OF INTEREST TO FARMERS

INSECTS ENEMIES OF FOWLS

I have never had any trouble keeping fowls fefe from the attacks of the gay body louse, which spends its whole time on the bodies of its victims. A few pinches of sodium fluoride distributed along the neck and back, under the wings, around the vent and between the legs wills every louse in a few minutes, and if the dose is repeated two or three times at intervals of four or five days, the lice that have hatched from the eggs left on the feathers will also be destroyed, and the flock be free from that sort of annoyance.

When it comes to the little red spiders, which we call poultry mites, the case is different. They spend the day in any crack or crevice that they can find. They require a small place in which to hide, and make their forays at night, filling themselves with blood and returning to their hiding places during the day. A few may not quit their-blood sucking soon enough to get off the bodies of the birds, but most of them disappear during the day in the dust bath or by dropping off. Cleaning them out of a chicken house in which they have once got lodgment is the hard task. As a rule I begin fighting them in the spring, before I can find one, and keep it up all summer. For this reason I had not seen a single mite in my trap nests for three or four years until lately. During the past spring I had rather more to do than I have been able to accomplish, and consequently neglected the fight against mites, except for a casual glance over the perches now and then. Quite suddenly the hens in one house that had been laying freely quit. There were 16 hens in the house, and the day that we did not get at least ten eggs from this flock we remarked the fact. When we got one or two I began a close axamination of the house, finding enough mites to stock a county, concealed under the dropping boards, where they rested on cleats on the wall. Immediately everything in the house was thrown out and thoroughly sprayed with an insecticide the directions for which said to mix it with water at the rate of 70 of water to one insecticide, I made it 50-50, to be certain to get it strong enough. In pouring it from the five-gallon can, some of it spilled over one of my hands, and the next day that hand began to peel as if it had been sunburned, so I concluded that there was some strength to it. I sprayed the house until the walls dripped, and then I gave it a dose of coal oil from the same spray pump until the vapor was so thick I had to leave the house. The next day I found that I had missed a few millions, and they had gathered in bunches on the under side of the perches. Evidently they had been hidden behind the battens on the outside of the house, and had come in to feed. The insecticide and oil had prevented them from harboring in their usual places inside, and from returning to their former hiding places. I have at this writing been over that house in the most thorough manner five times in a week. This morning I could find only half a dozen lice anywhere inside the house, but I am going to keep in until I cannot find one. On suspicion the other four houses are being treated the same way, although I cannot find any mites in any of them.

I am going into detail to show what one must do when a house becomes badly infested before it is thoroughly free from these little pests. Last evening, a week after the first spraying, the nests kept in this house contained five eggs, showing how quickly the hens have responded to freedom from the blood-suckers that have beeen sapping their vitality. The costliest live stock than can be kept on a farm is a flock of red mites, and if one is left to reproduce itself, there will be a million in a short time.— MILLER PURVIS.

SCARCITY OF HORSES PREDICTED

Horses in Canada have increased in numbers of late years but two important types have seriously decreased in quality, at least such is the fact to be gathered from the report of the Dominion Minister of Agriculture, which declares that there is a scarcity of clean, sound draughters weighing from 1600 pounds upwards, and of horses for delivery work with good conformation and action, clean legs, good feet and pasterns and weighing from 1000 to 1400 pounds. Horses for military purposes and police purposes are also becoming hard to secure, while choice saddlers and hunters are only to be found occasionally even in districts that formerly were noted for breeding these types. The report deplores the existence of the erroneous idea that owing to the advance of motor traction the usefulness of the horse has passed. In this northern country, this, in the opinion of owners, managers and dealers, will never happen. The question of power has been discussed with farmers and others, many of whom are using both tractors and horses, or trucks, as the case may be, and the consensus of opinion, backed up by cost accounting, is that horse power, taken by the large, is the cheapest power for farm work, as well as the pleasantest, while in the cities, for delivery and cartage work within a radius of rom five to seven miles, or on a loop route, or even on a long route with frequent stoppages, horses supply the most reasonable means of transportation. The opinion is expressed by some that horse breeding propaganda should be started to encourage the breeding of horses of the types required, or they fear that there will be a serious shortage in the next three or four years. Another regret expressed in the report is that pure bred horses are being imported which could just as well be bred in Canaga. Federal assistance to the club system is said to be serving its purpose well where applied to the raising of an improved type of horse.

