Address communications to Agronomist, 73 Adelaide St. West, Toronto

Making Hens "Feel at Home."

Egg yield is largely controlled by two important factors,—environment and food,—and each must be at its best. The hen might be termed a "fussy animal." She wants everything just right, and unless everything is entirely satisfactory, she simply refuses to get down to business.

In other words, she must be contented; she must have that "at home" feeling. She is not extravagant in her tastes; she does not demand gothic houses and elaborate fixtures, but she does want comfortable and clean quarters. Her house must not only be cheerful in the daytime, but it must be restful at night. There must be good ventilation, but no drafts.

To give good results, a poultry house must allow the sun's rays to penetrate it in the morning; it must give shade when needed; give the birds outdoor conditions without exposing them to rain, snow and windstorms. A house that will meet these requirements need not be elaborate. It may be a crude building.

There must be plenty of room, so that while indoors fowls may scratch among the litter without bumping up against each other. When the flock is overcrowded, only a few of the birds will take exercise; the others will stand about in small groups, or spend their time on the roosts. Overcrowded flocks, too, are likely to have "bullies" among them, and it takes only one or two birds of that disposition to upset the entire family. Get rid of such birds.

To shell out the eggs, hens must be tame, and not of a scary disposition. Tame hens "feel at home"; wild hens are discontented. Tame hens are layers. If the attendant is kind and gentle, it will not take the hens long to find it out, and then in turn, will gain confidence. Every movement made by the person in charge should be quiet and easy. The hens must be taught that they are safe in the presence of their keeper. We may laugh at the person talking to his hens, but those hens are the tamest and do the best laying.

A hen is more contented in clean quarters than in filthy ones. Even though they do not have a sense of smell, they appreciate clean and bright pens. It may be a little old-fashioned to whitewash the interior of the coops, but I still have strong faith in it. Whitewashed walls are not only attractive, but they kill disease germs. Whitewashing is labor well spent.

The size of the outside run is not so important as is the condition in which the run is kept. A small yard that is kept clean, in which the earth is turned under every now and then, and one which is partially shaded, is preferred to a large run that is sadly neglected. A well-littered scratching shed is better for exercise than an acre of range.

When a hen is contented she is sure to be healthy. A contented, healthy hen is known by her quick movements and her bright appearance. She sings and cackles, and in many ways shows that "life is one long, sweet song."

Hens love peace. The presence of quarrelsome hens or a tyrant male soon develops discontent. Everything must be congenial. Environment must not be treated with indifference. There is a streak of human nature in a hen. She is not unlike the workman who does his work more easily when his surroundings are pleasant. Environment takes in considerable scope. It calls for proper location that there may be no exposure nor dampness. It means that a house must be well ventilated, so that moisture does not gather on the walls and ceiling. What a revelation the open-front scratching shed has been in this respect!

Egg production is also regulated by the quality and quantity of food, and the manner in which it is served. Food builds up the waste tissues, it produces heat to the body, fat and meat to the carcass, and it makes eggs. The usefulness of the hen is, to a large extent, at command of its keeper. When eggs are wanted, the quality of the ration must be such as will produce eggs. So it is with foods that grow fat. A hen that is busily engaged in laying is not so readily overfattened as the one that is not laying.

It is admitted that in order to become a good layer a hen must have some fat. She must not be thin in flesh. Two extremes should be avoided —too thin and too fat.

Some pullets accumulate considerable fat before they lay their first egg. This condition naturally delays laying; but, in my experience, it is better a little fat than too lean. I have noticed that those pullets which are slow starting are generally the most steady layers after they do begin and their eggs are of better size and shape.

For egg production the ration must be highly nitrogenous. Wheat is the leading nitrogenous food. While it is the most complete grain fed to poultry, it must never be given to the exclusion of other grains. A sole diet of wheat will quickly give the egg an odor similar to that of a decayed egg, and the flavor is not at all appetizing. This is especially noticeable upon opening a soft-boiled egg laid by a wheat-fed hen. Therefore, it is necessary to balance the nitrogenous foods with some carbonaceous material, such as corn. Corn alone is not a good egg food, though.

