

Poultrynz

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Poultrynz Editorial

The 2024 breeding season is in full swing. I have just put my first lot of early eggs under 2 broodies with a 70% fertility rate. Always happens for me at the start and looking forward to the youngsters too. New Zealand's late winter and early spring weather has not been that great for us. We need to be mindful of the effects on our Fowls especially

the wet areas. Plenty of attacks come from the parasites, slugs and snails at this time. You need to be wary that this can effect egg production. I had to cover my pens because of the rain but they are all Dry, Clean and Warm now.

Until next issue.
Regards, Ian Selby.

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Add daily to feed 1-2 teaspoons of *Poultrynz D.E.* per chicken.

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Avoid inhalation of dust. Wear a suitable dust mask when using or operating in confined spaces.

GRILLED BANANAS ON BRIOCHE WITH YOGHURT & HONEY



INGREDIENTS

Serves 2

- 2 ripe bananas
- 2 tbsp honey
- 2 thick slices brioche, toasted
- 1 cup Greek yoghurt

METHOD

- Preheat grill to 200°C. Peel and slice the bananas lengthways.
- Place the halves into a foil-lined baking pan and drizzle with 1 tablespoon of honey.
- Place under hot grill for 2 minutes or until golden brown.
- Place on top of brioche and spoon over yoghurt and remaining honey.

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THE BASICS OF POULTRY BREEDING GENETICS



Indian Game Breeding Pen

by Ray E. Wallin, USA..

We must understand the basics of poultry breeding, and the Genetic process of inheritance, if we are to become truly great poultry breeders. It is true you can be a success in breeding poultry and not understand the Genetic process, but you will spend much more time, effort, and money trying to develop a prize winning strain of poultry.

We see many poultry exhibitors that do not seem to understand the true meaning of a strain of birds (Poultry). All you have to do is look in Poultry Press or other club papers, you will see John Brown advertise that he has Tom Jones strain of Cornish etc. In a recent add in Poultry Press one man advertised that he had five different strains of his list of varieties of poultry. It is true he did purchase his start from each person who's strain he advertised, but there is no way he can possibly select his breeders exactly as the original owner did. Thus after two to three years many of the old strain characters are missing, and he has established his own strain. None of us know exactly what the original owner was looking for when he selected his breeders for his mating pens, so our results will always vary in several ways. We always end up developing new strong points in our flock. The old principle characters

are weakened. We can fix any character we want in a strain by selecting for it. We can also breed out any undesirable character we do not want in our strain of poultry.

As the above illustrates there is no way you can say I have George Smith's strain. You can say I got my start from George Smith's strain, but that is as far as you should go. Always be cautious when you are buying birds if a person selling them is trying to capitalize on the name of some one else, not on his own breeding ability.

POULTRY INHERITANCE: THE GENE

A Gene controls the inheritance of a single good or bad character in an offspring. This character may be one of such things as colour of shank or the ear lobe, lacing, splashing, lacing etc. Or it may be for pea comb, single comb or carriage of the bird etc.

Several genes are contained in each chromosome, but the chromosomes carrying hereditary characters are called Autosomes, and those that determine sex are called Sex Chromosomes.

The male gamete is called the (Spermatozoon) and the female gamete (Ovum) each contain 17 autosomes



Most Heavy Breeds have Red Lobes



Most Light Breeds have White Lobes

and 1 sex Chromosome.

Living tissues are composed of tiny living cells, each cell has two parts; a small inner area called the nucleus and an outer area called the cytoplasm. The cell manufactures hormones, enzymes, bone material, etc. In the cytoplasm and all of the tissues, by an elaborate code of information, (THE GENETIC CODE) located in the nucleus in long protein strands called chromosomes. Each cell nucleus has a definite number of chromosomes and these numbers are constant within each species. All poultry (chickens) have 39 pair of chromosomes in each cell nucleus.

In the chicken six pair of chromosomes are quite large and the others are very, very small. The six large pair probably carry most of the hereditary material. If a tiny segment of a chromosome controls some event or characteristic, such as eye colour, then that segment is called a gene. If one chromosome has a certain gene, say one causing red, eye colour, it is an eye colour gene. As a result, all genes exist in pairs, one in each of a pair of chromosomes. If the pair of genes are alike, such as two genes for brown eyes, we say they are homozygous. If the genes are different, such as one brown-eyed gene and one blue-eyed genes then that individual is heterozygous. Since these genes are in a pair of chromosomes and one of the chromosomes pair came from the father through his sperm and the other from the mother in the egg, then one of each pair of genes is from the father and one from the mother. If the genes are alike, the individual bird is homozygous.

