

Poultrynz

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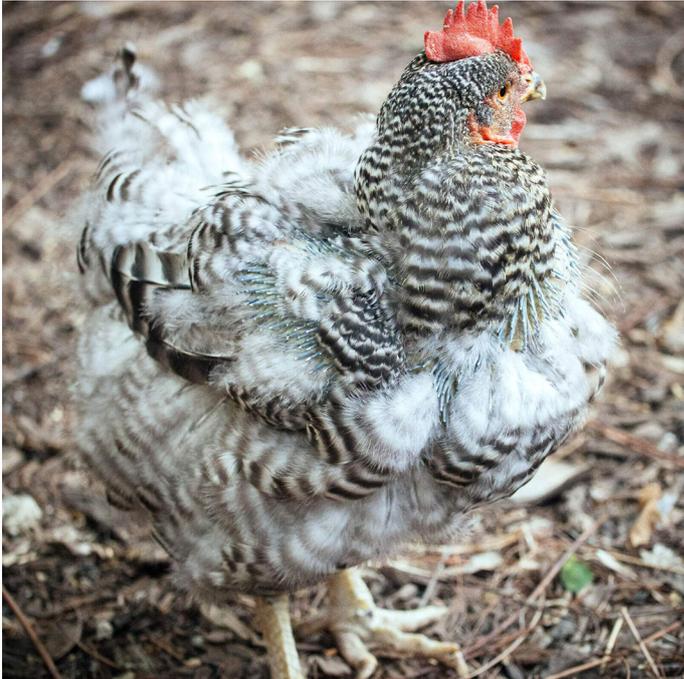
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**WHAT TO EXPECT WHEN
BREEDING POULTRY**

Poultrynz Editorial

Happy New Year everyone and I hope it is going to be a good one. The New Zealand National Show in June held by the Manawatu Club will be the highlight of the year.

I trust that you all have a good brood of Chickens with some likely good layers amongst the lot. It is this time of year where the replacements are sort

after so picking out the likely keepers should start at the beginning of the Year.

Poultrynz is currently trialing a replacement for Poultry Shield. It could be here sooner than we think. The secret is to keep them Dry, Clean and Warm. Until next issue.

Regards, Ian Selby

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Friday 5th June - Judging - Open to exhibitors 3pm to 5pm .

Saturday 6th June - Open 9am to 5pm.

Sunday 7th June Debenching 8am to 10am.

Saturday 6th June Dinner and Prizegiving 6.30 pm at Tasty Restaurant

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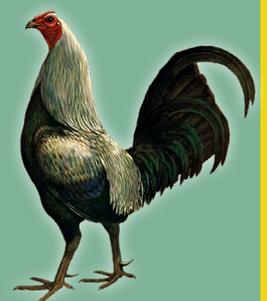
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This fabulous dessert solves the dilemma of how to have a cold pudding but still have traditional festive flavours.

INGREDIENTS

Serves 8-10.

Pavlova:

6 egg whites

1½ cups caster sugar (reserve 1 tablespoon)

1 teaspoon balsamic or malt vinegar

1 teaspoon vanilla extract

2 teaspoons cornflour

1 teaspoon mixed spice

Marinated fruits:

1½ cups mixed dried fruits, eg raisins, dried figs, cranberries, chopped apricots, apple slices

¼ cup each: brown sugar, brandy

1 cinnamon stick

1 long strip orange peel (removed with a vege peeler)

Marsala cream:

300ml cream, softly whipped

3 tablespoons Marsala

To garnish:

