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FATE TIED MANWARING TO CHICKENS

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Aurther Manwaring planned for a 6,000-bird chicken farm. There were to be twelve buildings, each holding five hundred birds. Then, Mr. Manwaring purchased a 6,000 egg incubator and built a 6,000 chick brooder house. You will smile when you hear the next statement, but it is true. He planned to incubate 6,000 eggs, place 6,000 chicks in the brooder house, and later place 6,000 pullets in the laying house.

The planning was great, but alas, it didn't work. He didn't even figure on the males nor mortality. But then, that's about all folks knew about chickens in those days. Failures were more common than successes.

Mr. Arthur Manwaring was a plunger! He had lost heavily from his business ventures in Chicago. Resolved to try something else, he made his store here pay him good profits again and then he plunged into the chicken business. He didn't know there was anyone else in the business. In fact, there wasn't for miles around. That was in 1911 when few of the Agriculture Colleges had poultry departments. Poultry information was scarce and no one knew much about raising chickens.

Knowing that failure this time meant complete ruin, Mr. Manwaring called on his son, Chester Manwaring, to help him in this strange, new business. Chester was a student at the University of Chicago then. He gave up his work at the university and taught high school in a neighboring town for a couple of years, so that he could help on the farm during the summer. However Arthur Manwaring's 6,000 bird bubble soon burst, for from the first 1,000 eggs, he raised two pullets and one rooster. In his typical cool-headed manner, knowing full well what failure meant, he planned to continue hoping to learn from the great school of experience.

The Manwarings finally determined that if they were going to make a success of their new venture, it would be necessary for Chester to give up his teaching work entirely. This he did, although somewhat reluctantly. So it was that in time Chester Manwaring took over the chicken business. Since then he has served on the Association Board, together with Chas. G. Pape, J. C. Fishel, and L. J. Demberger, to obtain a new poultry building for Purdue University. In his kindly sympathetic way, he spoke at the meeting and reiterated in a few statements his confidence in the poultry workers at the college.

Chester Manwaring had been one of the first to adopt the all-mash system of feeding baby chicks, even before it was recommended by Purdue University. Since the interest in this new method of feeding ran high at the State Association meeting which he gladly did. Later, when some of the association officials were asked for the name of the oldest poultryman in Indiana, they said, "C. L. Manwaring".

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The White City Egg Farm is located a few miles from Mentone. The Egg Farm consists of first, the original brooder house with the old Hall brooding system his father had first installed. This house is 130 feet long, and is divided into numerous small pens, each one large enough for 75 chicks. Manwaring believes in the small unit and attributes no small part of his late success to this small brooding unit system, although he also uses successfully about fifteen 10' by 12' colony houses.

Where but 75 chicks are brooded in one unit, it is much more simple to make certain that all of the chicks get sufficient feed. There is less danger of crowding and consequently, less danger of the development of runts. Of course, weak chicks always serve as the first sources of disease infection, and later as carriers of the disease, so Manwaring has eliminated the possibility of disease considerably by using this system and not over-crowding his colony brooder houses.

He advocates using just enough hopper space and feeding chicks just enough that there must be a little competition in order to get to the hopper and to get sufficient feed. Manwaring likes this spirit of competition in business as well as in chicken raising, for he says it makes chicks more interested in their feed, and as a result they grow better.

The pullets are raised on the range, where the brooder houses are taken when the chicks are 5 to 6 weeks old.

For the first seven weeks, the chicks are raised in this hot-water heated continuous brooder house. Small yards on either side of the brooder house are alternated from year to year, and a fresh supply of gravel placed in the yards every few years. Manwaring has little trouble with intestinal parasites, and no trouble with leg weakness, because he is able to get his chicks out, soon after they are hatched, into these yards where they may obtain plenty of direct sunlight. Cod liver oil is used when direct sunlight is insufficient, especially with early hatches.

When asked about the method he uses in feeding chicks, he replied, "There really is no one best method, however, we desire to impress upon our customers the fact that sour milk or buttermilk in some form should be used." Possibly no one feed element is more conducive to proper growth and development of baby chicks than is milk in some form. In the use of liquid milk, Manwaring warns against using galvanized vessels. He advised the use of low wooden troughs or crockery ware, as the acid in the milk dissolves galvanizing and may possibly poison the chicks.

