THE MAGAZINE GUARDIAN

For Parents, Pupils, Teachers, Farmers, Dairymen, Horsemen

TO THE FARMER

Farmers and others interested are invited to contribute to The Farm, The Dairy, The Turf, and Good Roads departments of the Guardian either by question, correspondence or otherwise. Answers will be given by experts to all questions of general interest and space will be given to any articles that will in any way help to advance Prince Edward Island interests.

Contributors are asked to have their articles at this office early each week, as only a short emergency item can be handled as late as one p.m. Wednesday. All received after that hour cannot appear until the following week.

THE SCHOOL AND THE HOME

Contributions for this department should be addressed to
Guardian School and Home
P.O. Box No. 110, Charlottetown.

TEACHES BOY TO BECOME HANDY.

Not "kept in" for being naughty at school, but kept out.

That is the punishment for delinquents under the manual training system in the public schools of Toronto.

The youngster to whom a penalty is due is not given any additional task to perform, as is the rule in other branches of the educational system of Toronto. He is simply debarred from participation in what his class is doing, for a period of time fitting his offence and calculated to make him see the minor error of his ways, for this is a branch of the Toronto Public School system in which the naughty boys have to be taken away from their work because they always want to get back to it.

The popularity of the work is borne out by the fact that the instructors are constantly receiving requests from individual lads and classes for permission to stay in the class room and continue a task after the expiration of the time for the regular lesson.

* * *

It seems quite safe to say that in no department of public school work has more rapid progress been made during the last decade than that of manual training. In the Toronto public schools manual training is now a carefully graded course of constructive work, so planned as to provide training in thought expression and to give opportunity for the development of the judgment and the executive faculty.

In the first, second and third book classes of the Toronto public schools, the pupils take their lessons in manual training in their own class rooms the materials used being paper, cardboard, raffia, yarn, clay, plastacine, then wood, and other suitable and available materials.

In the fourth book classes the boys from the various schools go to special classes of instruction in rooms suitably equipped with benches and tools, where they are taught elementary mechanical drawing and bench work. Toronto has twelve of these manual training centres and pupils from all the public schools are sharing in their advantages. In each of these twelve schools there is a "shop." Each shop is in charge of an experienced teacher, specially trained for this work. The shop is an embryo factory. The object made are not only to give training in the tool processes they embrace, and the accompanying training in hand, mind and eye, but because they have a vital connection with each boy's interests.

SUNDAY IN CHINA

(Portland (Me.) "Express.")

Under China's new educational system the government schools give a holiday on Sunday. This makes it possible for thousands of children to attend Sunday Schools something impossible under the old regime. Freedom of thought and action, faintly understood by the masses, is generally becoming a principle of the new republic. It is taking hold of the young and the old. As a result many who would not dare to enter a Sunday School now come gladly. Until recently most of the Christian constituency have come from the illiterate adult population, and the majority have been unable to read. Much has been done in the past to meet the needs of this class, first, by oral teaching, and, second, by teaching them to read the colloquial Bible hymn book or some simple catechism. This kind of work will be needed for a long time to come.

THOSE PUNCTUATION MARKS.

"Oh dear!" sighed Warren, as he came in from school one day; "I wish we didn't have to learn so much about periods and commas and semicolons and such things. I hate them."

Mamma laid down her sewing and said: "Why do you hate them, Warren?"

"Why, it's so hard to remember when to use them, and, besides, I don't think they are of much use. I don't see why we couldn't write sentences without putting in any punctuation marks."

Mamma smiled, and then, rising from her chair, she went over to the desk and got out a piece of paper and a pencil. Then she wrote: "The little turkey strutted about the yard and ate corn half an hour after his head was cut off."

"Why, mummie, how funny!" exclaimed Warren when he had read it. "How could a turkey walk around eating corn without any head?"

"He couldn't," replied mamma, "and yet I have written just what I intended to write. I have, however, left out all punctuation marks."

