

THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

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breeding firm in Nova Scotia. Sires tell. Get good ones. And, even if it cost considerable more money and time, send your females a long distance before breeding them to INFERIOR MALES, THE CURSE OF THE FARMING COMMUNITY. That one lesson is worth thousands of dollars to the Maritime Provinces, if only those for whom it was intended will look the matter fair in the face and in a businesslike manner.

The Maritime Provinces are well adapted to the production of the highest-class poultry. Mr. W. R. Graham, of Guelph, commenting upon the exhibit, stated that he had never before seen a finer class of utility birds than those on which he had passed judgment at this fair, and he attributed their superior excellence to the cool summers of the East, which are conducive to a good growth of the feathered kind. What better way of getting the young fellows on the farm interested in live stock than allowing them to have their own pens of poultry, to be managed by themselves? Some have adopted the suggestion. It has not cost them much, and, in most cases, the returns have been good. What about it, reader?

Collection of apples were on exhibit. There were apples from the various Provinces of Nova Scotia, New Brunswick and Prince Edward Island, as well as from Ontario, and a great interest was taken in them. Some had wrongly named their specimens, and they learned a lesson. But perhaps the most important point emphasized was the folly of growing old, slightly-known varieties, instead of the best up-to-date varieties of commercial value. If the market wants good, clean, well sized, shaped and colored fruit, of standard varieties, it is poor policy to grow anything else.

The newly-elected principal of the Nova Scotia College of Agriculture, Prof. M. Cumming, was present, and, in addition to judging in several classes, called special attention to the work which is being inaugurated at Truro. He particularly emphasized the short courses in agriculture which are to be conducted there during the coming month of February, courses in which the present faculty is to be assisted by some of the leading men from Guelph, Ottawa, and other parts of Canada. Many inquiries were made relative to this and other lines of teaching to be carried on at the College, and already a large attendance is assured. Write at once to Mr. Cumming at Truro, and you will be supplied with information.

All together, affairs pertaining to agriculture in the East show signs of advance, and we venture to predict that, though at present the star of progress seems to be shining most brightly in the West, yet, under the equable conditions of climate, the nearness to the markets of the sea, and the solid class of people whose homes are there, the Maritime Provinces, too, will keep in line in the great agricultural and industrial growth which is now going on in our Dominion.

ONE PRESENT.

Science Utilized by Commerce.

If there is one thing above another that has aided in forcing American machinery to the front, it is the uses to which science is put by commerce, by taking men from the laboratories and putting them into the workshop. The chemist is largely employed nowadays, and our readers will be interested in the outline of the methods employed in the Chemical Department of a large Flour Mills Company. It was installed during the past year, so that the company has had the advantage of all experimental work done up to the present time. Four rooms have been set aside for this work, on the third floor of the office building, consisting of mill room, baking room, chemical room, and small office. The mill room contains an experimental mill, designed for grinding small samples of wheat, together with the necessary cleaning machinery and an electric motor, which furnishes the power. With this mill enough flour can be made from three to four pounds of wheat for chemical analysis and baking tests. As the cargoes of wheat arrive, samples are drawn and sent to the laboratory, where they are milled and baked before the wheat is allowed to reach the large mills. If found of such a character as to be unsuitable for the blend then being used, it is set aside until the proper wheat is found to go with it, but the busy time for this mill is when samples of each new crop are being sent in. Beginning with the first wheat threshed in Southern Manitoba, samples are sent to Montreal by express from all parts of the Northwest wheat belt; these samples are collected by the company's representatives, and accompanied with all the available local information regarding that particular section. They are milled, an analysis made and verified by the baking; when the Government set their standards, the same course is followed, and all the information obtained by this work is tabulated and placed before the company's vice-president and managing director; a copy is also sent to their Western manager. It can readily be seen that with this information the company know just what to expect from the new crop, and before the wheat reaches the mill how it must be blended in order to produce a flour of the highest quality, consistent with strict uniformity. It must be done scientifically and intelligently to get this result throughout the year.

It would be unsatisfactory to the miller and baker alike to set the standard too high, and find at the end of a few months that it would be impossible to procure enough of the particular kind of wheat wanted to keep up the established standard, or to begin with too low a standard and have to change to a higher one. It is, of course, not always necessary to change the standard when beginning a new crop, as some years there may be but slight change in the composition, but, occasionally, there is a crop that differs so materially from the previous one that it is impossible to use the old standard, and a new one has to be adopted.

A RESULT OF MIXING.