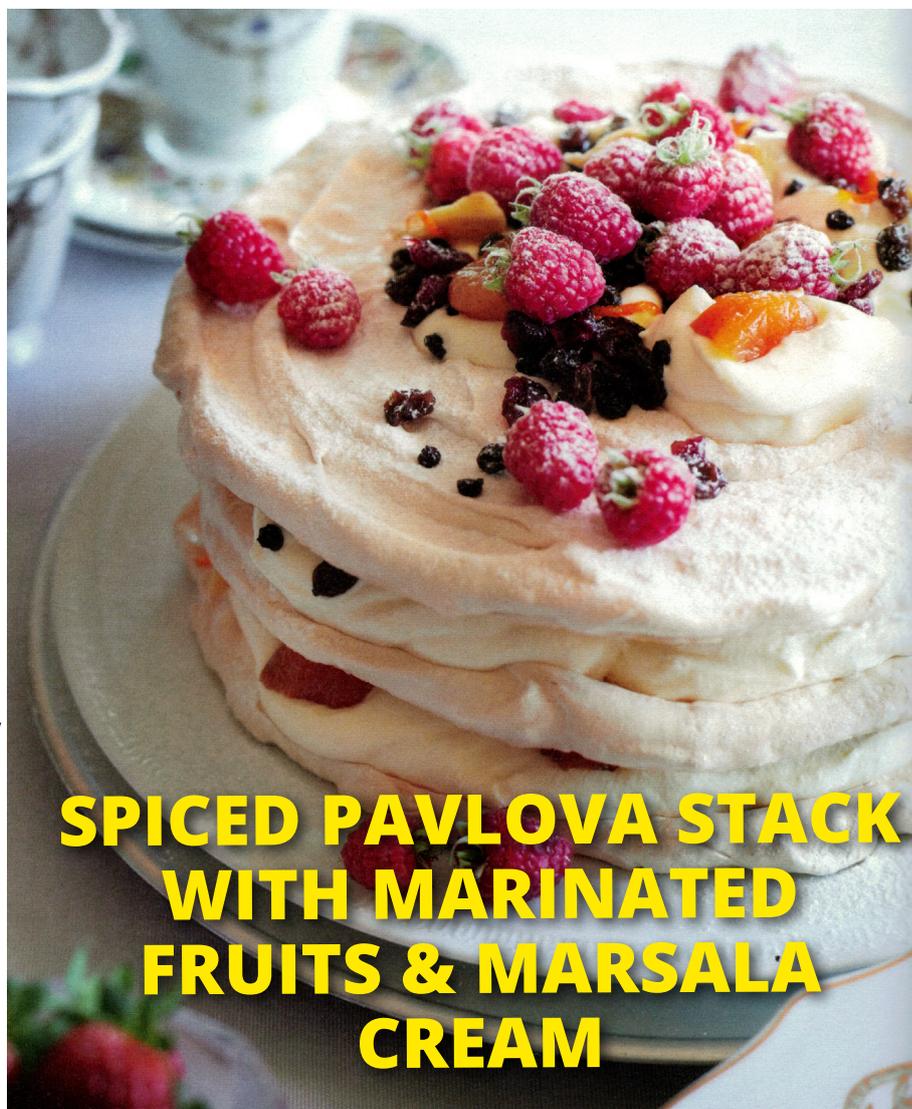
Fresh raspberries or other berries

Icing sugar for dusting

METHOD

Pavlova:

- Preheat oven to 150°C fanbake and line 3 baking trays with baking paper. Draw a 22cm circle on each tray.
- Using an electric beater, whip egg whites to soft peaks. With beaters still going, gradually sprinkle in sugar, beating constantly until thick, white and glossy. Beat in vinegar and vanilla. Use a large spoon to fold in combined reserved sugar, cornflour and mixed spice.
- Divide meringue between the 3 trays and use the back of a spoon to spread into even discs. Bake 30 minutes then check to ensure they are not browning too quickly.
- If so, reduce temperature a little before continuing to cook a further 30 minutes or until dry to the touch. Turn off oven and leave pavlovas inside to cool. When cold, store between sheets of baking paper in an airtight container.
- Marinated fruits:
- Combine ingredients and marinate for at least 2-3



SPICED PAVLOVA STACK WITH MARINATED FRUITS & MARSALA CREAM

hours.