Then she bent down and punctuated the sentence. It then read: "The little turkey strutted about the yard and ate corn; half an hour after, his head was cut off."

"Oh, I see," cried Warren. And then and there he resolved to learn all that he could about punctuation marks.—The Evangelist.

AN ODE TO GERMS

Sing a song of microbes,
Dainty little things,
Ears and eyes and horns and tails,
Claws and fangs and stings.
Microbes in the carpet,
Microbes in the wall,
Microbes in the vestibule,
Microbes in the hall.
Microbes on my money,
Microbes in my hair,
Microbes on my meat and bread,
Microbes everywhere.
Microbes in the butter,
Microbes in the cheese,
Microbes on the knives and forks.
Microbes in the breeze.
Microbes in the kitchen,
Microbes in the bed,
Microbes on the brush and comb,
Microbes in my head,
Microbes in the faucet,
Microbes in the drains,
Microbes in my shoes and boots,
Microbes in my brains,
Friends are little microbes,
Enemies are big,
Life among the microbes is—
Nothing "infra dig."
Fussy little microbes,
Billions at a birth,
Make our flesh and blood and bones,
Keep us on the earth.

THE FARM

TO STOP HIGH EGG PRICES

The usual advance in the price of eggs during the fall of the year, particularly of fresh eggs, is largely due to natural causes. There is a time each year during the hen's life known as the moulting period, when the hens shed their old feathers and grow new ones. This process begins at any time from July to September 1, and occupies about ninety days, the age of the hens having considerable influence on the time they start to moult. Two and three-year-old hens do not begin to moult as early as yearlings.

Hens do not start to lay until a week or two after the new feathers are fully grown and the bodies of the hens are well protected from the cold weather. During the moulting season few, if any, eggs are laid because all the feed the hen consumes is needed to keep up her health and vitality and produce the new coat of feathers. It follows that practically the only source of fresh eggs at this time is the pullet hatched during the preceding spring. Pullets seldom lay until fully matured or grown, therefore if the majority of pullets in a community are hatched late or for any reason have not been grown and matured properly a scarcity of fresh eggs is bound to result.

When climatic or other conditions exercise a widespread influence to retard the development of pullets over a considerable area this shortage of eggs will be noticed over a wide extent of territory. The only hope of increasing the fresh egg supply in the fall lies in the proper handling of pullets, at hens cannot be expected to lay at this season. To secure pullets that will lay in the fall the American breeds should be hatched about March, and the Leghorn and other Mediterranian breeds somewhat later, in April or May. The Leghorn pullets begin to lay sooner after hatching than the American breeds.

The question of feeding then comes in. Proper feeding will cause the pullets to lay during the fall and winter, but too heavy feeding or improper feeding will force the growth of the pullets to such an extent that they will begin laying in August and September, then pass through the moulting period in the fall the same as hens, and cease laying until warm weather. This is a difficulty that the skilful poultryman must avoid. If proper methods in the growing of pullets were employed much larger quantities of fresh eggs could be produced during the fall and winter, and this would assist materially in keeping the price of fresh eggs within reasonable limits. The lack of a sufficient supply of fresh eggs during fall and winter forces the public to depend on eggs stored during the preceding spring, and storage eggs advance greatly in price because of the scarcity of fresh egg supplies.

MAKING MENDELIAN CROSS

When making a Mendelian cross it is absolutely essential that the characters of both parents should be absolutely pure, otherwise the results will not conform to Mendel's dictum. Mendelism has not a good name among poultry breeders, which is a fact deeply to be regretted. The fault does not lie in Mendelism, which is purely a mathematical science; it lies in the characters experimented with, which in a great many cases are not pure to begin with. When Mendel's law has been applied to poultry by experts many difficulties have been met with; nevertheless its truth has been made abundantly manifest. Poultry breeders, and more especially the novice, must avoid the mistake of forming hasty conclusions; conclusions thus formed are more frequently wrong than right. The trouble lies in this; they remember one-half of Mendel's law and entirely forget the rest. Let us take an example to make the point clear.