TIMELY GARDEN PRACTICE

By Henry J. Moore.

Ornamental Plants for the Home.

While the conditions prevailing in many homes are not conducive to successful cultivation of all so called house plants yet there are usually a few which may be grown fairly successfully under almost any condition. Selection is thus an important matter, and the more discriminate we are the greater will be our chances of success.

House plants are generally purchased direct from greenhouses, and as the conditions a greenhouse afford are so different from those in the home it is hardly reasonable to expect that all plants obtained from the fore-mentioned source should flourish. However, we find people who do and these particular people are usually disappointed when the plants fail to grow successfully. The florist does not, and cannot guarantee that the many varieties of plants which he grows will all live and do well in the home. Therefore, it is essential that the would-be grower make a study of his home conditions, and select plants which are adopted to these.

The price of the plant is no criterion of its longevity—a tender five dollar palm, a two dollar fern or begonia may not live as long in the home as a twenty-five cent geranium although they are of a much higher quality. It is simply a question of condition. The palm, fern, and begonia may have been grown in a high temperature, and a humid atmosphere, and so are not suited to the dry and probably cool air of an ordinary living-room. Thus, we are led to the thought that plants which are grown in cool greenhouses, and are thus much hardier than those grown in a more tropical temperature are generally more satisfactory as house plants, and this thought is amplified by results which we see around us every day in the growing of these beautiful things.

We find plants in many homes which are at best but temporary subjects, but which during their time of tenure are worthy subjects—a further thought thus arises that there are two classes of house plants, namely, those which may be used for temporary embellishment, and those which are more or less permanent. Those who can buy plants of the former class will be in a position to maintain a succession of plants in bloom during almost the entire year, while others perhaps the large majority, will have to rely largely upon the latter, but none the less interesting class.

Plants of the first mentioned class usually blom but once in the home and are then discarded, as the conditions therein are not suited to growth during the second season and they would gradually sicken and die. In the case of the anual plants which belong to this class it is not to be expected that they would survive after blooming. The Primulas comprising the well-known Primula obconica, sicnsis, the Chinese Primrose, Stellata,, the star Primrose, and Malacoides all of which are grown by the florist for home decorative purposes, belong to this class, and while not strictly annuals, are generally to be regarded as such by the householder. The Common Cineraria, or more properly Senecio is also an annual, as far as the householder is concerned.

Begonia GGlorie de Lorraine, Glory of Cincinnati, and others of this type, are examples of plants which cannot usually be grown with success year by ear in our living rooms. They are very beautiful and serve a very useful but only temporary purpose; and these and the Primulus and Senecios should not be selected as permanent subjects. A list of dozens of plants of temporary worth could herein be given if space would permit. French flowever, has been said to afford a hint to the prospective buyer to seek information about the nature of the subject before it becomes his property.

The permanent class is the one in which the average householder should be more largely interested Ti this class belong both expensive and inexpensive plants, but as with ordinary care they will live and flourish satisfactorily for many ears—even the expensive ones may prove to be good value. The following plants will be found among the most useful and permanent for home decorations: Aspidistra Green or Variegated—too much cannot be said in praise of these two subjects, which are satisfactory for irdinary house conditions. Kentia, now Flowea forsteriana, a cool green-house palm, an excellent and well known subject, whic his especially adapted to living-room conditions where the average Winter temeprature is around 60-65. The rubber plant, Ficus Elastica—which with fair attention may live for many years until its size precludes its usefulness in the home. The Xmas Cactus, Epiphyllum truncatum, a subject which will survive in rooms even if the atmosphere is exceeptionally dry, as long as care is exercised in watering and a temperature of 50 to 60 is maintained. The Botson four Nepholepis bostoncensis, and many of its varieties, perhaps the best class of ferns for home culture of which we have knowledge. The riter might continue to name other subjects including GeGraniums. Many of the fibrous rooted Gegonias, as B. Manicata and its variety aurea, and the Rex Gegonia Family many of these excellent for home culture, and a host of others. Perhaps, however, it is sufficient to have mentioned but a few from which through familiarity readers may glean a knowledge of what constitutes permanency in house plants.