Marsala cream:

- Beat cream to soft peaks and fold in Marsala.
- To assemble dessert, place 1 meringue layer on a serving plate. Spread with a third of the cream, spoon over almost half of the marinated fruits (discard cinnamon and peel) and top with the second meringue. Repeat cream and fruit layers. Top with last meringue layer and decorate the top with remaining cream and fruits and some fresh berries. Dust with icing sugar just before serving.

SWEET SUCCESS

- Brandy can be used in the cream instead of Marsala (a sweet fortified wine) if preferred; the intensity of the alcohol will just be slightly more pronounced.
- The pavlova layers and marinated fruits can be made a day ahead (store pavlovas in an airtight container) but once assembled the meringue will start to soften so it's best to leave the construction part of this dessert until nearer serving.

THE AUSTRALORP



by J.A.Naylor. Australia, 1933.

Two Black Australorp Pullets

The forerunners of the Australorp were originated at Orpington, in Kent, England, by that famous breeder, the late Thomas Cook. It was the intention of the originator to build up a dual purpose breed, and for this purpose three breeds were interbred, namely, the Black Minorca, Black Langshan, and a black sport from the Plymouth Rock. The Minorca at that time was considered one of the best laying light breeds, and the Langshan and Plymouth Rock two of the best layers among the table breeds. The progeny of these matings proved to be very good layers and ideal table birds. For this reason they became famous until spoiled by the English show fancier, who took pride in breeding for show points only, and turned them into what is commonly known as the feather-duster type.

This type is the direct opposite to that favoured by those who breed for utility purposes. It is abnormally loose in the feathering, coarse in

head, short in leg and back, and with hardly an exception, a poor layer of small eggs. These birds were imported, and the Australian breeder, getting rid of the loose feather and coarseness, worked them up into one of the foremost utility breeds of the day. These birds have been exported all over the world under the name of the Australorp, and they are looked upon as a monument to the skill of the Australian order, particularly in England and America, where the breed has a very strong hold in the egg-laying competitions. They now occupy a leading place among all breeds, thus proving their ability to acclimatise themselves to harsher climates.

The breed in Australia has progressed with leaps and bounds, being now in equal favour with the White Leghorn on most utility farms. The world's record for all breeds is held by an Australorp, with the very high score of 354 eggs in one year; also a team at the Government competition, Burnley,



Typical Australorp Hen

holds the world's record winter test of 643 eggs in 122 days. Another team at the Geelong competition holds the record for year's test, 1,857 eggs.

In breeding for egg production it has been found necessary to eliminate broodiness as far as possible, my own particular case I have done this by breeding from hens with high scores, these hens as a rule being practically non-broody.

In breeding birds for competition purposes there are certain essentials which must be adhered to; the blood lines of the birds must be studied, the scores of the parents, type, size of egg, and laying characteristics. In reference; to the blood lines, I am of the opinion that line breeding is a necessity. Any matings with the exception of full brother and sister are acceptable. Line breeding can be continued indefinitely, providing strict selection is exercised, for size and vigour. Like tends to produce like; therefore, to produce high-scoring pullets, parents with high scores must be used. The ideal type of hen is one having a good strong frame, and weighing about 6 lbs., long in the back, good depth, fair length of leg and neck, tight in feather, comb, wattles, and skin of a nice silky texture; the male bird of similar type, medium

size. A common mistake with some breeders is in having their birds too short in the back, commonly known as U-backed. These same breeders, in mating their White Leghorns, have the right idea as regards length of back, but miss this point in mating their Australorps. Pick the bird with the dull-coloured feathers and flat shanks, with slight hollow down side. In selecting for size of egg I prefer eggs 2¼ ozs, and upwards. When using eggs of a bare two ounces, the tendency of the progeny is to lay an egg under standard weight in their early pullet season.