Egg farmers say that better results are obtained in feeding a moist mash rather than a dry one. The hen eats more of it, and it assimilates better. But mashes must never be given in a sloppy condition. There should be just enough water or milk added to make the mash crumbly. Green stuff and animal food are of great importance daily.

We measure the effect of food upon egg production by the manner in which it is digested. Unless the digestive organs are in good working condition, there will not be many eggs. Use good, hard, sharp grit.

This food-environment question leads on to other requisites. The blood of the hens must be kept in a pink state—must be purified. For this purpose, poultry science has found nothing better than linseed-meal and charcoal.

To summarize: we must feed nitrogenous food, balanced by carbonaceous material. We must give green stuff, or its substitute daily. We must supply animal food. We must keep oyster-shell, grit and charcoal constantly within reach. Fresh water daily, exercise, comfort and contentment—then we have the profitable laying hen.

We improve our stock and make it more profitable by giving careful attention, by making a happy and healthful home, by inspiring confidence. Tame hens tell the tale of proper attention, and scary hens voice the temperament of their keeper.

THE CHILDREN'S HOUR

The Water Fairies.

It was spring. Down the river floated the large, white chunks of ice, glistening in the sun. Slowly under the warm spring sun, the ice was beginning to melt. Soon there would be none at all and the river would flow on unhindered. But there was one particularly big piece of ice that was more stubborn that all the others. It seemed as if the sun's warm rays could not penetrate it. But gradually it too began to thaw.

Now this piece of ice was a very uncommon one and entirely different from its sister pieces floating down the river. On the outside, except for its unusual size, it looked just like the others. But the secret was on the inside. For there early in the winter had been imprisoned some lovely, little, green water fairies by a cruel, cruel witch. All through the long, cold winter, the fairies had lain in their icy prison waiting for the spring to come. For then, they thought, surely the old witch would relent and let them go once more to their beloved home at the bottom of the river.

Finally their icy prison did begin to melt, and the little, green water fairies were very happy. But it was not in the mind of the cruel witch to be lenient with them. She called them all together in her room in the ice and told them that before she gave them their freedom, they must perform a difficult task for her. Then indeed were the fairies dismayed. For what new torture had the old witch in store for them.

"You must select the one, whom you consider the wisest, to go forth over the land inhabited by human beings and there he must find that which does the most good to the human beings. If he is successful in bringing this, whatever it may be, back to me before the ice melts, then you shall all be free to go to your palace beneath the waters," said the witch. "But," and here she looked darkly at them, "if you fail, you shall all die."

The fairies shuddered and looked at each other disheartened. None of them had ever been on land and who would be brave enough to venture into the unknown region on the cruel witch's errand. They were silent. Then up piped the prettiest one of all the green water fairies. "I'll try," he said, and then without another word he was off, leaping from one icy chunk to another until he reached the land.

Far and wide did the little sea fairy travel, always seeking for something that did people the most good. He found many things, but always there was some drawback. Still the little, green water fairy was not discouraged. If only he could find the desired object before the ice melted, how happy he and all the other water fairies would be to escape from the old witch. He knew therefore that he must not give up.

So on he went. On the outskirts of a big city he came across an old man who had wandered all over the world and who was well versed in all the secrets of the earth. The little green water fairy in the course of his wanderings had heard about this old man and all his knowledge. Boldly the little fairy approached the big man and asked him what it was that did people the most good.

The wise man laughed and said, "Why, don't you know, it is very simple. It is an egg. Children eat eggs and grow up to be strong men and women. Sick and weak people eat them and become well and healthy. Besides," he continued, "eggs taste so good. There is nothing to be said against them."

"Oh, thank you, kind sir," said the fairy excitedly, "and where can I get the wonderful egg?"