These two things have been proved by scientists: 1. If you cross a rose with a single comb bird all the resulting progeny will have rose combs. 2. If you cross one of these rose comb birds back to a single comb bird both rose and single comb birds will appear in the progeny. The novice, remembering the first part of this law and entirely forgetting the second part, crosses a White Wyandotte with a White Leghorn—he may get both rose and single comb progeny. If this happens he says: "Mendelism is all wrong; rose is not entirely dominant over single." How foolish! Why not say, "This shows that my White Wyandottes have single comb blood in their ancestry, otherwise they would not have thrown any single comb birds when crossed with White Leghorns."

This could be knowledge gained; it would have been worth the experiment if only to have learned this. And the conclusion would be both scientific and justifiable. If you read the second part of the law of dominancy, as shown above, you will see why this latter conclusion is likely to be correct.—N. Y. Sun.

MANURE FOR MANGELS

Mangels appear to want potash more than various other farm crops, and yet experiment shows a surprising want of uniformity in the results obtained in a vast number of experiments. These range from serious minus quantities up to profitable gains, and suggest that the action of potash is dependent to a considerable extent on the way in which it is used, apart from soil. And this is the case, although potash, always somewhat of an unknown quantity, is really more consistent than phosphates in its behavior with this crop. One remarkable point about it is its value when accompanied by dung, as it appears to exert most influence when it is than unaccompanied by other fertilisers. This shows us clearly that it does not do to take for granted the sufficient presence of potash whenever dung is used. Another striking point about its use for mangels is the different effect which potash exercises when salt is present. In many cases potash is entirely unnecessary then, but in some of the recent experiments salt has been found beneficial or not according to the kind of potash salt used, the chloride, as might be supposed, being the better without salt, and the converse being the case with the sulphate.—Agricultural Economist.

THE DAIRY

RAISING THE DAIRY CATTLE

(By Tupper Ferguson, Marshfield)

The problem of increased dairy production is one that the farmer has almost complete control over to a certain degree, at least. A great many dairy farmers say they cannot further increase their herds because their land will not support more cattle and they have not the necessary help to handle a more extensive herd.

While that is true in a great many cases, yet there is another avenue by which we all may add greatly to the total output of the Province, and at the same time increase our incomes without any increase to the number of our herds, and with no material increase of labor. We can raise the standard of production of our herds by increasing the standard production of each individual cow. This can be accomplished by feeding better and by keeping better cows. Better cows can be had in two ways. One by buying, the other by raising better calves. At the present high prices and active demand for high class cattle, it is a costly undertaking to buy, so most of us at any rate, must breed calves. With that side I purpose to deal. Perhaps the first step in that direction, is to secure the service of a pure bred bull of known merit of one of the recognized dair breeds. Every farmer must choose and stand by the breed he fancies. A desirable bull being secured care must be then taken to mate him with cows of producing ability, and they must be fed well before partuition takes place. Here is where a great many of us fail. We don't realiz that a cow about to produce a calf is working almost as hard as in milk, and we fail to feel well enough before partuition takes place. The cow should be fat. Some offer the excess of danger of milk fever, but the result is worth the risk.

The object of feeding the dam well is to secure a good, strong calf, and you will find it makes a vast difference in the development of the future cow to have a well fed and fat dam. With proper care and intelligent handling the danger of milk fever i very small indeed. One of the strongest arguments in favor of winter dairying is the providing of better calves and cows. When you get the calf you have abundance of skim milk to feed it on. I prefer to have my raising calves dropped in the autumn during the months of October and November and December. Let them nurse the cow for a day or two, then feed the whole milk for two or three weeks and after that time gradually to skim milk. As soon as I get the calf off on skim milk I find, adding a little oil cake meal gives good results, but it must be scalded. It will not do to feed milk alone, but as soon as I can get them to eat hay they have all they can eat and as much bran and oats and turnips as is good for them. The aim is to get a large hearty and thrifty heifer capable of consuming large amounts of roughage. One that is of good constitution and is perhaps another "Milkmaid 7th."