FACTS ON INDOOR CULTURE OF BULBS

For the indoor flower grower, practically no class of plants can be grown with less care and greater satisfaction than the spring-flowering bulbs.

In selecting bulbs, it is well to secure those of first quality. A good-sized bulb is much more likely to give a good, strong bloom than a bulb of small size. Commersoil than most other plants whica bulbs as those of first and second quality.

October is the proper season for potting bulbs for spring blooming. A bulb requires about six weeks or two months in which to get properly rooted before being brought into the full sunlight.

The soil should be well prepared, getting the proper admixture of loam and sand. Bulbs require probably more sand in the cial dealers usually list their are grown indoors. From one-sixth to one-fifth of the total soil should be sand. All coarse material should be sifted out as the soil is being prepared for potting purposes.

Plant your bulbs in shallow flower pots known as fern pans. Several bulbs may be potted in one pan. With larger bulbs, such as the Dutch Hyacinthe a single bulb to a five or six-inch flower pot is sufficient.

In potting, place about one inch of coarse material such as broken flower pots or cinders in the bottom to act as drainage. Fill the flower pot to within one and one-half inches of the top with well firmed soil; place the bulb on top of the soil and pack additional soil around it. When potted, the top of the bulb should protrude well above the surface; the soil around and below the bulb, should be well compacted. After potting, the soil should be thoroughly maistoned and the potted bulbs placed in a cool, dimly-lighted or darkened room at a temperature of 40-45 degrees, Farh. They may be left under these conditions for a period of six week or two months.

After the blooming period is over, the best plan is to discard the bulbs with the possible exception if Freesias. With thes bulbs, the plants should be allowed to grow for a short time after blooming; then gradually ripened off; removed from the soil and stored in a dry state.

There are a number of other bulbous or tuberous-rooted plants such as Amaryllis. Cyclamen. Gloxinia and tuberous-rooted Begonias which are worthy of culture and which require special treatment.

List of various bulbs which are recommended for general culture.

Tulips, outside planting: Keizerkroon, large yellow and red; Bell Alliance (Waterloo), scarlet; Cottage Maid, rose and white; Chrysolora, large golden yellow.

Tulips, single for indoor planting: Dusart, larfe red. Prince of Austria, orange, scarlet, sweet-scented; Yellow Prince, golden yellow; Rose Louisante, deep rose.

Tulips, double, for indoor planting: Couronne D'or, yellow orange shaded; Lord Rosebery, very fine fink, early forcer; Imperator Rubrarum, large bright scarlet; Murilla, delicate light rose; Rubra Maxima, large scarlet; Tournesoi, red and yellow (earliest).

Daffodils, single: Bicolor Victoria, broad white pedals, bold yellow trumpet; Empress, white, trumpet yellow, double nosed; Sir Watkin, rich sulphur, yellow tinted orange, single nosed; Madame de Graaf, perianth creamy-white, trumpet primrose, mots beautiful.

Daffodils, double: Van Sion, rich yellow.

Narcissus: Frandiflora, paper white; Poeticus ornatus (pheasant's eye) or poet's; Narcissus, pure white flower with orange cup.

Hyacinths, 1 Roman H., small, early flowering forms with delightful perfume.

1 Dutch H., large, strong-growing bulbs; Moreno, early pink; Gertrude, deep rose with a compact spike; Garibaldi, red; Roi de Belge, early bright scarlet; British Queen, pure white, large; La Grandesse, large tess white; Grand Maitre, porcelain blue; Lord Balfour, distince violet; Ida pure yellow, large spike, early.

Fressit, var.: Purify, strong snowy white, large sized, delightful fragrance.