"Just across the road in that farm yard, from Mother Chicken," replied the wise old man.

Immediately the little fairy hurried across the road, took a white egg from the Mother Chicken, and then carefully treasuring it, he went at top speed back to the river.

If only the ice had not melted yet! Breathless he arrived at the river and eagerly scanned it. Ah, there was just a tiny piece of ice left. All the others had melted. On the tiny piece, he saw all the little fairies anxiously waiting for him. It did not take him long to get to the ice and there he laid the egg carefully in the old witch's lap. She was very angry at his success, but she knew that she must keep her promise to free the fairies.

Just then the ice gave its last creak and into the water and down to their own home dived all the little, green water fairies. They lived happily ever after and the happiest and most honored of all was he who had found the egg.

Cheese in the Diet.

It is a remarkable fact that although Canadian cheese is equal to the finest of its class in the world, cheese is not as generally used on the table in Canada as in many other countries. In England, for example, a large percentage of the homes use cheese almost daily. To some people cheese is believed to be indigestible, but as pointed out in Pamphlet No. 7 of the Department of Agriculture at Ottawa, its digestibility is improved when combined with other foods. When eaten with bread or other starchy food such as potatoes, or macaroni, it forms one of the most satisfactory food combinations, and one which will not be difficult of digestion for most people. It is when eaten at the end of a heavy meal that it is liable to overtax the digestive organs. Cheese is a very concentrated diet, nearly all of it being used by the body to build up new tissues and to provide energy for the body to do its work. For sturdy boys and girls and normal adults, it is one of the best muscle builders and one which is entitled to a large place in the diet.

While cheese may be served without any further preparation, it can be used in cooking in many different ways. It should be borne in mind, however, that cheese will be harder to digest if cooked at a high temperature. The pamphlet to which reference is made contains many cheese recipes. These include sauces, soups, Welsh rarebit, pudding, souffle, croquettes, omelette, biscuits, salad, and many other enticing dishes. The recipe for cheese biscuits taken from this pamphlet is: Two cups flour, 4 teaspoons baking powder, 2 tablespoons lard or butter, ¼ teaspoon salt, ¾ cup milk (about), grated cheese. Sift the flour, baking powder and salt together and rub in the fat evenly. Add the grated cheese and enough milk to make a soft dough. Roll, cut in shapes, and bake in a hot oven. The dough should be handled as quickly as possible and mixed only enough to blend the ingredients.

Good nature is the cheapest commodity in the world and the only thing that will pay ten per cent. to the borrower and lender alike.—Ingersoll.

Peace River Farming.

Canada has a valuable agricultural region in the Peace River district. Bulletin No. 6 of the Federal Department of Agriculture deals with experiments at the sub-station of the Dominion Experimental Farms located at Fort Vermilion, Alberta. The settlement at this place lies on the banks of the Peace River, 350 miles north of Edmonton, in fifty-eight degrees twenty-four north latitude, 116 degrees west longitude, and 950 feet above sea level.

Fort Vermilion has had the usual romantic career of settlements depicted in Sir William Butler's "Great Lone Land." First the trapper and fur trader, then the Indian mission, and next the pioneer and agricultural development. The Hudson's Bay Company had done some tilling prior to the establishment of the Mission, which did not come about until 1880. Twenty-eight years later, or in 1908, the first Director of the Dominion Experimental Farms, Dr. William Saunders, entered into an arrangement with Robert Jones, an early settler, to carry on investigational work with cereals, fruits and vegetables. Five acres of land were first rented and then added to until now twenty-five acres are occupied and conducted by Mr. Jones, from whose annual reports the bulletin here referred to has been compiled. From these reports it would appear that potatoes, asparagus, beets, cabbage, cauliflower, carrots, celery, lettuce, parsley, onions, parsnips, spinach, turnips, and rhubarb can be termed certain crops, and crops that mature fairly early. The season is short but vigorous. Peas have done well every year since 1909, except in 1910, when an exceptionally heavy frost proved destructive. Beans do well in ordinary years; but corn, pumpkins, tomatoes, and citrons may be regarded as uncertain, although fodder corn can generally be relied upon. Cucumbers have to be hot-bedded first. Of fruits, strawberries, currants and raspberries have done well, but gooseberries, plums and apples have not thriven to any considerable extent. The hardier flowers flourish, and the garden at Fort Vermilion has attracted much attention.