Now the age at which the heifer should come in to milk is a much debated question and one on which many opinions are expressed. Speaking for the Ayrshire I think they should not produce a calf before at least 32 or 34 months. In almost every herd you can see the evils arising from too early breeding and it should be well guarded against.

REARING OF CALVES

A matter of fundamental importance in calf-rearing is the untiring attention that it demands from the person to whom the care of the calves, is entrusted. Whatever light may be obtained from experiments on the relative merits of different method of feeding, which ever may be the best cream or milk substitute, the information will not ensure the best calves being reared unless it is accompanied by that watchful eye which is absolutely essential in the attendant.

It is often the case that the calves possessing the best "bloom," the thriftiest coats, and that exuberance of spirits that one likes to see in young animals are found on small farms where the responsibility of feeding the calves is, fortunately, in the hands of the wife. The calves are regarded almost as fondly as children; no pains are spared, any failing in appetite is cause for anxious solicitude, remedies unknown to the scientific mind are resorted to, and the reward is the satisfaction that an ailing calf has been brought round, to develop later into possibly the best one of the batch.

STERLIZING MILK BY ELECTRICITY

Dr. E. W. Hope, medical health officer, Liverpool, England, states that for the past two years, careful researches have been carried on at the University of Liverpool by Professor Beattie and others, with the object, if possible, of lessening the cost of sterlizing milk. As a result, it has been demonstrated that all extraneous organisms in milk can be effectually destroyed by electricity without changing the flavor or chemical composition in any way.

The process is said to be very much cheaper than the ordinary pasteurization by heat. Dr. Hope is also authority for the statement that the corporation of Liverpool has authorized the installation of the electrical method at one of their depots for the supply of milk for infants.—Conservation.

PAPER READ BY W. R. CLARK AT ANNUAL MEETING OF DAIRYMEN'S ASSOCIATION

Dairying is considered to be the most profitable branch of farming in this Province. The breeding and feeding of the dairy cow, is then, a matter of great importance. That there is plenty of room for improvement is shown by the fact that the average yearly production, per cow, in this Province is about 3000 lbs. of 3.4 per cent. milk. It is quite possible by intelligence and care in breeding and feeding to make the average yearly production per cow 6,000 lbs. of milk and at the same time increase the per cent. fat to some extent. We would then be doubling the production of dairy products in this Province, without feeding one more cow than we are now feeding.

This is not an impossible achievement, a 6,000 pound cow, is by no means a very heavy producer, and is well within the reach of any farmer who will give a little attention to breeding and feeding of his cows.

Any one who has handled stock will know that there is always more or less variation in type and quality in stock from the same mating, that is, with the same sire and dam. This variation exists even in pure bred stock but to a much larger extent in grade or scrub stock. It is the purpose of the breeder of pure stock to eliminate this variation by continuous live breeders, thereby producing animals that have the power or prepotency to reproduce in this offspring their own characteristics of quality and type and by constant selection, of individuals most nearly approaching a perfect type to improve the qualities of their animals. The average dairyman does not wish to go into the breeding of pure bred stock, nor would it be wise for him to do so, but if he is going to make any improvement in his dairy herd it is absolutely necessary that he should obtain some of the prepotency and qualities of the pure-bred animal.