The use of inferior wheat is quite a temptation to some millers to save a few cents per barrel by working in a percentage of cheap wheat, but just as surely as he saves five cents a barrel by doing it, it will cost him ten or fifteen cents either in selling, paying rebates, or loss of trade. There is plenty of the best wheat on earth grown in the Canadian Northwest to make all the flour we require, without using one bushel of inferior grades. It must be admitted that bad bread can be made out of good flour, just as bad flour can be made out of good wheat, but good bread cannot be made from bad flour, nor good flour from bad wheat. In order to blend wheat intelligently, its composition must be known, which can only be learned by chemical analysis. To the operative miller wheat is composed of two important parts, flour and the by-products, and his business is to make a perfect separation of the two. The chemist has found that it is composed of a number of different parts, a few of which it has been discovered have an important bearing on the bread-making qualities of the flour, and in our laboratory work, we confine ourselves to the determinations considered most important, which are: Moisture, ash, the nitrogenous compounds, and acidity.

WHEAT DIFFERS IN COMPOSITION EVEN IF OF THE SAME GRADE.

Only the miller who keeps in close touch with the composition of the wheat he is milling can realize the variations in the grades passing Government inspection, not that the inspectors do not know their business, but because of human fallibility, a malady with which we are all afflicted. And also because wheat coming from different sections in the Northwest, while having practically the same appearance and weight, will vary more or less in composition. It may lack or have excess of one or more of the important factors that go to make

up the perfectly-balanced flour, and, of course, the quality is affected to a corresponding degree. As the wheat area increases in the Canadian Northwest, and new wheat fields are opened up, the problem of keeping the grades uniform will become more difficult, and the millers who depend entirely upon the wheat inspection and their own judgment as to the quality of the wheat, will find their flour running uneven. However, the Government inspection is vastly superior and much more reliable than the system used by many of the mills located in the wheat districts, who receive the wheat from the farmers and dump it all into one bin, regardless of grade. This custom is followed by a great many of the smaller millers, perhaps from lack of room and facilities for grading and blending; or the miller may feel that if he mixes all the wheat he receives into one bin, he is sure to get an even grade to grind, and he wonders why the local baker complains that the last load of flour is not as good as the previous lot. The bakers are exacting; they demand uniform flour of good quality, and in the clean, well-ventilated, modern bake-shop, where conditions vary but slightly, any change in the flour is quickly noticed.—[Address to the Master Bakers, at Hamilton.]

HORSES.

Buying Stallions.

Methods of purchasing stallions in Canada have proceeded in two well-defined directions: One, the method adopted in earlier days, by which some public-spirited, horse-loving citizen takes the risk of buying a valuable stallion for his own use and as an investment; and the other, the more modern scheme of organizing syndicates for the purchase of a sire. The former method has its advantages and disadvantages. It generally insures satisfactory management, a minimum amount of trouble for the breeders, the possession of a horse at the least possible cost, and, if the purchaser is sufficiently well-to-do, and makes a point of getting the best horse available, there is no complaint against the character of the horse. But it frequently happens that the man who assumes the responsibility of providing a community with a stallion is of limited means, or the community does not show an inclination to patronize a valuable horse, and, consequently, cheaper horses stand for service. Then there are abuses in the stallion business. Men who are no judge of a horse, and who care nothing for the welfare of the horse-breeding industry, put worthless horses upon routes in competition with the more expensive imported horses, and so decrease the general average quality of the stock, and reduce the possibility of maintaining the better stallion in the community. Such conditions naturally tend to drive out of the business those enterprising pioneer breeders who are sacrificing much of time and money to help their neighbors to secure better stock. This has, in many districts, led to the inauguration of the syndicate system.

Like the methods of private purchase, the syndicate system has its advantages and drawbacks. Its advantages are that it divides the responsibility of securing a stallion among several people, whose duty it is to share it; it is usually provided with sufficient financial backing to purchase a valuable horse, and it embodies the principle of co-operation in the control of public utilities. Its disadvantages are that a sale must be drummed up by the sellers, which very much increases the cost of the horse, and, to be successful and harmonious, a syndicate must be composed of intelligent men who are cognizant of the difficulties of stock-breeding, its risks and peculiar freaks; should be provided with a good stallion manager and a secretary of the association who will work harmoniously together, and a member should not be dissatisfied if a majority of his associates do not see fit to adopt his propositions. These, then, are the two most common methods of providing a community with a stallion, and the most pronounced characteristics of each. In the light of the experience of older horse-breeding countries, it would appear that they are at either extremes of the most rational method, and one of the problems to be solved is whether or not a better system can be evolved. What is wanted is a system by which good horses can be bought at the least cost to the buyers, and the least expense to the importers, and that will insure a community of interest and a division of responsibility among the farmers in the neighborhood where the horse stands.

In Scotland, the method of securing stallions accomplishes these purposes, and it might be worth while to consider a modification of their system. There, the breeders in a particular neighborhood form societies for the purpose of hiring a stallion from the larger breeders for a season, then select a committee of men who are recognized judges of a horse and shrewd businessmen to visit the larger owners to secure from them the services of a suitable horse for a reasonable outlay. By this means the advantages of both systems, as they exist in this country, are secured and the disadvantages eliminated. Here we cannot expect to hire a horse for a season as they do in Scotland, but in each community there