

alteration of plumage, resembles that of the cock. The head is neater, the face lean and thin. The small, thin comb should be low in front, evenly serrated, and perfectly erect. The deaf-ear and wattles should be small. The neck, from the absence of hackle feathers, looks longer and more slender than that of her mate. The tail feathers should be held closely together and not spread out like a fan, as is not unfrequently stated. The plumage should be so close that the form of the wing should be distinctly visible, the outline not being hidden by the feathers of the body."—*Hz.*

DAIRY.

CHEESE PRODUCTION.

(From the Annual Report of the Ontario Bureau of Industries.)

Cheese factories were first established in the Province about sixteen years ago, prior to which time the supply of home manufactured cheese was not sufficient for local wants, and large quantities were annually imported. During the past year nearly five hundred factories were in operation in the Province, and for several years past the annual export of cheese has been very large.

Various methods of conducting factories are employed. In some cases they are run on the co-operative plan in which the farmers of a neighborhood join and share in the proceeds above expenses in proportion, to the quantity of milk they have contributed in others. The factory is conducted by an individual or a company, and the milk is paid for in cash. Canadian cheese is held in high esteem in the English market and commands the top price. At International exhibitions too, our cheese manufacturers have always come off with their full share of honors received in competition with the world.

The interests of the dairying industry are carefully fostered and looked after by two incorporated Dairymen's Associations in the eastern and western sections of the Province respectively, and regular cheese markets are established at various points in the dairying districts in both sections.

The statistics of cheese products for 1882 are given in Table VII. The number of factories and the addresses of managers were obtained from the Reeves and deputy-Reeves of townships in response to circulars sent to them asking for that information. The total number of factories so reported to the bureau was 471, and schedules were sent to each to be filled up with a statement of the product of the year.

Returns have been received from 306 factories of the quantity of milk used and the quantity and value of cheese made, and of these 266 have given in addition the number of their patrons and the number of cows whose milk was supplied. The latter shows totals and results as follows:

Quantity of milk used, (306 factories).....	lbs 233,105,965
Quantity of cheese made.....	22,372,566
Value of cheese made.....	\$2,201,512
No. of patrons of factories.....	13,349
No. of cows whose milk was supplied.....	83,226
Average return for each patron.....	\$164.93
Average value of cheese per cow.....	\$25.83

The total quantity of milk used in the 306 factories was 235,813,755 lbs., and the total cheese product was 25,562,431 lbs., or an average of 10.6 lbs. of milk to one lb. of cheese. The value of the cheese product was \$2,767,085 or 10.8 cents per lb. With such a high average for the whole season it is not surprising to find that only a very small supply remains in first hands.

An examination of the returns by

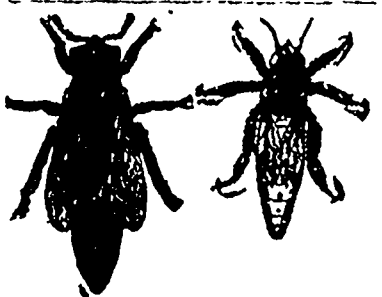
Counties shows that there are two districts nearly equal in area, situated in the eastern and western sections of the Province, in which the great bulk of our cheese is produced. The western section comprises the counties of Elgin, Lambton, Huron, Middlesex, Oxford and Perth, while the eastern comprises Northumberland, Lennox and Addington, Leeds and Grenville, Hastings, Stormont and Glengary.

These twelve counties give a return of 19,621,487 lbs. or rather three-fourths of the entire product of the Province. In the six counties of the western group the quantity of milk used was 104,093,009 lbs. of which the cheese product was 9,636,636 lbs. or an average of 10.80 lbs. of milk for a lb. of cheese. The quantity of milk used in the six counties of the eastern group was 99,495,904 lbs., yielding a product of 9,884,861 lbs., being an average of 10.06 lbs. of milk for a lb. of cheese, or three-quarters of a lb. less than in the western district. This difference though apparently trifling is large when considered with regard to aggregate results. Assuming the cheese producing quality of milk in the western counties to equal that of the eastern counties, it would give in last year's make an increased product of 355 tons. The standard yield of milk per cow is 3000 lbs., but the average in the western counties last year was 3,134 lbs. per cow, while in the eastern counties it was only 2450 lbs. Compared again by the value of cheese products the average of western counties is found to be \$31.51, and of the eastern cows only \$26.36.

How these differences are produced is a question worthy of inquiry by dairymen. Account must be taken of various elements, such as condition of soil, supply of water, breeds of cattle, length of seasons, &c. It will probably be found that the higher cheese producing quality of eastern milk, is mainly due to the large infusion of Ayrshire blood in the dairy stock, as well as to rich lime-stone pastures, and an abundant supply of pure water, while the higher averages of milk supply and values in the western districts may be the results of a longer operating season. But additional data are required before a satisfactory explanation can be given.