FEEDING FARM POULTRY

Very few farmers understand that dry mash feeding for poultry is economical and less expensive than most other methods. They have the idea that hens will gather around the hopper and eat all the time. But that is not so, and an explanation of the way it works out will enlighten reader of this paper who have not had experience in this method of feeding. The hens only take an occasional bite of mash. Then they have to drink water. The mash is dry and cannot be gorged down. After a hen has taken a few bites of mash she is ready to hunt around for other feed.

The mash is not sufficiently appetizing to keep the hens from searching for other food. Hens that have been without mash might consume much more than usual when it was returned to them. But if the hopper is always full they soon satisfy their appetites and then only eat at intervals. The mash hopper insures every hen an opportunity of obtaining egg-making materials at some time during the day.

When hens have mash they do no need so much other grain. Enough protein cannot be given to the hens in the form of hard grain. If they have the mash they can eat the materials needed to produce eggs. The use of mash saves enough hard grain to make its use practical. It also enables the hen to lay eggs, and if mash feeding was more expensive than using hard grain, it would still pay to use the mash. The profit with poultry is the difference between egg receipts and feed costs. A cheap ration might bring no profit because of the low egg production. A well balanced ration brings eggs, and without eggs to sell there is no profit in the hen business, even if the feed cost is close to zero.

When there is plenty of sour milk and beef scrap or other protein in the mash it can be cut in two. Some farmers find it a hard problem to feed sour milk in a sanitary manner. If the milk is placed in low dishes it is soon full of litter and very unclean. Dirty milk can be a cause of bowel trouble. It pays to place the milk in crocks on low wooden stands. These crocks can be scalded and kept free from dirt and gummy material. They are rather heavy and not easily tipped over. They are low in height so the hens can drink the milk in the bottom of the dish.

To Keep Hens From Wasting Food

Some poultrymen find it a problem to keep hens from wasting every material that is served in a self feeding hooper. The hens seem to have a mania for pulling out mash, oyster shells or grit until the hopper is emptied in the litter and much of the material wasted. This can be avoided by making a lip with a small piece of board on the front of the hopper. Then the trough of the hopper can be deep enough so the hens have to reach down for the material. If they still waste it, a piece of fine mesh poultry wire can be tacked over the opening so that the birds will have to peck through the openings and only be able to obtain the material that they eat.

The clogging of dry mash hoppers is a problem if they have narrow throats. The remedy is to build them wide enough so that the mash will not often clog. Even then it is necessary to watch the hoppers occasionally and see that the mash is feeding down as it is used. A stick several feet long can be kept in a hopper that clogs and used to break up the mash. That takes time and it pays to build the hoppers so they will seldom fail to let the mash slip down as it is used.

When old and young poultry use the same farm range it is often a problem to keep the chicks growing rapidly. The old birds crowd them from the feed hoppers and frighten them at feeding time. It pays to construct a dry mash hopper inside of an enclosure protected by slats so that the young birds can enter while the old ones are excluded. The chicks soon learn where they feed unmolested and an improvement will be noted in their growth.

Such an inclosure can also be used for the water dishes and sour milk crocks used by the young growing stock. Of course, it is best to have them on a separate range but these small feeding wards are very usetul on the general farm where all the poultry of all aged are allowed to run together.

Some breeders use wet mashes and find trouble in keeping the poultry house clean and the feeding troughs in good condition. We believe that this problem can be avoided and the poultry house kept more clean and dry if no wet mashes are used. The birds grow and lay on dry mashes and as such mixtures save much labor and seem to keep the birds healthy we can see no necessity of mixing up much moist feed. Of course, when there is an abundance of table scraps they can be made more appetizing to the hens if they are made into a moist mash by the addition of bran or the dry mash mixture used in egg production.—R. G. KIRBY.

CARE OF HORSES IN WINTER

There are few farms where the winter work calls for more than one team unless teaming contracts are taken for the winter months. Most of us like to have the team that goes to the mill or to town looking well and a credit to our horsemanship. That means that the horses worked must be kept in the stable where they are groomed with more or less regularity, blanketed and well fed. All of this involves work and a farmer of our acquaintance sees to it that this work is limited strictly to the two horses that are used occasionally. The other four, which make up the summer working strength, are cared for on a different system.

