

so that but little extra expense is necessary to supply this demand, and always at a good price. This is, perhaps, the most practicable kind to furnish. Then there are the purely sweet curd cheese—Swiss, Brick, Limburger, and the Neufchatel, which is not exactly a sweet curd cheese, but a fancy brand. Beside the Fromages, which are numerous, all of these might be made in limited quantities with respectable margins of profit, and by thus diversifying our output, the total profits would be augmented.

The Kingston Dairy School.

This school opened on Thursday, 13th inst., Prof. Robertson being present to deliver the opening lecture.

There are fourteen students for the first course; about evenly divided between the buttermaking and cheesemaking departments.

The first course includes Christmas week, and this fact has prevented many from coming. The second course, commencing on Dec. 27th, is now almost full, and applications are coming in rapidly for the later courses. The length of time which students will remain at the school varies from two weeks to three months, and probably averages about four weeks. Mr. J. A. Ruddick, the superintendent, is assisted in the work of instruction by Mr. L. A. Zufelt, who had charge of milk testing at the Guelph Dairy School last winter. Lectures are given on the following subjects: "Business Management," "Milk and its Preparation for Cheesemaking," "Cheesemaking," "Cheesemaking (the Mechanical Part)," "The Relation of Quantity of Fat in Milk to Quantity of Cheese and Butter," "The Mechanism of Cream Separators and other Machinery," "Care of Engine and Boiler," "Judging Cheese," "Milk and Milk Testing," "The Separation of Cream from Milk," "Ripening Cream and Churning," "Packing and Judging Butter," etc., etc.

Dairymen's Convention at Stratford.

Knowledge is power. The dairyman who possesses it has more power and is better able to do his work than the one who does not. This is said to be a practical age; but before he can put into practice the best methods of modern dairying, the dairyman must have an intimate knowledge of these methods, and be able to apply them to his own particular branch of the business.

The Annual Convention of the Western Dairymen's Association at Stratford, on January 15th, 16th and 17th, will be an important factor in distributing knowledge of the dairy business. Every dairyman and farmer should make a strong effort to attend this gathering, and profit by the important addresses which will be delivered. Hon. John Dryden, Toronto; Hon. Thos. Ballantyne, Stratford; John Gould, Ohio; C. H. Everett, President of the Wisconsin Dairymen's Association; Prof. Robertson, Dominion Dairy Commissioner; Prof. Fletcher, Experimental Farm, Ottawa; Prof. Dean, Ontario Agricultural College, Guelph; D. M. MacPherson, Lancaster; J. C. Chapais, Quebec, and a number of other able and practical speakers will address the meeting. His Excellency the Earl of Aberdeen, Governor-General of Canada, has been invited.

POULTRY.

Pure-Bred vs. Common Fowls.

BY JOHN J. LENTON.

The interest in thoroughbred poultry has never been so great as in the past season. Since their more general use, both poultry and eggs have greatly increased; and this increase is largely due to the great improvement in the flocks, through the influence of thoroughbred birds. I would respectfully suggest to all interested in poultry, to get a few thoroughbred fowls. It is a waste of time and money to keep common stock. Get some variety from a reliable breeder, and test the difference: by that measure we all consider most important, viz.: the pocket.

I have proved it. A few years ago there was a great discussion on this subject, some claiming that common fowls would do as well; i. e., give as much profit, or even more, than pure-breds, with the same feed and attention. I gave them a fair trial for one year, and satisfied myself there was most money in the pure-breds. Where I was getting on an average a dozen eggs per day from twenty thoroughbreds, in the winter, I was only getting three or four, and none some days, from the twenty common ones, with exactly the same care, feed, etc.; then the chicks from the common birds were only fit for market, and there is not so much profit in them as in stock chicks. It must be remembered that fowls of the same breed are not all of the same value. If you desire birds for exhibition purpose, you will have to pay more for them than if you only intend them to produce eggs and fowls for market. Though in every sense thoroughbred, they may not be so beautiful in plumage, perfect in form, etc., which discounts them for show purposes, but does not diminish their useful qualities. The chicks, from a pair of fowls will vary in excellence, just as the children of a family, but the best and most perfect specimens, properly mated, are more certain to transmit their perfections to their progeny. I might say in passing that the male bird is really the best half of the breeding pen; hence the necessity of procuring a good one. There are few more attractive sights than a yard of uniform pure-bred fowls.