At the White City Egg Farm, they incorporate a large amount of pure dried buttermilk in the starting mash which they use and in this case they give nothing but water to drink. This way they avoid the labor and mess involved in feeding liquid milk.

Manwaring has continually sought to reduce labor on his farm, because he realizes that a farm after all is an economic unit and that it must be run in much the same manner as a factory, if it is to pay a satisfactory profit.

For this reason, a number of years ago, he adopted the all-mash system of feeding baby chicks and growing pullets, and he expresses entire satisfaction with the results. The ingredients which the birds obtain can be regulated more exactly, and since the mash is fed only in hoppers, there is less danger of the chicks becoming contaminated by eating grain from the liter.

He will adopt the all-mash system for feeding laying hens and in this connection desires to pay tribute to Prof. Kennard of Ohio State Experiment Station for his experimental work in this direction. After the chicks are six to seven weeks old, the cockerels are disposed of except for those that they expect to save for breeders, and move the pullets into small 6x4 brooder houses.

These brooder houses were his father's creation, and were perhaps a vestige of the old Philo system. They are economical of construction, however, and the pullets can be easily cared for in them. They place about 30 young pullets in one house, and with a reasonable amount of culling, they remain in it for one week to train them to their new home. After that they are allowed to roam at will.

These houses are collapsible, being merely hooked together. They can take them apart and disinfect them thoroughly or store them and then set them up again in a few minutes.

These little brooder houses are scattered all over the range, especially the open range, for there is not a tree on it. Mr. Manwaring attributes a considerable share of his success to that range, because with the absence of trees the sun has an unrestricted chance to exert its purifying effect upon the soil. Shade is afforded by having colony houses set up on blocks. Once a year all houses are pulled off the range and the soil is thoroughly plowed and sown to rye and alfalfa.

Freedom from coccidiosis can in part be attributed to this openness of the range and the extensive feeding of dried buttermilk. The range, too, has a gravelly soil with a deep gravelly subsoil, permitting good drainage.

The first laying house is 100 feet long with 450 White Leghorns in it. The second house is 140 feet, with 950 birds in it. Although the doors of the laying houses were open, a screen door was tightly closed on the inside of each. The small amount of trouble Manwaring has with disease on his place can be attributed to this one fact. Disease can easily be carried from one farm to another and Manwaring

Fifteen thousand white leghorns are housed on the White City egg farm, where 200 eggs and more per hen are obtained by good feed and care.

would undoubtedly get his share of it were it not for the fact that he keeps visitors on the outside of his laying houses. Another house 300 feet long, contains 1700 birds, and besides this, there is another 900-bird flock.

The watering system consisted of several large porcelain tanks distributed down the center of the laying houses. They are used to be sure that the drinking fountains are cleaned daily. Porcelain and white enamel easily show the dirt, and if they are not cleaned daily, it can be easily detected. These are supported by concrete built-in base, inside of which a lamp is used to heat the water. This is a simple way of solving this problem, and there is no danger of fire. The lamp is securely enclosed inside this concrete foundation.

The houses at the White City Egg Farm are the shed roof type, 20 feet deep, with a ventilation system pronounced by the poultrymen at Purdue University to be one of the best in the country. The fresh air is taken in half way up on the front side of the house and carried underneath the dropping boards, and then up air shaft at the back wall from where it circulates over the birds and is then drawn in by an air duct between the rafters to an outlet. With this ventilation system and the simple heating system Manwaring uses, he has little trouble in keeping his laying houses comfortable through the winter. He uses an ordinary brooder stove to supply heat during cold spells.

Altho the White City Egg Farm is primarily a commercial egg production plant, specializing in the marketing of high-quality eggs to a special trade on the New York market, Manwaring also is doing considerable breeding work because of the demand for his stock. He says, "Good intelligent selection ranks in importance with trap nesting and pedigreeing." It is good intelligent selection which has helped to bring the Manwaring birds to the high standard which they now possess.