During the winter the two idle teams are given the run of the barnyard. Their shelter is under the straw shed, which is tight enough to prevent drafts and where they can go in or out at will. In the fall the shoes are taken of., the shed is well bedded and care is limited to giving a good feed of alfalfa hay twice a day and a few mangels once a day. In the course of a month or so the teams look pretty ragged under this treatment with long, rough coats, but they are healthy and vigorous. Along towards spring they are fed a little grain and given work when possible to harden them up for the spring rush. Visiting a country grist mill one winter day, we made a special point of asking all of the farmers who came up how much grain they were feeding their horses. It was a section in which alfalfa is fed extensively and almost without exception we found that no grain whatever was being fed but that all were feeding ether mangels or a little ensilage for succulence. Where alfalfa hay is not available, we have seen horses wintered "in the rough" on mixed hay, straw and roots and they came through in good shape. Where the working teams can be wintered with little labor or expensive feed as in the manner described, the horse can up a much better argument with the farm tractor from the economy standpoint than would otherwise be the case.

FARM NOTES

Some stockmen are wishing that they had sold their cattle when they were offered a good price.

The ram should not be confined with the lamb ewes during the winter. A ram is continually disturbing the ewes when they should have rest.

The thin cow at calving is in a poor condition to make milk profitably, and cannot produce the rugged, healthy calf fitted to withstand the many calf ailments.

Carefully but heavily fed, a fresh valved cow wil linvariably produce the cheapest milk. A pound of grain when the cow is fresh is equivalent to several pounds of grain after the cow has decreased materially in her milk flow.

Pregnant ewes during December require approximately: clover or alfalfa hay o unthrashed pea straw, 2 to 3 pounds; roots or ensilage and roots, 2 uonds per head daily. Grain should be fed only to the thin ewes. Water and salt regularly.

Over-feeding of breeding and feeding stock is claimed to be one of the main sources of loss in hogs. Over-feeding of sows will almost invariably produce small litters of weak, unthrifty pigs and a high death rate. Under-feeding is less common, but an equal source of danger.

Care must be exercised at this time of year in the feeding of new oats to horses, since new oats are very liable to cause digestive trouble. If possible, they should be mixed with old oats. But if new oats must be fed, the only thing for most farmers to do is to feed new oats sparingly.

The lack of a proper balance of the ration produces disastrous results more quickly with swine than larger stock. Lack of sufficient ash and protein in the feeding of the sow produces litters weaks in bone, often hairless, blind or dead at birth. Lack of exercise is another socrce of most fital losses.

The foal may be weaned at from four to six months. If for any reason the mare and foal are not doing well or in case the mare is bred son after foaling, or she is required for heavy fall work, it is best to wean comparatively early. However, if the mother has a good flow of milk, and she is not needed for heavy work, the foal may be allowed to suck up to six months.

Dairy cows in milk should be fed about two pounds of dry roughage or one pound of dry roughage and three pounds of silage daily per 100 uond live weiht, and one pound of grain for every three and one-half pounds of milk produced at the beginning of the lactation period to one pound of grain for every five pounds of milk produced as the milking period progresscs. A fair average is one pound of grain to four pounds of milk.

The same farmers who keep their house in excellent "paint condition", often neglect their barns. The barn is often out of sight from the road and nobody pays particular attention to it anyway. Why paint it? The reason why barns should be painted may not have occurred to you. It is because a barn that is regularly and well painted will last indefinitely. One that is not will rot away and loosen up in a very few years. Give your barn a chance for longer life.

For the proper washing of milk cans a tank with clean hot water is necessary; washing powder; thorough brushing by hand or by machine; rinsing in clean water, steaming for at least 10 seconds; drying a blast of dry, hot air of sufficient volume to dry the can completely in 10 to 30 seconds. The lids should be cleaned in the same way. As soon as they are washed and dried the lids should be put on to close the cans and prevent their being soiled. Milk cans cleaned in this way remain clean indefinitely.