SEX DETERMINATION

In all animals, chickens etc. there are some chromosomes that are not paired. In the chicken,

Poultry Leg Spray

- Cleans the areas where Scaly Leg Mites live and breed.
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- Repeat in 2-3 days.

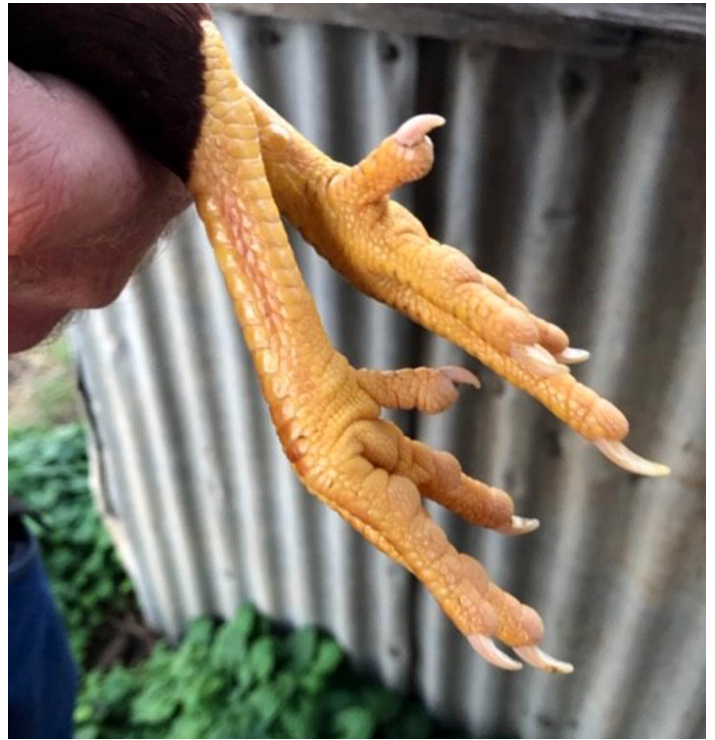
500ml - \$22
125ml - \$10



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Variation of a Slate coloured leg of a Chicken



Variation of a Yellow coloured leg of a chicken

all males have 39 pair of chromosomes. Females have only 38 pair plus one single chromosome. This unpaired chromosome is called the X-chromosome and it is paired in males. So the cock has two pair of X-chromosomes and the hen has only one. The X-chromosome is one of the six large chromosomes and carries many genes. Imagine a small chromosome without genes, called '0', that exists in the female and pairs up with the one X chromosome. We can then refer to the male as XX and the female as X0. Every sperm will carry an X-chromosome, but half of the eggs that a hen lays should have X-chromosome and the other half an 0-chromosome. When a male fertilizes an egg with an X-chromosome, the chick resulting from this egg will have two X-chromosomes and will be a cockerel. If the egg should have an 0 (or no X) the chick resulting will be a pullet. Since only half of the eggs a hen produces should have an X-chromosome, half of her chicks should be males and half females. Thus the egg determines sex.

In humane it is just the opposite of this, the male has an X and Y chromosome and the female has XX.

CROSSING STRAINS

As a result of crossing two unrelated strains of poultry we may end up combining genes that have been in a recessive state for one or many generations. As long as the original family was mated dominant genes covered up many traits. When we crossed in birds from another strain we may bring two recessive genes together forming what is known as an independent assortment, which means the production of a new feature or characteristic. This is not likely to happen

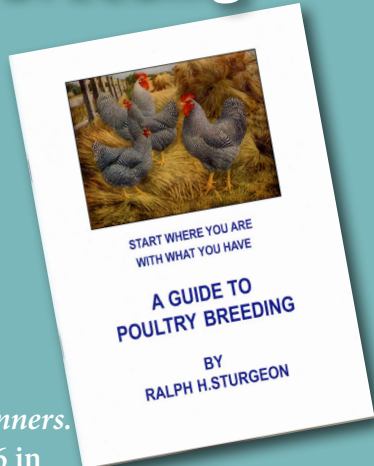
if you stick to one well established strain. The independent assortment may be any thing such as, stubs, or feathered feet, single comb or comb foreign to the breed, coloured ear lobes, leg colour etc.

A Guide To Poultry Breeding


By R. Sturgeon

\$20

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Rural \$12.50




Ideal book for beginners.
A5 size, 42 pages, 6 in colour



HEREDITY — THE GENES DECIDE

The genes of parents determine the characteristics of their offspring. In the case of poultry, the genes determine the color of the feathers, the shape of the comb, the shape of the feet, and many other characteristics. The genes also determine the sex of the offspring. The genes are passed on from the parents to the offspring in the same way that the genes are passed on from the parents to the offspring in the case of other animals.