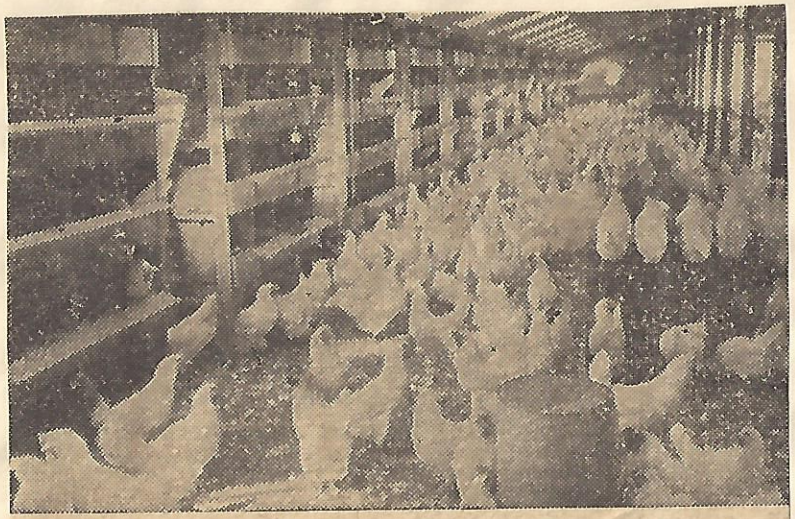
That this is the assumption upon which Manwaring works, was proven by results from a 900-bird flock a few years ago. These 900 birds averaged 196.6 eggs per bird for the year, the highest known average for a flock of this size, according to Professors J. E. Rice of Cornell University and A. G. Phillips, formerly of Purdue University. Manwaring contributes this success to the intelligent selection of breeders and the complete ration which he feeds with the addition of cod liver oil for vitamins, and germinated oats for palatability.

Mr. Manwaring's big success can largely be attributed to his clear thinking. Manwaring's opinions can be considered quite worth while. He experimented with cod liver oil a number of years and when he added it to the ration late in the winter, he did not obtain satisfactory results. Instead of giving up and declaring cod liver oil useless, Manwaring added it to his ration early in the fall and obtained excellent results, both in increased egg production and in better hatchability. He now adds cod liver oil to his feeding system early in the fall and feeds it to the birds until late in the spring. Besides this, every breeder is given some direct sunshine. The snow is shovelled away from in front of the building, and the birds are let out whenever possible during the winter.

Germinated oats, Manwaring thinks, is an excellent poultry feed and considerable emphasis is placed on it at the White City Egg Farm. Anything which will increase the palatability of a ration and encourage birds to eat more has a place in a poultry ration, because after all from increased feed consumption comes increased egg production. Sp

Everything on the White City Egg Farm must pay in profits, or it is discarded. This proved to be the case with an ice house which Manwaring built a number of years ago. He discovered that he could obtain ice cheaper from the adjoining town than to pack it himself, therefore, he long ago discontinued this feature and this ice house now is used to store grain. 553

He purchases the grain for his birds shortly after harvesting time when it is at the lowest price and then stores it out on the farm. He has a power feed mixer, and



Flock of White Leghorn Pullets Occupies One of the Immense Laying Houses On This Farm.

carefully balances his poultry rations himself. By watching the market and purchasing the grain in quantities for the 4,000 layers on his farm, Manwaring i s able to effect a considerable saving.

There are three bungalows, a service building, and a barn on the White City Egg Farm which consists of 40 acres. The caretakers live on the farm which has electric lights and all the other conveniences from which the name "White City" evidently is evolved. The farm is operated on the unit system and with the help living right on the farm, Manwaring finds it quite easy to manage the farm from the nearby town in which he now lives. He is fortunate in having very efficient and capable help and he stresses this point quite strongly.

In the begining of the chicken business Manwaring knew so little about it, that for one summer, between the second or third year, he even forgot to feed the baby chicks any meat food. He knew they didn't grow the way they should an mortality was exceptionally high and he couldn't figure out the reason why. Finally it occurred to him that he was not feeding any meat food and after he reinstated that, results were, of course, much better. Year after year he merely eked out an existence until finally the agricultural colleges began to give him some information on poultry keeping.

A man starting in poultry business now has success practically assured, if he follows college recommendations and uses good judgment and common sense. In those early days Manwaring had to experiment and do all of the work himself. Later on, after he was having some degree of success, the college played an enormous part in his work.

Of course, after all it isn't stock, it isn't breeding, it isn't feeding, it is just good "horse sense" and determination that makes for success in the poultry business. There is a big difference between knowing and doing. Knowledge and skill, unless put into operation, are of very little value. Some poultrymen are strong on the knowing how, but weak on the do. Theorizing won't make a dirty hen-house clean, nor put water into the drinking fountain. A little "elbow grease" is a wonderful panacea for success with poultry.