As a rule fish are drawn before they are transported to market as it means a reduction in weight of from fifteen to twenty per cent., but it is only in exceptional cases that this is ever done with the smelt. While smelts are not as plentiful as in former years, fishermen are getting good prices for this delicious little fish. During the year 1920, 87,555 cwts. of smelts were caught and landed in Canada with a first hand value of $971,206. Canada exported dcring the same period 61,995 cwts. with a marketed value of $763,942.

A pond or stagnant creek surfaced with green scum is a poor but common source of water for stock. The best water for farm animals is that which comes perennially fresh and pure from a living spring; the next best is that which is pumped as needed from the uncontaminated depths of the earth into concrete tanks, which the competent stockman keeps clean. Animals that are forced to drink polluted water do not drink enough; that is, they would drink more if it were clean, cool, refreshing and agreeable to take. The stockman who honors his calling, and feels and thinks for his animals requires that their drinking water shall be good enough for his own use.

RECIPES

PUMPKKIN PIE.

Stew the pumpkin and rub through a colander. Beat the yolks of four eggs light; add a cupful of sugar and beat until you have a quart of the stewed pumpkin. Pour in a quart of milk, a teaspoonful of nutmeg, and cinnamon. Fold in the stiffened whites of four eggs. Line a deep pie plate with puff paste, then fill with the pumpkin and bake in a moderate oven till done.

SHORT LIFE IE LONG

As the cartoonists have it, a year comes in as a baby and 365 days later dies as an old man. How fortunate it is that the human comes in as a human and not as a year.

Whipped Cream Pie

Line a pie-plate with a rich crust, and bake quickly in a hot oven. When done, spread with a thin layer of jelly or jam, then whip one cupful of thick sweet cream, until it is as light as possible; sweeten with powdered sugar and flavor with vanilla; spread over the jelly or jam; set the cream where it will get very cold before whipping.

Frostings and Icings

Almond Frosting—The whites of three eggs, beaten up with three cups of fine, white sugar. Blanch a pound of sweet almonds, pound them in a mortar with a little sugar, until a fine paste, then add the whites of eggs, sugar and vanilla extract; pound a few minutes to thoroughly mix. Cover the cake with a very thick coating of this, set in a cool oven to dry, afterwards cover with a plain icing.

Patty Shells

One cup of flour, 1-3 cup shortening (one-half butter and one-half good lard), one quarter teaspoon salt and iced water, sift the flour and salt, work in the shortening, add enough iced water to roll out; chill; toss onto a slightly floured board and roll out to 1-8 inch in thickness, cut with a biscuit cutter into five rings, with a smaller cutter, remove the centre from four into five rings, with a smaller cutter, remove the centre from four of the rings, lay on the whole ring, brushing the edges with water, then chill and bake in a hot oven until brown, cook some of the centres, cook out to rise as covers fr the patties.

Plain Chocolate Icing

Put into a shallow pan four tablespoonfuls of sqraped chocolate, and place it where it will melt gradually, but no scorch; when melted, stir in three tablespoonfuls of milk or cream, and one of water, mix all well together and add one scant teacupful of sugar, boil about five minutes, and while hot, and when the cakes are nearly cold, spread some evenly over the surface of one of the cakes, put a second one on top, alternating the mixture and cakes, then cover top and sides and set in a warm oven to harden.

Boiled Frosting

The white of one egg, 1 cup granulated sugar, beat the egg to a stiff froth. Put just enough boiling water on the sugar to melt it; then boil to a thick syrup, pour the boiling syrup over the beaten egg, and beat until it is thoroughly mixed. Add flavor. Pour over the cake while hot.

Brunswick Jelly Cakes

Stir one cup of powdered white sugar and one-half cup of butter together, till perfectly light; beat the yolks of three eggs till very smooth and thick; sift three cups of flour and stir it into the beaten eggs with the butter and sugar; add a teaspoonful of mixed spice (nutmeg, mace and cinnamon), stir the whole well together and lay it on the paste-board, which must first be sprinkled with flour; if you find it so moist ase to be unmanageable, throw in a little more flour, spread the dough into a sheet about half an inch thick, and cut it out in round cakes with a biscuit cutter; lay them in buttered pans and bake about five or six minutes; when cold, spread over the surface of each cake a liquor of fruit-jelly or marmalade; then beat the whites of three or four eggs till it stand alone; beat into the froth, by degress a sufficiency of powdered loaf-sugar to make it as thick as icing; flavor with a few drops of strong essence of lemon and with a spoon heap it on each cake, making it high in the centre; put the cakes into a coal oven, and as soon as the tops are colored a pale brown take them out.