Five varieties of wheat tested in six-year averages have yielded as follows per acre: Bishop, 58 bus., 40 lbs.; Huron, 56 bus. 30 lbs.; Red Fife, 55 bus. 25 lbs.; Marquis, 52 bus. 35 lbs.; and Prelude 41 bus. 50 lbs. Oats in the same average have yielded: Banner, 88 bus. 33 lbs.; Daubeney, 66 bus. 31 lbs., and Eighty Day, 62 bus. 2 lbs. Barley similarly tested has produced: Manchurian, 60 bus. 40 lbs.; Champion, 55 bus. 15 lbs.; Success, 53 bus. 36 lbs., and Hulless White, 51 bus. 42 lbs. Various sorts of field roots have been experimented with successfully. Sunflowers for ensilage have proved promising, and surprisingly large crops of green fodder have been obtained from corn. Of clovers and grasses, Grimm and Ontario Variegated varieties of alfalfa, and red clover, have proved promising; Alsike clover has not been sufficiently tested; timothy, Western Rye grass, Awnless Brome and Meadow Fescue, tested for hay value, have wintered well, but Orchard and Red Top grasses have proved disappointing.

Weather records for twelve years are given in the bulletin which show the average sunshine per day for nine months last year, that is from April to December, inclusive, was six hours.

Samantha says: Some women who are mighty particular about who their children play with will buy all the latest slang, smut, and profanity for their pianos and graphophones.

Formation of Clubs

By Marion Dallas

Ruskin says, "Every day read a little in a good book—either a poem or a fine bit of prose— and think about it." There is much to be gained by solitary study of a book which cannot be gained in any other way. There are some people who plan out a course of study and always keep a book close at hand thereby never losing a moment of time. This plan is the result of an organized life in the ultimate analysis, the strongest type of character in many respects. There are others, however, who accomplish their best work under the stimulus of companionship. The communion of thought seems necessary to arouse the latent ability to think swiftly and clearly and conserve the results to advantage.

Canadian women are only beginning to realize the great advantage of co-operation along the various avenues of service open to them. The business world has taught men the wisdom of standing together in the noblest and best meaning of that term. Canadians must realize that to mould and maintain one great National Idealism we must combine all our energies, must make common capital of all industrial knowledge, experience and talent.

The Possibilities of the Rural Club.

There are little communities dotted here and there all over our vast Dominion which are dull and uninteresting because they are a mere aggregation of individuals and not a community as such. A real community "is a number of people so united in spirit and so interested in the advancement of their town that they are willing to drop their little differences and unite to form one great brotherhood."

If your town is dull it is because there is no organized effort to overcome that dullness. If the people who go about bemoaning the bareness of life in the rural districts would just meet together and in a sane, red-blooded way face the proposition, they would discover avenues of development of which they never dreamed. Wherever there are three or four families in a group there is almost invariably talents which will make for the welfare of all concerned. No community appreciates its resources until it places the social emphasis on its community life. Unsuspected talent is displayed when team work is adopted. Men and women who have never been tested are drawn out by the inspiration of doing something in common with others. In the modest young girl is found a singer; the care-worn mother suddenly develops a talent for writing; some of the so called commonplace people disclose a wit which astonishes their neighbors. The great majority of people need only a little sympathy and a sense of responsibility to respond to some unsuspected power.

Making a Club Practical.

The success of a club is measured, not by the scope of its program, but by the interest it awakens and the number of people it sets to work.

