors. Mr. Ruddick, however, desired to make plain that such flavors as turnips and the like were not removed. That more uniformity of flavor would be secured in the product of a creamery he considered certain. Continuous pasteurizing machines are better than intermittent. They should be built of tinned copper.

The bulk of testimony at this meeting favored pasteurizing the whole milk rather than the cream, though Mr. Ruddick thought that it might be as well to pasteurize cream during hot weather. Rapid cooling after heating is essential for the cream, and to this a circular cream-cooler should be used. To cool the cream a vat would not do. Add the culture immediately after cooling. A good cooler and a good culture are absolutely essential in pasteurization. Cream containing more than .4 to .6 per cent. of acid may not be pasteurized.

Mr. Foster, of Quebec, added that he hoped

the people of the Eastern Provinces would wake up to take hold of the dairying question as the Eastern Dairymen's Association of Ontario had done.

THE GIST OF THE CONVENTION.

1. The bulk of the testimony of this meeting declared in favor of curing cheese at much lower temperatures than has been customary in the trade, chemical experts and practical men agreeing on this point. That the cheese so cured must, however, remain in the curing room and the cold storage much longer than formerly practiced was shown with equal agreement.

2. The pasteurization of milk or cream in creameries is looked upon by those most fitted to speak as an essential looking to an increasingly satisfactory and growing export trade in creamery butter.

POULTRY.

Producing Winter Egg.

BY JOHN B. PETTIT.

The hens that are most profitable are those that lay during those seasons of the year when eggs are scarcest and, as a natural consequence, highest in price. Any person keeping fowls is pleased when the egg-basket is well filled during the winter months, for then it is that the product of a well-managed flock goes a considerable way toward meeting the expenses of the house or keeping a fat pocketbook. In order, then, that our flocks may be most profitable, we must provide conditions which will be conducive to egg production.

It has been ascertained that laying hens depend less upon the seasons of the year than they do upon the weather. The old idea that hens could lay only during the spring and summer months, and that they had to rest during the winter to prepare for the next summer's work, has been exploded. All that is necessary to get eggs during the severest weather is to have comfortable quarters and conditions corresponding with the summer season when "any old hen" will lay, and good hens will lay the year through, with the exception of the time necessary for moulting.

The first and essential thing for winter eggs is warmth. Hens that are compelled to wade around through snow or slush to dig out a scant supply of food from barnyard refuse will not lay. And if they are fed all they can cram into themselves and have to roost in some old, open shed, or cold, drafty henhouse, the results will be none the more pleasing. The house should be so constructed that there be an apartment for roosting that is warmer than the remainder of the building. This should be so close and warm that water would not freeze in it when with the birds, even on the coldest of nights. The remainder of the building need not be so warm, for the fowls will keep themselves warm during the day with the exercise they must have in order to promote health and produce eggs. This exercise is best brought about by compelling them to dig all their grain feed out of deep straw or litter of some sort. If the day apartment is warm enough that the combs of the large-combed breeds—such as Leghorns and Minorcas—do not get a little frosted at the points and begin to sting, it is quite comfortable enough. Do not promote too great heat during the day by using large areas of glass. Remember that as soon as the sun leaves this glass it begins to attract the cold, and in a very short time the fowls that were enjoying the sun's rays through the glass are shivering with cold. Keep your fowls warm by exercise during the day and by good, close quarters during the night.

The next problem is that of feed. What, how, when and where shall we feed? To thoroughly answer that question one would have to write a short volume, so in this short article one cannot do it justice. However, one thing is certain, in order to get best results we must feed a variety. Take into consideration what a mixture an active hen will gather during a day in summer. Then in your efforts to get winter eggs, follow nature and bidly will be pleased and repay you for your trouble. What hens mostly need is nitrogenous matter, and this should be kept in mind in selecting our grains and other food. Do not fail to give lots of bulky food, such as mangels, sugar beets, cabbage, and boiled potatoes and turnips. Mix the two latter in the soft feed, and the former give raw. These go to promote health as well as variety, and take the place of too much grain, which produces fat, and a fat hen will not lay. Then a little meat or green bone (ground) should be fed at least twice a week. The grains should be fed in straw or some other litter, and if corn is used it should be cracked quite fine. A hen will dig harder for a little piece of cracked corn than for any other grain. Soft feed should be fed in clean troughs and in such a way that the hens cannot get into it with their feet. Feed regularly and not too often. Send the fowls to bed with full crops, but make them work until they are tired in getting them filled. Give plenty

of clean, fresh water. This is essential, as to produce an abundance of eggs, hens must have lots of water.