A common mistake with young breeders is to over-feed this breed. It is essential for best results to feed them a lighter ration than the less docile light breeds. My own particular mash consists of pollard 60, bran 30, meat meal 10 (excepting to the breeders, 5 per cent.); chaffed greenstuff 50 per cent, of the whole; mash also includes shell grit and charcoal, all quantities

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Black Australorp Cockerel

by measurement. For dry mash more bran must be used: I would advocate pollard 45, bran 45, meat meal 10, and as much greenstuff as the birds will eat. It is thought by some that the Australorp will not do well on dry mash, but I know several breeders who are successful with this method.

It is advisable to have deep litter in the pens for the purpose of scattering the grain to give the necessary exercise. The grain ration consists of wheat 75, crushed maize 25, for winter; and for summer feeding clipped oats are substituted for the maize. In the breeding season it is advisable to feed Australorp cockerels separately once a day. For this purpose I use whole maize, and a little minced meat. In my opinion onions should be fed at least once a week, twice if possible. It is said by some that onions taint the eggs, but that is not my experience.

The great need for this breed is a comprehensive standard for Australia. This would lead to conformity of type in all States, instead of the varying standards which are in existence today. The standard weights for the breed are: Cockerels 7 lbs., pullets 5 lbs. Cocks and hens should be a pound heavier. Weight is an important factor, for should the birds be bred too small their dual purpose qualities are lost. The small bird, although usually a good layer, has a tendency to lay small eggs, and is detrimental to the breed. It is very easy to lose size, and hard to regain it. In conclusion I stress these points: Stick to the standard, breed for size of egg, feed adult stock lightly, give plenty of exercise, keep clear of the fluffy bird, feed growing stock all they can eat, and never discard good breeders.

THE MOULT



by G.D.Shaw. Australia.

Plymouth Barred Rock in full Molt

Fowls and other birds have an annual reconditioning of the plumage, and they will, at this period, cease laying eggs. Odd birds have the stamina to produce while in the moult, but these are exceptions and are not considered in this discussion. The growing of new feathers yearly after the old and worn feathers have dropped is called the annual moult.

Nature at Work

The moult is nature's method of dressing the fowl in new fashion previous to the period of repro-

duction. All old feathers are discarded and new ones are grown. The time during which this reconditioning is taking place is called the "moulting period," and this period may extend from as long as four months to as short as six weeks.

Apart from the annual moult it is possible that the fowls may pass through partial moults, for example: When the early hatched pullets go into the neck moult in autumn and when at other periods the birds have received a check through sickness or possibly due to the distress of a heat-wave.



Taking care of your hens before Moulting

The longer a bird will lay into the autumn the quicker she will be in passing rough the moult, and it can therefore be seen that the later the moult the better the layer. On the other hand, the early moult is generally a poor producer and should be culled as soon as she is noticed going into an early moult.

Three Kinds of Moulters

There are three kinds of moulters. First of all, the continuous moult, the one which appears to have clean unworn feathers throughout the year. This bird will generally fall into the class of layer called the "Dud." The next class is the early moult. This class contains all those birds which are renowned for their short laying season. Into this class are those which cease laying about November and then wish to rest until the following July. The next class is that of the late moult. This class contains all those birds which have laid heavily for 12 months and moult quickly and are then ready for the next year's lay at about the same time as their sisters who have been in the moult for a much longer period.

Late Moult

It is the late moult we wish to study. We should be able to assist her to "come through" the moult with as little strain as possible. For a strain it is, and all possible assistance should be given to the bird.

The late moult has been laying for twelve months. She has been kept in good condition by the judicious balancing of the feeds in the rations. She is not showing any undue strain due to her

heavy laying, and if she is assisted through the moult she will continue to give eggs for another nine months. And in numbers equal to that laid by her in the previous corresponding nine months (from July to March).

During the period of heavy laying we have been feeding so that the body has been kept in the best of condition, and we have also been giving sufficient food in order for the fowls to lay heavily without danger to the constitution. We have fed body and also eggs into the fowl, and she is responding with high production and good body condition.