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THIN SHELLED EGGS



From "Eggs" magazine England.

Hens eating a broken egg

It is well known that thin-shelled eggs are liable to set up an epidemic of egg-eating, they are difficult to handle and if marketed, frequently become broken in transit, with the result that complaints are common, and possibly sometimes exaggerated, by the buyer. Thin-shelled eggs are certainly most undesirable from every point of view. The trouble occurs at all times of the year, but is particularly prevalent during the late spring and summer months.

There are many factors concerned. The shell consists principally of calcium carbonate and in order to form shells, the birds must assimilate considerable quantities of calcium, the amount required being in direct proportion to the number of eggs produced. If, for any reason, they are incapable of doing so, then the shells will become thin. In order to provide the necessary calcium salts, abundant supplies in the form of oyster shell, limestone grit, etc., should be available at all times, but in the majority of cases, there is no lack of shell-forming material, and yet frequently a large proportion of the shells are thin. The trouble, therefore, is due not to lack of supplies, but to the birds not being able to assimilate sufficient quantities of calcium to enable them to make strong shells.

In the case of certain individuals, which have been laying heavily for a considerable period, the output of calcium is rapid and in excess of the rate with which it is being assimilated. For a time, the birds draw upon reserves but as these

are exhausted, the shells become thin.

Inheritance undoubtedly plays an important part in this matter, for the tendency is greater in some individuals and in some strains than others, and is one of the results of breeding continuously for quantity without regard to quality.

Fortunately, thin-shelled eggs, if placed under a broody hen, invariably become smashed, while in incubators they do not hatch well on account of excessive evaporation of the contents. The eggs which do hatch rarely produce strong chicks, so that here at last nature is working in the interests of the breeder, though in many other ways she appears to be antagonistic. To what extent inheritance is the cause of these complaints it is, of course, impossible to say, but it must be considered when a reason for thin-shelled eggs is being sought.

Feeding and Environment

The quality of the shells is largely affected by these factors, and environment probably plays a more important part than many of us believe.

Some of the land devoted to poultry is very deficient in mineral matter. While many of the poultry runs are overcrowded, others are not kept in good condition, and are of little use to the birds.



An egg without a shell

Incorrect feeding at this time of the year is one of the most common causes of defective shells, and the use of unbalanced mashes must be avoided. To many people, the appearance of thin-shelled eggs is a signal for them to immediately reduce or even omit protein from the mash in the belief that they have been forcing the birds. Others take almost the opposite view, and reduce the proportion of carbohydrates in the food. Before making any alteration in the diet, the composition of the mash should be carefully considered, and the birds handled for condition. It is never wise to feed an excess of anything, but when the shells are thin, particular attention should be paid to the composition of the ration. In some cases, the trouble may be due to a deficiency of mineral matter in the diet, or to over-stimulation due to the excessive use of maize and wet mash in addition to dry mash. The liberal use of maize and wet mashes will force the birds, and has a tendency to affect the texture of the shells. Provided the mash is well balanced, it is unwise to reduce the proportion of protein in it and the omission of meat and bone or fish meal will not effect

any improvement, for if this is done, the supply of mineral matter will be reduced, the mash will be unbalanced, and the tendency will be for the shells to become thinner rather than stronger. Attention should be paid to the mineral content of the mash whenever trouble is experienced with the shells, and if no fault can be found with either the feeding, management or general condition of the stock, then it is probable that the trouble is due to the fact that the birds have been laying heavily for a considerable time and are unable to keep up the supply of shell-forming material.

It is probable, too, that they will soon commence to moult, which will give them an opportunity for rest and recuperation. Little can be done in cases of this kind, though the addition of 2% of cod liver oil to the mash will assist in the assimilation of the calcium and act as a tonic.

It is noticed that certain strains of light breeds are more liable to produce thin-shelled eggs than the heavy breeds, which are not such rapid layers during the summer, and after a spell of production become broody, and have an opportunity of building up their reserves. The light breeds, on the other hand, are more or less in continuous production at this season, and have no opportunity for a rest. A spell of broodiness during the summer is not altogether a bad thing, for when all is said and done, birds are not machines, and require rest the same as every other form of life.

Finally, it should be mentioned that if the birds are badly managed and become very nervous, this would be a further cause for the production of thin-shelled eggs.



This thin shelled eggs shell has collapsed

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PREVENTION IS BETTER THAN THE CURE



by W. P. Blount, in "Poultry World." UK.