Now, when a fancier culls his flock, and selects his birds for exhibition and sale, carefully excluding all that do not meet his entire approval, he cannot and will not sell them for what people call cheap prices. There is as much room for difference in thoroughbred fowls as there is in horses or any other stock; some are sure to be of more value than others. It is only because poultry-keeping has been so under-estimated that this fact has not been more generally recognized, except among fanciers.

I have often heard the remark that the care and attention bestowed by the fancier on his stock is calculated to produce debility and delicacy of constitution, whereas the very reverse is the case. The fancier studies the requirements of the birds, and provides everything his observation has shown to be needful for them. No breeder would be bothered with a lot of sick fowls. His aim is to have the best birds that can be raised; and anyone who knows anything of breeding stock will agree with me when I say he cannot get beautiful, large, well-grown chicks from weakly breeding birds. Indeed, this care is the very thing that gives the fancier a chance to sell his stock, for the most attentive breeder will best carry his birds successfully through our long, cold winters.

GARDEN AND ORCHARD.

Pruning Fruit Trees.

BY A. C. ATWOOD.

In years gone by, when nothing but natural fruit was grown, and when the fruit was picked off the ground, after having been shook by the boys or blown down by the wind, systematic pruning was hardly necessary, but now that our trees are all grafted, and our fruit is, or ought to be, all picked by hand, a proper system of pruning is of the utmost importance. In order to have a correct knowledge of the art of pruning it is necessary for the operator to make himself acquainted with the natural manner of growth of the varieties, as no two grow alike. It is also almost necessary for him to have taken a course at picking apples. When a tree is first planted no close pruning should be practiced—all that should be done is to cut the limbs so as to compare with the curtailed strength of the root. And in passing, I desire to say that no man should entrust another to prune his orchard any more than he would engage another to eat his dinner. If he does not feel qualified for the work, the sooner he learns the better. In pruning, three objects should be aimed at: first, strength of top, symmetry and beauty of tree and ease in picking the fruit.

At the very outset, I may say that two conflicting theories exist. Some advocate the low head, formed about three feet from the ground; others the high head, about five feet six inches from the ground. The latter I advocate and practice myself. To my mind the low head system is calculated only for garden culture. I am aware of no real advantage that the low head has over the high, whilst the high head has many very important advantages over the low, such for example as the ease in cultivating, for I am one who believes in the system of cultivating an orchard, which does not necessarily mean hard cropping. As farmers, we are compelled to rush our work, and in order to do so we must have high tree heads, so that our team can pass under. Again, all land is made fertile by the action of the sun. Soil upon which the sun never shines soon becomes hard, sour and unfertile, as in the case under low heads. There is a great difference of opinion about the proper time to prune. From observation, I prefer from the middle of March to the 10th of April; then again in August. Upon no account attempt to prune from the middle of April to the 1st of July, and I regard late fall, early and midwinter also objectionable. In pruning, whenever done, make a close, smooth cut. After the tree has been planted one year the forming of the head should commence. It is impossible, and, indeed, unnecessary, to form every head exactly alike, but to all intents and purposes they can be made similar. In doing so all crotches should be avoided, whether composed of two or three limbs. In case two, three or more limbs branch equally out from each other, as they frequently do, about three feet from the ground, and it is desired to form the head five feet six inches high, before removing any of the limbs draw them all together, and tie them with a string. They are about sure to draw each other to a common straight centre. Let them remain so one year, and the following spring select the straightest and best, and remove the others. A straight trunk will thus be obtained to the required height. November is the time to begin to form the head, and in doing so not more than five or six main branches should be used. A very serious mistake is frequently made by leaving too much timber in the head to start with. It must be borne in mind that each of those foundation limbs will in time increase in size to from five to seven inches in diameter, and the room they will require then should be given them at the start. If the heads are formed at the proper time and in the right manner, and a regular system of pruning is practiced each year, it will seldom be necessary to remove a limb over one inch in diameter, even after the tree has attained, so to speak, its full growth. I am sure you have all noticed how difficult it is to gain an entrance into the top of some old trees from the fact that the foundation limbs have been left so close together that it is impossible to insert the end of a ladder be-

tween any two of them. This difficulty can be obviated in forming the head by leaving two branches sufficiently far apart so that even after they grow large there will be sufficient room for a ladder and for a picker to pass up and down with a basket easily between them.