Oatmeal Pudding

1 cup boiled oatmeal.
1-2 cup sugar
2 cups canned or stewd fruit.
1 teaspoon butter or butter substitute.
Flavoring to taste.

When boiling the oatmeal for breakfast, make double amount. To the half, add water. Brush custard cups with melted butter substitute, fill with the oatmeal and set in cold place. Turn out into individual dishes, cover with any kind of canned or stewed fruit. This makes a good dessert especially for children.

Dry, harsh hair is not a sign of thriftiness in the stock.

TO THE POULTRYMAN:

A Weekly Letter Containing Practical Pointers in the Management and Care of Standard Bred Poultry, Taken From the Daily Log Book of Sunny Crest Poultry Farm, Bear River, P. E. I. by the Manager.

At the close of last week's letter I promised to take up some points this week which would be of special interest to those who have or who intend to make a beginning in the poultry business, and since then I have tried to figure out just how it would proceed so that the articles would keep pace with the work and would deal with the difficulties which are most liable to be encountered at the time of writing, or in other words to make them in the form of a text book which would deal with the problems at the season they are most liable to be met.

A few seasons ago we took one hundred pullets (S. C. W. L.) in off range on the first of September and put them in the laying house in two pens; the fifty pullets in the first pen were hatched on the 15th. of May and the second lot on the 8th. of June, both flocks being hatched from the same parent stock.

The pullets in pen one were a trifle more advanced than the second bunch, in fact more than the difference in age would warrant. We got the first egg from them on October 11th, and in less than a month they picked up to around about a thirty-five per cent. production. Ten pullets from this bunch picked at random, showed weights ranging from three pounds, four ounces, to four pounds. This was satisfactory.

However all was not going so well with pen number two. They were in good health, vigorous, and of good size but we could not seem to coax them over the last lap from maturity to laying. The combs came up nicely to a certain point but refused to flush to that good healthful red color which is such a true indication of active egg organs.

Finally an odd one of the pullets started laying an occasionally undersized egg but the majority of them were star boarders and whatever else was wrong with them I can assure you that no checking up the daily consumption of mash and scratch grains, it did not take an expert accountant to tell that there was nothing wrong with their appetites. If ever there was a time I truly wanted to be able to converse in "hen" it was during this uncertain period.

Wondering if any other breeder had been over the some road and had been christian enough to put his experience in writing for the benefit of some who might also be up against the same thing, I procured copies of a leading American poultry paper for November of that year and also the November copy of the previous year, but the very minutest search through from cover to cover failed to reveal anything that would have the slightest bearing on my problem. True there were excellent articles on the various phases of poultry work such as "Does the male transmit the lay?" "Prepotency, Male versus Female" and another headed "Hemorrhagic Septicemia" while about eight pages of one issue was devoted to the theorising on the part of a foreign professor as to whether or not the future laying ability of the hen was determined by the heat of the brooder or the mother ben during the first ten days of the chick's life.

Without doubt there were all excellent articles and well written by men who could fully understand them but they were of little use to you or I in solving the everyday problems such as the one noted above (which I will go into more fully later) and I resolved then and there if I was ever in a position to write something on the work I would write to the ordinary everyday man in language he could understand and not take up space with stuff that might just as well be written in Greek so far as you and I are concerned.

While I do not underestimate the value of preliminary training in the poultry business I do not think it is absolutely necessary or that the enterprise is bound to fail simply because one has not served an apprenticeship on a large successful plant. Please do not misunderstand me in this or think that I advocate plunging into a thing without giving each detail the most careful consideration. If it were possible I have no doubt in the world that a man would benefit greatly by a course in practical poultry husbandry and it would save him many of the costly lessons which experience so ably teaches; but then again I want to tell you that many of the things which are worked out on paper and handed down to you to put into practice require so much modification before they can be applied practically that it would have been just as easy for you to have worked out your own salvation from the beginning and take the whole credit.