The hatching season is again at hand and, as usual, it brings with it its attendant ailments. Some of these can be avoided, but others (fortunately in the minority) sweep down upon us and kill off hundreds and even thousands of chicks with little warning. The object of this article is to point out some of the precautions which may be taken in order to minimise chick losses.

What is Hygiene?

To be hygienic means to become clean and to endeavour to remain clean, but it also means to be healthy. It implies common sense as applied to the prevention of disease. For example, it is unhygienic to leave litter unchanged for weeks on end, and for droppings to be left hanging about food troughs and water vessels for days at a time. On the other hand, it is hygienic to see that bags containing mash or grain are not allowed to become damp or rat ridden, and to ensure that the incubator is disinfected before as well as after every hatch.

What Does Disinfection Accomplish?

The earth contains creatures of every size; some we can see easily; others, like flies and ants, we may observe on many occasions, but not with quite the same ease as the larger animals; this is simply a matter

Hens eating from a safe and clean feeder

of size. Now, to go several stages smaller, we encounter tiny tapeworms which live in the small intestines of poultry, i.e., *Davainea*. These can just be seen by the naked eye. Germs cannot be seen unless by the aid of a relatively powerful microscope. However, all germs are not harmful, and in the study of disease only those which can cause ill-health or alterations in the different structures of the animal's body (including hens) need be considered. These are the so-called pathogenic germs. Disinfection concerns the destruction of disease-producing germs.

Types of Disinfectant

There are various kinds of disinfectants, thus: Physical: Heat (the blow lamp) and cold (frost). Chemical: Acids, such as sulphuric, lactic, carbolic, etc. Alkalis such as washing soda (sodium carbonate) or caustic soda (sodium hydroxide). Dyes like acriflavine, brilliant green. Other substances: Peroxide of hydrogen, potassium permanganate, cresols, chlorine compounds, coal-distillation compounds, mercury salts, etc. Electrical: It has been shown that electric currents kill germs, but the method is not applied commercially.

Choosing a Disinfectant

It is not generally realised that some study should be



A Waterer hanging off the ground will help

given concerning the choice of a disinfectant but the following are some of the factors to be considered:

Can it be obtained easily? Can it be stored easily? Sulphuric acid needs to be kept in a special glass container and this at once creates a difficulty, whereas washing soda can be kept in the kitchen with comparative ease. Chlorine compounds must be kept airtight, otherwise they lose their potency, but it would not matter at all if the lid were left off certain coal-tar preparations. Is it easy to prepare? The ideal disinfectant is one which can be added to any type of water. Can it be used for all purposes? Must it be employed on woodwork only, as with creosote, or may it not be used on leather (e.g., formalin); can it be used on coloured cloths (chlorine bleaches materials), or must it not be used on metal work; as with strong acids? It is also not always realised that whilst a disinfectant may be of great value in a brooder house, it may prove valueless for outdoor work, such as sterilising infected soil. What is its approximate cost? Is it really a disinfectant i.e., does it kill germs? This may seem a curious point to raise, but experiments have shown that some so-called disinfectants do not kill germs, or at least take so long over it that they are as good as useless.

The Ideal Disinfectant

After considering these several questions a poultry-keeper may feel confused, but, nevertheless, it will be evident to most that a disinfectant should be inexpensive, easy to store, handle, mix and use; be capable of being employed in and out of the hen house,

as well (if possible) as being employed internally as a medicine; usable on woods, cloths, metal work and other materials, and, finally, be relatively nonpoisonous when diluted,

To Prevent Chick Diseases

The incubator and all its accessories should be cleaned and disinfected before being put into use. This applies more particularly to second-hand machines. In addition, the brooder compartments should be in a scrupulously clean condition before chicks are placed in them. Their feeding and watering utensils should be free from dirt and droppings and bedding should be used which is non-dusty and free from mould. Windows should be washed and kept free from dust, otherwise the valuable sun's rays will be unable to penetrate into the compartments. Remember that the first essential in keeping disease at bay is to start with the equipment, utensils, houses and incubators clean and free from disease germs. This can be accomplished on any and every farm or backyard by hard work, plenty of soap, soda, disinfectant and water.

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BLACK ORPINGTONS AND AUSTRALORPS

Comparison and Differences



by E.Lillywhite. From the "Australian Poultry World" 1939.

Typical Orpington hens showing loose feathering

It is probable that the conditions brought about by the Great War, the development of egg-laying competitions, and the utilitarian age in which we live have had a lot to do with establishing the Orpington as one of the most useful breeds of poultry.