For a few years a step-ladder is required to stand on while pruning, but about the time the tree begins to bear a step-ladder may be discarded, and in its place use a common light ladder, seven or eight feet long. From the very start, in approaching a tree each year to prune, take half a minute for observation in order to ascertain what your calculations were in regard to it the year previous, hence the necessity of the owner doing his own pruning year after year. Place the end of the ladder in the entrance to the head prepared for it, and as you step up, if any branches interfere with your upward movement, remove them, or else, if there is room for it, turn them in another direction. I wish to say here that when a person goes into the head of a tree, either to prune or pick, they should have shoes with a very low heel and without nails of any sort. In cases where two limbs cross each other, and when two run in the same direction, or where one is close upon another, remove one of them; also remove any that will interfere with the free movement of the fruit picker upward along each of the foundation limbs, and upwards through the top of the tree. Brush in the centre of a head does nothing but harm. I like to give the sun a chance to shine in centre of the top, the fruit then will be as good and well colored there as on the outside. A good deal of heavy pruning can be saved by removing the spurs at a year old, or as many as are not required. Any open parts in the head can be filled by throwing a branch in that direction, ever bearing in mind the old adage, "As the twig is bent the tree is inclined," and nothing is more easily done than to change the direction of a limb. If it is desired to turn it to the left, prune off the upper right hand side of a left hand bud or twig. If it is desired to turn it to the right, vice versa. If it is desired to head up, as is necessary in pruning such trees as the R. I. Greening, prune on the under side of an upper side bud. As in the case of a Northern Spy, when it is necessary to head down and spread the top, simply prune on the upper side of an under side bud or twig. Some of you may be ready to say, and even some whose orchard does not exceed a dozen trees, that this is all very well in theory, but that it is impossible for a farmer, for the want of time, to practice such niceties. Well, friends, fortunately in this particular I am not preaching what I do not practice. I have the third largest orchard in the country, numbering some nine hundred trees, covering fourteen acres, and cordially invite any of your readers to come and see my system of pruning fully exemplified.

Purchasing Nursery Stock.

Complaints are often made that fruit trees purchased from nursery agents are not true to name. A solution of this difficulty was made at the late "Experimental Union" held at the O. A. C., where it was claimed that the trouble often lies in the wording of the order brought round by the agent and signed by the purchaser. It is this: "If we have not got the varieties asked for, will ship our next best." This, of course, gives the nurseryman, or agent, if unscrupulous, the privilege of dealing off all surplus stock at the price of No. 1 trees or plants. It was recommended to buy direct from a reliable nursery, or notice all that is on the order signed.

Shrinkage of Cattle in Shipping.

Dr. J. W. Ward, an Iowa cattle feeder and shipper, gives in the Indiana Farmer the following as his own experience in preventing the large shrinkage of beef cattle when shipping to market:—

In trying to find out a better way than the usual custom of shutting off the grain feed twenty-four hours before shipping, we shut the water off the evening before and gave them all the corn they could eat the morning that they were to go. Having access to plenty of good hay all of the time, they were not disposed to eat much. Now, if you have ever noticed, a change of food after a constant diet of one thing is relished by others than steers. We had fed a lot of shaf oats once a week, and, noticing that they left everything else and stuck to the oats until consumed, we concluded to fill the racks with them. Having done so, we loaded twenty 1,300-pound steers in each car and shipped them 300 miles with only 13 pounds shrinkage per head. At the end of their destination there was not a straw left, and we believe they would have eaten more if they had had it. It will be noticed that a stomach full of corn and oats caused them to drink better at the stock yards than if they had been salted at home. We never salt, because it acts as a cathartic. This is a great item of economy.

Corn or Oats for Horses.

At the Utah Experiment Station, in a test to determine the comparative feeding value of oats and corn for horses, it was found that the weight of the animals was more easily maintained on the corn ration. A summary of three experiments shows that during the summer a ration of corn and timothy was not as good as one consisting of wheat, oats and clover. During the winter, corn and timothy did as well as oats, clover and timothy in maintaining the weight. During the spring and summer, corn, wheat or bran, and mixed hay, produced more gain than oats, wheat or bran, and mixed hay.