If a club is to be formed, someone must take the initiative and invite from six to eight of the people who have impressed her as being interested in practical issues of an intellectual and social order. These should confer along the broad lines of organization. It would be well to discuss the line of work the club should take up, the style of the meetings, the days of meeting and the frequency of them. A small committee should be appointed to draw up a tentative program and prepare a list of names to be canvassed. A wide-awake committee working under keen aggressive leadership will soon make an impression. Those who can sing or read or entertain along any line will be sought out and a place on the program found for each. Such a study as the "Colonization of Canada During the French Regime" will make possible a program as to include any and all who will take part. The old French boat songs and legends are almost unique and always entertaining and educative in spirit and character.

Divide the Program.

Another important item in a successful club is the preparation of three or four papers for each meeting. The writing of a paper tends to give a clearness and precision to thoughts and transparency to the expression of them. For the encouragement of those who are timid about contributing papers, I would like to quote a paragraph from an address which Viscount Middleton gave to the Woman's Canadian Club in Montreal some time ago. "I dare say most people are too modest to think anything they can write worthy to be put before an audience. I would say do not be afraid of what you have written. The great Greek Lysias once wrote a defence for a client. The client said he was delighted when he read it the first time. I liked it less the second time, and after a third reading do not consider it a defence at all. Console yourself, said Lydias, the judges have only to hear the defence once. That conviction," continued Viscount Middleton, "has taught me to face many an audience with what seemed to me a subject of insufficient interest."

In every club the simpler the organization the less work involved and the greater the chance for success. Discussion and the presentation of opposite ideas has its value in every club, but if care is not taken, contradiction will prove very injurious to any organization. It was a clubman who said, "Well, wife, this is club night and I must go and contradict a bit."

Club Programs.

There are many and various classes of clubs. Clubs for the study of individual writers, clubs for the study of history. Canadian history contains an unsuspected wealth of association, sufficient to cover several winters' programs. Musical clubs have a great fund from which to arrange interesting programs. Sometimes a few people are especially intersted in some individual writer, Carlyle for instance. If Carlyle be chosen, the club should secure an inexpensive set of his works. Programs could be arranged as follows:—First heading, BIOGRAPHY.

1. "Biography." References may be found in the "Life of Carlyle," by R. Garnett.
2. "Carlyle, Personally," by D. Masson.
3. "Reminiscences," by J. Froude.
4. "Thomas Carlyle," by J. Froude.

Second heading, CRITICISM.

1. "My Study Windows," by J. R. Lowell.
2. "Hours in a Library," by Leslie Stephens.
3. "Modern Humanists," by J. M. Robertson.
4. "History of English Literature," by Taine.

From these books will be gathered a good deal of information regarding the man and his writings.

The following suggestions as to titles of papers may be of help: "Carlyle as a Representative of Scotch Peasant Character," "Carlyle's Gospel of Work," "Carlyle's Literary Power."

Parents as Educators

Walks and Talks—By Elsie F. Kartack

We were in the garden one morning, shortly after my arrival, John, Mary, Bobby and I. Mother had gone away for a vacation.

The garden was beautiful, and we were quietly enjoying all its loveliness when suddenly Mary cried, "Oh, there's an ugly old toad, I'm afraid of it."

John and Bobby ran toward it in eager anticipation of destroying it.

"I hate toads," said John with a vengeance.

"I'll step on it," exclaimed Bobby at the same time.

I was just in time with my "Wait, Bobby. Why are you going to kill it?"

"Because I hate it," he answered.

"And why do you hate it?"

"It's ugly."

"Oh, is it? I don't think so. Let's take a better look at it. Why, see, it has beautiful jewels on its back, and look here at its gold rimmed spectacles."

The children looked surprised.

"Suppose we sit down and watch it while I tell you all about it," I continued.

"Don't do that, you'll get warts." This from John as I reached out to stroke the toad.