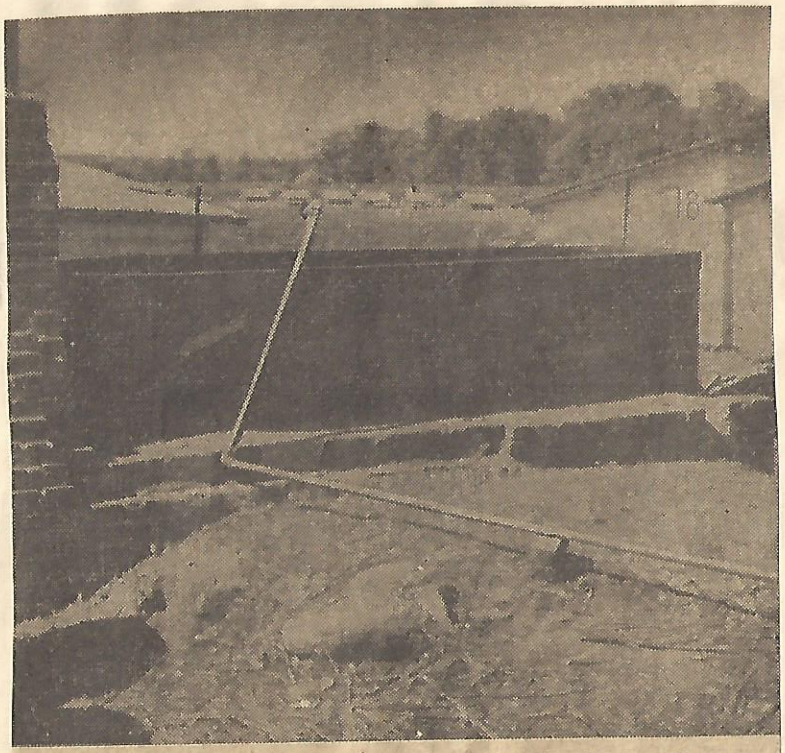
It was the force of circumstance, coupled with determination, that made for success for Mr. Manwaring. Probably a considerable part of his success can be attributed to the fact that he was on the job all the time, studying the birds and anxious to learn. He found occasional articles in the poultry press worth many times the cost of the magazine for a whole year.

The factors controlling and determining economical or profitable egg production are: Heavy flock production; economical feeding; low labor costs; lighting the birds; and good markets.

Of all the factors entering into profitable egg production, the most important one is the inbred ability of the birds to produce a high average production of large, white shelled eggs. By high average production, I do not mean high production of a few individuals. Many of the so-called 275 and 297 egg strains, while containing a bird or two of that caliber, are yet unprofitable due to the fact that these particular birds have not been bred to a uniform high average production.

Heavy flock production in turn is largely determined by egg breeding, health and vigor, character and quality of feed, good housing and good care, and avoidance of winter moult in pullets. Back of Manwaring's birds, there is 14 years of intelligent selection with a large amount of trap nesting thrown in for good measure. Money, effort and time have been prodigally expended to develop and fix this heaby laying tendench in his birds and his success has almost exceeded his expectations. sp sp

According to Mr. Manwaring, health and vigor are the corner stones of continued heavy production. Health in hens is easily discernible while vigor, being more intangible, he defined as being that inbred ability of standing up under the strain of heavy consumption and resultant heavy egg production. With him, health is the



Brooder houses, hoppers, waterers and other equipment are scrubbed with lye and hot water heated in this improvised outdoor boiler. The equipment is taken to the boiler for sterilization.

result of selection and good management obtained by applying the principles just enumerated. The phenomenal increase in vigor year by year on the White City Egg Farm is due to his uncompromising practice of raising from those birds that do stand up under the strain of heavy egg production.

The next important factor is the character and quality of feed. In order that birds may lay a large number of eggs, they must have a sufficient amount of suitable quality raw material from which to manufacture their product. These raw materials, such as corn, wheat, oats, animal matter, green stuff, etc. should be fed in such quantities and proportions as are conducive to the highest possible normal egg yield. The quality of these feeds should be above reproach. See that the grain is practically free from must and mold and of good quality.