DAIRY farming is a benefit to the soil rather than a tax upon it. It is an old proverb and well worn, but yet serviceable, that the sheep's foot turns to gold what it touches. There is some truth in this and a good deal of fallacy. The truth in it lies in the fact that sheep, as a rule, are pastured upon poor land and are fed other food, chiefly rich and concentrated, to eke out the poor pasture. Or they are soiled upon luxuriant green crops for fattening and receive the finishing touches in the shape of corn, cotton seed meal, bran, or other grain food. This makes the droppings of the sheep very rich and greatly adds to the fertility of the soil; for a fattening sheep carries off from the land scarcely anything but carbon, which is wholly supplied by the air and is exceedingly abundant in air, water, and soil, and is therefore entirely unnecessary to be supplied by the farmer. But these circumstances apply with equal force to the dairy. Cows kept for butter making are highly fed, and yet furnish in the butter wholly carbonaceous substances. When the skimmed milk is fed to calves or pigs, the larger part of the nitrogen, phosphates, and potash in it are returned to the soil and really nothing is taken from it, while a large amount of these fertilizing elements is contributed to the soil in the rich

foods supplied to the cows. For this reason dairy farming actually enriches the soil, and the more productive the soil is made the richer it becomes, so long as the dairy is carried on under business principles. Dairying is therefore the most profitable branch of agriculture, and as a rule dairy farmers are the least worked and the best remunerated for their work of any farmers in existence. Thus while the dairy enriches the dairymen, it also enriches their land; and the latter is perhaps the reason for the former.—*The Dairy.*



APIARY.

OFFICERS OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

President, R. McKnight, Owen Sound. 1st Vice-Pres., Dr. Shaver, Stratford. 2nd Vice-Pres., W. C. Wells, Phillipstown.

Executive Committee—Dr. Duncan, Embro; J. B. Hall, Woodstock; D. Chalmers, Musselburg; Dr. Thom, Streetsville; M. Ramor, Cedar Grove; and N. B. Colcock, Wolland.

ADVERTISERS.

The following gentlemen have advertisements in this issue of interest to bee-keepers:

Richardson Bros., Port Colborne; G. B. Jones, Brantford; A. G. Willows, Carleton Place; S. P. Hodgson, Hornburg Mills.

RESULTS OF WINTER AND SPRING IN EASTERN ONTARIO.

The past winter and spring has been the hardest season on bees in this latitude I have ever witnessed. Upon making diligent inquiry within an area of many miles in the eastern counties of Ontario, I find that of the bees wintered outside, without protection, almost all are dead; of those outside, protected, two-thirds are dead; and of those wintered in bee houses and cellars, on an average one-half. With those who wintered their bees properly indoors, the spring has been much worse and more fatal than the winter. The weather has been exceedingly unfavorable up to about the first of this month (June). Indeed, some of my bees are still protected with extra warm stuffed quilts. The fruit bloom, which was only at its height two or three days ago (about the 8th) is fully two weeks behind other years, and almost everything else proportionally backward. The corn has only just been planted in this locality, and the potatoes are yet to plant.

My own bees were taken out of winter quarters about the first of April, in very good condition—all alive—after being confined about 130 days. I have since lost two colonies with dysentery or spring dwindling, and also two whose queens were accidentally lost just after being put out. But I certainly would have lost two-thirds of them had I not stirred my wits to circumvent the very unpropitious weather, and fight against most adverse circumstances. When old bees are set out in the spring, and begin to exercise on wing, their "pilgrimage in this world" is exceedingly short; and unless you can, in spite of the frowning and unfriendly elements, promptly induce the breeding of young bees to take the place of old ones your

hives soon become still—not the stillness of snug winter quarters, but, alas! the stillness of death. Now, according to my experience, the best way to accomplish this purpose, that is, to induce sufficient breeding to preserve the colony is this: From the time you set them out be sure and keep them warm; and after their cleansing flight, the very first day warm enough to open the hives, examine them; thoroughly clean out the dead bees, etc., and diminish their room according to their strength, crowding very weak ones up on two or even one frame, and others on three, four, or more frames, according to strength. The next thing to be done is to make arrangements to keep them warm and comfortable by extra quilts, etc., on top, and keeping the entrances closed, except when warm enough for the bees to come out. Then they ought to be fed a little good syrup or honey every evening; and whether there is natural pollen to be had outside or not, give them the artificial article inside the hive in the shape of cakes rich in nitrogen, and soaked in honey. They can also be fed altogether outside the hive on nitrogenous food in the shape of oil cake meal, cotton seed meal, rye meal, etc. This regimen, with other little attentions which the common sense of even inexperienced bee-keepers may suggest, will carry the bees through adverse spring seasons if anything will. One or two other important matters occur to me in this connection, which I might also mention: Sometimes even after the bees have had a cleansing flight, if the weather is such that they cannot get out for several consecutive days (as happened two or three times this spring) some of them may become badly afflicted with dysentery. In such cases I give them a little carbolic acid diluted in their honey or in their cakes, and with uniformly good results. The other point occurring to me is this: After you begin the stimulation of feeding in the spring, the old bees are much more apt to venture out in unsuitable weather, and in high, chilly winds they are lost and never get back again. It is, therefore, expedient to be on the lookout and shut them in during such weather. In many cases it is better to carry them back to the cellar or other winter quarters after they have had their flight than to entice them outside by feeding only to be lost. The intelligent apiarian must use his own judgment in this and a thousand other things and govern himself accordingly; and above all things he must watch his bees and not neglect them. As you may be passing that way (it may be to other work) take a look at your bees, for you may see something wrong—something needing your attention. In bee-keeping, as in other things, "eternal vigilance" is the price of success.

The prospects here for an abundant honey harvest are excellent, indeed almost unprecedented, so far as we can recollect. Clover of all kinds has come out here this spring in a better condition than I ever saw it before; and the fruit bloom is proverbially exuberant. The trouble is, however, that bees generally are not yet strong enough to take advantage of the abundant fruit bloom. It will take until near the end of this month to get them thoroughly built up. Meanwhile, during the interval between the fruit bloom and the clover, I would suggest to the inexperienced bee-keeper the wisdom of feeding the bees a little every day to keep up the strengthening process now going on.

ALLEN PRINGLE.
Selby, Lennox Co., June 11, '83.