This is easily and effectively done by the use of pure bred sires. The pure bred sire mated with common grade cows, by reason of his greater prepotency reproduce his type in the off spring to a marked extent, and if this method is carried over a number of years, a herd that is almost pure bred will be the result. The use of a pure bred sire is the first and most important step in the improvement of the dairy herd. But there are pure breds and pure breds, some are certainly a great deal better than others, and if we get an animal that has the power to reproduce his characteristics in his offspring we want to be sure that these characteristics in his offfspring we want to be sure that these characteristics are what we wish to have. Most dairymen, no doubt, are able to select a bull of good dairy type, but we must go farther than that. The dairyman is after milk and for that reason he must get a sire that will reproduce in his heifers the ability to produce large quantities of milk. We must know whether or not the dam or the grand dam of a bull has been a good producer, before we can be sure that his stock will be such. Nearly all the breeders of pure bred stock are now entering their cows in the Canadian Record of Performance test, and consequently they have for sale, bulls, the records of whose dams can be shown. When buying a bull it is of great importance to require these records as they insure getting a bull that will get producing stock, and further it will encourage the breeder to improve the milk producing qualities of his herd. Bulls whose dams have made good records are generally priced rather high, beyond the reach of the average dairyman, however, if he wants to make any improvement in his herd, these are the bulls he must use. Just here lies an opportunity for effectual co-operation amongst the farmers of a district by organizing and purchasing a bull under joint ownership, the very best animal obtainable can be bought and each member of the organization will then be able to obtain the services of a really high class sire, with an outlay well within the reach of any farmer. A difficulty that lies in the way of this method is, that each farmer fancies one or other of the different breeds of dairy cattle. But the farmers of a district generally supply the same market and if this market be taken as a guide in the selection of a breed it ought to be satisfactory to all. That is if the market requires large quantities of milk, a breed noted for large production of milk should be selected, but if butter fat or cream is what is required then a breed producing rich milk would be most profitable. Taking this into consideration it should be possible for the farmers of a district to select a breed that would meet the requirements of all. Another consideration in regard to this community breeding is, that if carried on for a number of years a large number of grade heifers, or young milch cows of the breed selected would be found for sale, buyers will soon recognize this and as the price of livestock in Canada, because of a general shortage, is sure to go much higher, the farmers of a district following this method will profit accordingly. Still another point in favor of coperative buying of sires is, that a bull who proves an exceptionally good sire may be kept till his usefulness is over, another bull being procured for use on his stock whereas if owned by one former alone he would have to be sold and replaced by another bull, that may not be nearly as good a sire, to avoid inbreeding many an extra good bull that may not be nearly as good a sire, to avoid imbceeding many an extra good bull has to be sacrificed in this way. A point that we wish to emphasize most strongly is that, once having selected a particular breed do not on any account change to another. If a bull of a certain breed has been used, and when buying again one of another breed is selected to use on the stock, the former bull has left nearly all the improvement that has been made is destroyed. Whereas if a bull of the same breed is selected and of better individual type and quality steady improvement will be the result. It is very regrettable that this changing of breeds is practised, not only by individual farmers, but by many Farmers' Institutes throughout this Province, that purchase bulls for the use of their members. The prac-

(Continued on page sixteen)

Attention to Horses' Teeth

There are many horses of all ages that are not thriving well, although consuming a reasonable amount of food, and their owners are at a loss to account for it, and often spend money in condition powders, stock food, etc., without result. The animals do not show symptoms of illness, but simply do not thrive, and have not the spirit of energy they should have. The cause in the majority of cases, will be found in the mouth, either there is faulty dentition or there are irregularities of the teeth. The subjects do not require medical treatment all that is needed is intelligent attention to the teeth. We say "intelligent attention" as in many cases unskilled or ignorant interference does much more harm than good. It requires a man who thoroughly understands the anatomy of the mouth, and has the necessary instruments and skill to correct whatever is wrong.

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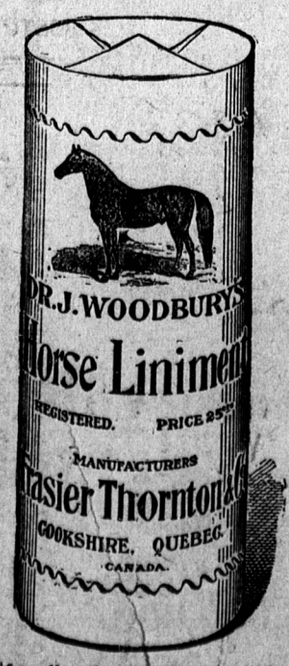

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