Then the matter of good housing and good care ranks next in order. Good housing with rain tight roofs, with suffieient glass surface, and with proper means of ventilation is an aid to high egg production. Houses with leaky roofs and poor ventilation are a liability rather than an asset. SP

Pullet moult during the winter and consequently loss from low egg production may be avoided with almost 100% efficiency, ff the right procedure is followed. Pullets moult during the winter as a result of a ceasation in laying. Pullets cease laying when their body weight falls below normal. An under normal body weight may be induced either through excessive fall and winter laying or loss of appetite brought about by radical changes in housing, feeding, and temperature, including frosted combs. In avoiding a winter pullet moult, therefore, the problem is one of maintaining good body weight through the proper usage of fat, expecially corn. Early hatched pullets will require more corn in the ration than later hatched pullets.

When pullets which have been hatched in the neighborhood of March first begin to show red in the combs and wattles, increase ground corn in the mash until it forms 50% of the total mash. This will retard maturity and put on fat. As soon as they begin to drop a few eggs on the range, put them into their winter quarters.

Continue the same mash as used on the range, 50% ground corn, and feed the grain in the litter in the morning and evening. Give them a light feed in the morning and all they will eat with relish at night, but no more. Together with that practice feeding about one-fourth of the grain ration in the morning and three-fourths at night.

The morning feed may be entirely wheat; the evening feed should consist of approximately as much corn as wheat and oats combined. The day's grain ration may be 10 pounds, or it may be 15 pounds per 100 birds. Judge by your birds which it shall be. Do not worry as to the relative consumption of grain and mash. Fill up your mash hoppers and forget about them. Examine your birds frequently. If they are becoming a little thin, increase both the morning and evening feedings. This will bring about a lessened mash consumption and, therefore, a lowered egg production with a resultant fattening of the birds. In the course of ten days or so when the birds are well fleshed again, reduce the amount of grain fed. The birds will then eat more mash and increase in their production.

April first hatched pullets are handled in the identical manner, with the exception that the ground corn in the mash is not increased to exceed 40% of the mash. May first hatched pullets are handled in normal manner, as there is very little danger of moult in birds hatched at this time. A mash containing 25% ground corn is sufficient. To summarize it, good feed wisely bought and intelligently fed is a criterion of economical feeding.

The other two factors making for profitable egg production are low labor costs and good markets. To tell about labor costs, we must compare a poultry farm to a manufacturing business. In any manufacturing industry, labor cost in a considerable degree determines the cost of the finished product. Poultry farming is

essentially a manufacturing industry, eggs being the finished product.

In manufacturing plants, work is planned ahead and suitable mechanical contrivances are utilized to secure production with a minimum of labor. They operate efficiently. Is this true of the poultry business? Does the poultryman plan his work, days or weeks ahead, and thereby have as little lost motion as possible? Does the poultryman mix his mash, prepare the grain, and clean the houses on rainy days when other work is impossible? Does he utilize sensible watering devices, large mash hoppers, etc. and, thereby, effect a saving in labor? Are his supplies of feed, litter, etc., located conveniently and easily accessible? When he builds new hen house units, does he construct them haphazardly, or does he build them according to approved plans and specifications, such as are prepared by the poultry department of his state university? Whether he has hired help or not he must answer these questions himself and work out their solution himself.

No egg production, however great, is an economical production unless a maximum of net profit is realized. With the exception of a few poultrymen who are able to develop a private trade for a portion of their production, the answer to the marketing problem is the large city market. As an aid to secure the best possible price for choice eggs, gather them at least twice a day and store them in a cold cellar. Ship by express at least once a week in new cases with new fillers and flats. Send your eggs only to time tested and reliable dealers.

"The poultry business is fraught with more change and diversification than any other business," said Manwaring. "The outlook is constantly changing. As far as I am concerned, I see a big future and I am planning expansion. I have in mind a four-story centralized laying house of 4000-bird capacity. In this way I hope to reduce labor costs and make production on the White City Egg Farm still more economical. After all the trials and tribulation, after all the setbacks and all the disappointments, the White City Egg Farm has for years been paying a splendid profit."

If, however, some folks may think that the poultry business offers a "get rich qick" opportunity, Mr. Manwaring's experiences will be interesting to them. Everything is not bright and rosy from the beginning in any business; just so with the poultry work. If however, an individual who now has an opportunity to utilize the knowledge worked out by the different Experiment Stations, uses this combined with good judgment and common sense, I am sure that the chances for failure will be much less than Mr. Manwaring's were.