While there are many branches of the business that can be successfully and profitably worked, you will find one that will be more suitable to you than the others; this will be, to a great extent determined by market demand, local conditions, and ones own taste and judgment as to which he can handle the most profitably. While you may think that taking up one branch of the work and limiting yourself to it will make rather small business you will very likely find that mastering the details of that particular branch will keep you exceptionally busy and the successful handling of that branch will require a working knowledge of the others which can be acquired as the necessity arises.

The conditions under which the back yard flock are run are well night ideal and if they could be as well applied on a large scale as to the flock of twenty to fifty, many of the difficulties which confront the large breeder would be quickly overcome.

In the fall of the year twenty pullets, ready to lay, are housed and a small house with sufficient floor space to give them a chance to move around, and get the necessary exercise, with roosting quarters at hte back, is easily set up. In a number as small as this the matter of ventilation which is such a large and important factor in poultry house construction for large flocks will not require the same amount of attention. So long as about one third of the front of the house is enclosed with cotton or muslin screen, with the glass window (which should take up about the same space as the cotton) so arranged that it can be thrown open in fine weather, little trouble will be caused by insufficient ventilation.

By feeding the whole grain in the litter on the floor and providing a hopper with a good dry mash accessible to the birds at all times and providing green food in the form of mangel, beets, turnips, sprouted oats, the birds can be kept producing well all through the winter, all the scraps from the house can be mixed fairly dry with some dry the mash and fed at noon time or before the fowls go to roost at night and in this way you will be using up all the waste and turning into good marketable eggs what would otherwise be thrown out.

By observing what hens go to the nest most regularly and other simple indications the non producers can ge singled out and make splendid dinners of and disposed of locally while the eggs they have been consuming will go to the ones who are doing the work.

By spring, what are left will be sorted over and the best birds, those which show the best health and vigor and are free from defects that could be transmitted to the offspring, are mated to a male of known breeding, one that comes from vigorous free range stock that have been bred for egg production. If you notice that your hens are a trifle small for the breed get a male that will be a little over standard weight or if any fault which is noticeable in the female side see that the male is particularly strong on that point, he is half the flock and will stamp his strong points on the chicks just as strongly as the hen will reproduce her weakness.

Now if you intend to maintain the same sized flock as the previous year it will be necessary for you to hatch at least fifty chicks as fifty percent of all hatched will be cockerels and you will require at least ten per cent above your needs to allow for the culling of weaklings and for the loss from sickness, accidentsh, etc., you will find that it will be pretty close running to raise twenty good healthy pullets from a batch of fifty. For my part I would rather hatcho ut seventy five and have more chance to cull from time to time but be back yard lot is often rather small and one is not always able to have as much land as is necessary for the best raising of the chicks and n that case it would be far better to hatch just as few as you possibly can and give them all space possible then hatch out a lot and rave them in yards stripped of every green thing early in the season and the whole place contaminated from overcrowding.

Now then we will say that you have hatched fifty good healthy chicks, they are put in colony coops with a movable run at one end of the yard away from the layers wtih enough clean soil for them to exercise on and pick over. They will not be crowded for six weeks and at the end of that time you will be able to comb them over and eat the first of the cockerels this will be repeated from time to time and as the cockerels are disposed of beginning at the time they are classed as broilers, and continuing through until the fall will probably make thanksgiving roasters you will have more room to allow the pullets and by the time the old stock begin to moult the young are ready to carry on the work and the hens can be shipped off to market.

While the above is only a rough sketch it is a good illustration of to how great an extent, the success of an enterprise depends on four conditions, namely, being able to get what you want and a ready market for what you produce. The table waste would illustrate the availability of feed at moderate cost. Our table and the occasional sale of a bird to a neighbor would constitute the ready market without transportation difficulties; and of course there is always a ready market for the eggs. Then when the hens have ceased to produce they can be sold for enough to cover expense of rearing.

Be sure your match is out. Finish before you throw it away.