Feeding the Moulting Hen

If the food has been sufficiently balanced the birds will not be suffering strains from heavy laying. Their egg production will be in the range of 45%. Their ovaries and oviduct in full bloom. Feathers and eggs need protein, and if we are to have feathers, the production must nearly cease. While all portions of the rations contain some protein it is recognised that the only way to give a sure fluctuation of the protein content in the ration is to increase or decrease the highly concentrated animal protein.

When there is any reduction in the proportion of protein in the ration, it is evident that the production will suffer. So that at the period near the end of March we have a favourable condition for causing a "forced" moult. The birds are near the natural period of moulting and they are easily forced out of lay. If the protein in the ration be reduced it is

certain to affect egg production, and the birds will then start to drop the old feathers, and egg production will practically cease. The one danger to remember is that the growth of new feathers consumes as much protein as does the production of eggs. Therefore, if the protein is reduced in order to ease off egg production it is evident that once the feathers start to drop we will have to replace the protein so that the bird will be able to grow new feathers without undue strain.

The days of starving the moulting hens are past. When one realises that the feathers contain a high percentage of protein, one can then feed that ingredient to the birds, and so assist the growth of the new feathers. Any starvation at this period will only prolong the moult, and cause a severe strain on the constitution of the bird. The bird will not then be satisfactory as a breeder, and also she will take a longer period in which to complete the moult.

Should the Hens be Forced into a Moult?

It may be questioned whether the forcing of the good layer into the moult will be as profitable as allowing the birds to take to the moult naturally. Eggs are at a high price during March, April, May and June, and any loss of production at this period may be a severe drain on the finances of the farm. Against this is the production of the young laying pullets which should all be in full lay in March onwards.

If we are to take the long view and realise that the bird which has laid heavily for twelve months, and is also expected to continue to lay heavily for another year, must be in the best of condition all the time in order to stand up to the strain, we will appreciate that a rest of two months and the loss of the eggs during that time is more than fully repaid when the bird starts in June and can continue heavy production for another year. The bird which is allowed to lay herself out will not come into the lay as soon as those which have been made to rest, and she will not be as strong as her sister which has the extra two months' rest.

Give the rest and the bird will be able to lay into the next winter, whereas in they are not rested you will find that they will fade away about the November and December of the year. Of course, a few exceptional birds will be able to carry on. But a few exceptional birds will not be as profitable as a lot of birds which can carry on because they have been allowed to recuperate for two extra months. Therefore make the layers moult in April. Reduce the protein until the egg production has declined and then feed on the high production rations.

Partial Moulting.

Apart from the annual moult, the birds are apt to have what are termed false moults.

Firstly, the young pullets may suffer a partial moult in the first autumn. This may be due to change of management, such as the change of food, or a change of housing when the pullets are beginning to lay. Any sickness in the March to June period may be the cause of a partial moult. And in all cases the partial moult may develop into a full moult. In all cases the moult will cause financial loss to the farmer, and all practices should be adopted to carry the birds through the season without a relapse into a moult which is not natural to them.

To this end it is advised that the pullets should be shifted to their laying quarters as soon as possible. If the shift takes place before the pullets are five months old they will have sufficient time to settle down and become comfortable in their new quarters. They must not be overcrowded, for overcrowding will cause distress, and any distress may be considered sufficient excuse for a moult. See that the pullets are fed sufficient food. Many a partial moult is caused because the pullets are fed insufficient food. They have been well reared from the chicken stage, and are in the best condition for a heavy lay; therefore, if for any reason the food is insufficient the pullets will not be able to obtain



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the amounts necessary for high production. As they have been bred to lay they will draw on the body for any deficiency and the constitution will suffer. The pullets will then go into a partial moult, and in some cases a full moult will take place. The pullets should be treated gently. Any frights will have a tendency to induce a partial moult.