"No, you won't," I replied. "Not any of the books that I have ever read about toads say that you get warts from stroking them. The toad likes it and he sometimes sings a song, just as a cat purrs when it is stroked. Do you see the pouch under his mouth? That swells as he sings. He cries, too, when he is hurt. There are different kinds of toads. The tree toad becomes the color of the surface on which he finds himself so that people or animals cannot see him."

"I wish I could do that when I'm playing hide-and-go-seek," said Mary.

"Well, you see the toad can do some things that you cannot do," I replied.

"Let's hear some more about it," exclaimed John, breathlessly moving closer to the toad.

"The mother toad lays the eggs in the water and covers them with a jelly for protection. After they are hatched, they are called tadpoles."

"Are those little black things that swim around in the water tadpoles?" interrupted Mary.

"Yes. They live in the water six weeks and then they lose their tails, grow legs and swim to shore. After that they live on land. When a toad wants a new suit he splits his old one up the back, pulls it off, rolls it into a ball and swallows it and there he is in his new suit."

"Really?" the children all exclaimed at once.

"Yes, really," I replied, "and I have left the best for the last. The toad is one of our best helpers. He eats all the insects that would destroy our crops and flowers, so is very valuable to the farmer and gardener. If unharmed, he will live for years in our garden. There is one very old toad who spends his winters under my stone steps at home, and every spring I look eagerly for him to come out and he has not disappointed me yet," I ended.

Mary moved nearer. "I don't believe I'm afraid of you any more, nice old Mr. Toad."

"Say, Bobby," said John, "let's be good to this toad and then he'll stay and maybe some day we'll see him change his coat. Anyway, we can take him into partnership in our garden work."

THE BENEFICENT GRASS

"Next in importance to the divine profusion of water, light and air, those three physical facts which render existence possible may be reckoned the universal beneficence of grass. It bears no blazonry of bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, yet should its harvests fail for a single year famine would depopulate the world."

The above lines are taken from John James Ingall's beautiful ode to grass. Grass is such a common thing in this rich, well watered land of ours that we take it for granted, not giving it credit for many good things or stopping to think just how much we are dependent upon it. We turn it with the plow and till the soil until not one green spear shows. We continue cultivation until the humus is depleted and the soil becomes lifeless, and the rains wash the top soil away and gully the hillsides. Grass bides its time to return and restore the destruction we have wrought. The grass fields do not wash, they become richer rather than poorer with the lapse of time. They attach us to the land. Our affections are not deeply set on a plowed field or a corn crib. It is the pasture with its inhabitants, the frolicking lambs, the pigs in clover, the sturdy colts, with their big gentle mothers, and the rugged bright-eyed calves, that touch the heart and make us happy to be a part of the great wide country.

In the past we have not esteemed pastures as we should. They feed mankind. Each evening sees the cows come home from their work of transforming nature's carpet of green into the richest of food for man —foaming milk, rich cream and yellow butter—the most perfect food for all the young. Their flesh is grass. The steers graze the rich pastures till they are filled, then they lie down in a herd on the hillside contentedly chewing their cuds for an hour or two and making grass into juicy steaks, the food that has enabled those who ate thereof to dominate the world.

The races of men who wear wool have always been the leaders of civilization. Wherever the golden hoof has trod there has come prosperity. The white fleeced sheep eagerly nip the tender grass and are the medium through which pastures clothe mankind.

There is something that comes from living amid broad pastures and caring for good live stock that makes great souls in men; that gives them faith; that makes them sane, patient, enduring, clear thinking; that imbues them with a deep love for their land and for their country.

Settling those slugs: A reader reports that sprinkling lime around plants failed to dispel garden slugs. Perhaps the lime was not renewed frequently. A circle of soot or lime about plants requires frequent renewal, because slugs exude a slimy fluid over which they can crawl with immunity. If the soil in beds and frames is saturated with a solution of ammonia several days before planting, it will drive slugs from hiding and turn them a whitish color so that they may easily be seen and picked off the bed.

Inhalation of impure air breaks down the resisting power against disease.