The war taught us the absolute necessity of producing all our own foods.

The egg competitions both here and in England, have demonstrated the wonderful laying qualities of the Orpington, and our utilitarian age, the need to make everything pay.

The Black Orpington.

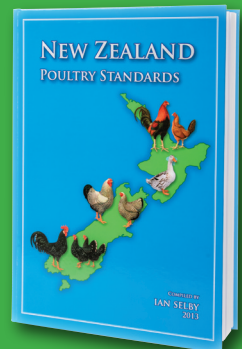
The original Orpington, as produced by W. Cook, of Kent, England, about the beginning of the twentieth century, very soon became a great favourite.

These active, large, stately birds, with a round deep body, full breast, broad shaped back, abundance of hackle, giving the appearance of shortness, standing on straight legs, set well apart, with round black shanks, showing from the hock, all this black feathering, tinted by a beautiful green sheen, head small for their size, neat, straight, evenly serrated comb, clean red face and lobes, large black bright eyes and white soles to feet, setting off a superlatively handsome and useful bird.

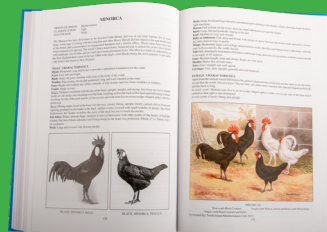
Farmers and fanciers were surprised at the laying

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qualities, consequently large numbers were entered in the egg competitions, and here it was noted, that the neat-headed, close feathered, like unto the “Cook” type of hens, were the best producers. This caused breeders wrongly to use hens more of the Langshan type to breed from, and these types later were exhibited as Utility Orpingtons, but as they did not resemble exhibition Orpingtons which, by selective breeding in the opposite direction to the “utility,” had become a huge bag of loose feathers, with no legs showing.

Thus we have the Australian Orpington, or the Australorp.

There is no doubt that the “original Cook” was and is the best all-rounder, producing more meat and as many eggs as the Australorp of today.

The standard, as administered by our judges, is hard to define; some favour the Langshan type, whilst others look for the “Cook,” and, if they handle well for flesh and egg production, place the cards on them. While others again, who may have bred thousands of good layers, have their own exclusive ideas of perfection type. If the original “Cook” type had been strictly adhered to, and only selected birds of productivity used as breeders, we would not have this jumble of types.

It appears, from the various results obtained, that Orpingtons lend themselves particularly to selected type breeding, for we now have so many distinct types. It seems to the writer, that the best method of awarding prizes at shows to Australorps, is to select birds of true Cook type, neat heads, freedom from all coarseness, and handling well for layers and not placing just black fowls in the cards, because they look and handle like layers.

It is well to remember that most of the exhibition Black Orpingtons now shown, are no more like the “original Cook” than many of the Australorps, or clean-legged Langshans, which grace our show benches, classed as Australorps.

W. Cook spent many years creating the best standard all round fowl of all times, therefore stick to “The Cook” as closely as possible, both in and out of the show pen, whether it be Orpington or Australorp.

Some time ago the writer visited many poultry farms, and on complementing one gentleman on the size and quality of his Australorps, was pulled up short with “not Australorps, but genuine Orpingtons!”

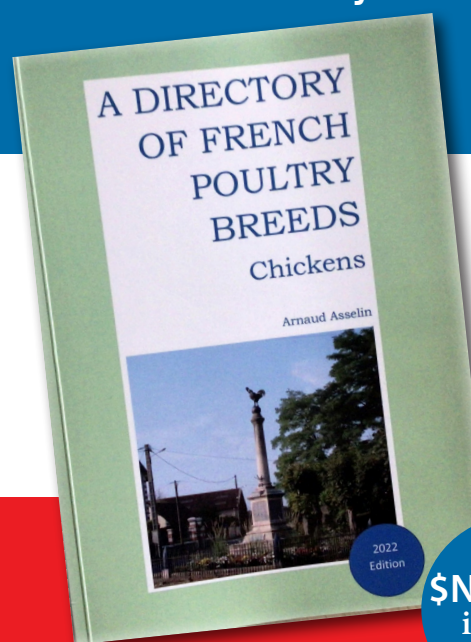
This same breeder has won egg competitions, for size and number of eggs, and should he be adjudicating at some exhibition, as he sometimes does, it would be wise to select Cook type (or as near to it as possible) with good handling, if cards or ribbons are to be won.



A typical Black Australorp Pullet showing tighter feathering.

A DIRECTORY OF FRENCH POULTRY BREEDS

by Arnaud Asselin



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