Now, I have found, and I believe that thousands of others have also, that it is the easiest thing in the world to get hens that are warmly housed too fat. In our desire to please the hen we overdo the thing, and before we know it we have a flock of sluggish, lazy, fat fowls that will not and cannot lay. The great secret is to keep them busy all the time and yet have it so that when their day's work is done they will be full and contented, and as near as possible the condition in which they would be after roaming the fields during a summer day. Fat fowls have been the reason of disappointment to many who have put large sums of money into fine, warm buildings, with the intention and expectation of soon making a fortune.

Finally, if we wish our hens to lay in winter as they do in summer, we must provide them summer conditions.

Wentworth Co., Ont.

Weights of Poultry.

The following were the dressed weights of some of the leading exhibits at the Smithfield (London, England) Table Poultry Show last month:

	The couple.
	Lbs. Ozs.
1st prize Dorking cockerels	20 8
" Dorking pullets	15 8
" Indian Game pullets	15 10
" Langshan pullets	13 15
" Black Orpington pullets	17 14
" Buff Orpington cockerels	21 4
" Plymouth Rock cockerels	17 1
" White Orpington pullets	18 11
" O. E. Game and Dorking pullets	11 1
" Dorking and I. Game cockerels	18 6
" I. Game and Dorking pullets	14 10
" Dorking and Bf. Orpington cockerels	17 9
" Blk. Orpington and Dorking pullets	16 3
" Farnyard cockerels	23 13
" Farnyard pullets	17 10
" Aylesbury drakes	22 8
" Pekin ducks	15 13
" Pekin and Aylesbury ducks	20 2
" Toulouse ganders	32 8
" Cross-bred geese	35 11
" Turkey cocks	59 8
" Turkey hens	49 10

The Toronto Poultry Show held last week surpassed all previous exhibitions, especially in the number of outside entries, but the bulk of the cups and trophies were won by local exhibitors.

GARDEN AND ORCHARD.

The Fruit Marks Act.

The inspectors under the Dominion Fruit Marks Act, for the prevention of fraudulent or improper packing of fruit for the market, report general satisfaction on the part of dealers with the provisions of the Act and a commendable willingness on the whole to comply with its requirements when brought to their notice, but not a few have evidently read it indifferently, if at all, and have especially failed to note that they apply quite as strictly to the home market as to the export trade. The consequence has been that, after fair warning through the press and a free distribution of the Act, in a number of cases the inspectors have been under the necessity of laying information and have secured convictions against dealers who have been discovered offering fruit in barrels or other packages faced with fair fruit while the bulk of the offering has been found to be of a much inferior grade. The experience of a long-suffering public has emphasized the need of protection from dishonest practices in this line, which have too long prevailed and been too meekly submitted to, while the reputation of Canadian fruit in British and foreign markets has suffered sorely in consequence. The Act is a good one and its enforcement should be encouraged and facilitated by all who have the best interests of the country at heart.

Best and Most Progressive.

Gentlemen,—I have just received the Christmas number of the "Farmer's Advocate," and I wish to extend to you my heartiest congratulations upon the splendid results of your labors. It is a fitting climax to your year's work. To my mind, the "Farmer's Advocate," in the front rank of the agricultural journals of America, stands for all that is best and most progressive in farming, and I know of no effort by any other publication, in the way of a "special issue," which can begin to compare with the Christmas numbers of the "Farmer's Advocate." There is only one thing I regret, and that is the absence of your own helpful, hopeful editorials.

Wishing you the compliments of the season, I beg to remain,

Yours very sincerely,

F. C. SEARS.

Wolfville, Nova Scotia, Dec. 27th.