Hanging in the Mould

When the fowls have moulted producers are inclined to expect the birds to lay immediately the new growth of feathers have begun. In some cases the hens have been condemned as “hanging in the moult.” At this stage we must be prepared to consider whether the birds are ready for the lay, or whether they are still growing the feathers. The birds are not ready for laying until they have completed the growth of the new feathers, and the farmer would be well advised to handle the fowls to see the progressive growth of the feathers.

It is of little use expecting eggs until the growth ceases. On the other hand it is not unusual for the hens to “hang in the moult,” and this can be remedied if the farmer is prepared to realise that perhaps the feeding is not quite right. When there is any doubt that the birds are “hanging in the moult” it is best to examine the feather growth. If the growth is complete the birds are ready to lay, but if the ration is not right the birds cannot lay. If the feathers are grown and the farmer is perturbed because the birds are not in the lay it is an easy matter to find the cause. The addition of more meatmeal in the morning mash will generally find the fault.

Extra Meatmeal

It is advised that for three or four days in succession the meatmeal should be “doubled up” in the morning mash, and then revert to the base. After a period of about three or five days the birds should show egg production; it is a sure sign that the protein proportion of the ration is a little on the low side, and has been short supplied for the period of the moult. There will be an immediate response if the feathers are fully grown, and that response is a definite guide of shortage of egg-forming ingredients in the rations. The farmer should then study the ration, the laying condition of the bird, and the colour of the droppings. All three will be factors in determining the amount of meatmeal required.

If on the other hand, the birds do not respond to the extra ration of meatmeal, the farmer can be sure that the feathers are not fully grown. Birds coming into lay can be similar to the runner - they will wait for the starter’s gun. In this case the starter’s gun is the extra ration of meatmeal.

Natural Mould

Having dealt with the hens which are to be kept for another year, and explained how they are to be managed through the moult, it will be evident that at some period in the management of the farm the farmer is determined to dispose of the aged hens at the end of the current year. When this is decided it will be found advantageous to allow the bird to lay for as long as possible. The extra eggs at increasing prices are so much more profit, and no attempt should be made to force the birds out of production in April. It should be the aim to keep the bird in production for as long as possible, and to that end the farmer should slightly increase the meatmeal, and also the buttermilk. Note: This is the only time the buttermilk is increased for laying flocks. These two increases will tend to force a few more eggs out of the hens at the time when they are due for the annual rest. The increases should begin about December and continue until the moult is well established.



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NUTRITION - WHAT CAN WE GIVE THE CHICKEN FOR DINNER?



Author unknown

A few general ideas on feeding fancy poultry for today's breeder. For the 'fancier', the reason for keeping poultry is not to earn money but that does not mean that we have to penny-pinch when it comes to their diet: they deserve a few extra's too. You should remember though, that mixed feed manufacturers do not always differentiate between utility breeding and breeding as fancier when they determine the contents and ratios of their products, so it is always important to read the label thoroughly and watch the structure and colour of the feed. Manufacturers must follow rules with regard to some ingredients, so that poisoning as a result of overdoses of certain ingredients is unlikely to occur. But don't be afraid to ask your supplier everything you want to know about the feedstuff that they stock; or to complain about any aspects you don't like. In turn, they will become more

Rhode Island Red Pullets on a green pasture

critical when dealing with the wholesaler.

Building blocks and fuel

Every animal, and that includes chickens, needs nutrients to survive. Yes: survive. And that's not even mentioning the growing that chicks have to do or the eggs that have to be laid to provide a new generation of the birds we love so well. Just for 'maintenance', a chicken needs 'building blocks' (in the form of protein) and 'fuel' (energy, in the form of fats and carbohydrates).

Some people still claim that fully grown, non-laying birds only need a little energy. Nothing could be less true: 'old' body tissue has to be replaced (moulting, for example -feathers consist of 85% protein!); enzymes have to be produced to digest food with and also to keep bacteria at bay. In short: these are all processes which do require protein, although the general



Thursday 4th June Penning 1pm to 8.30pm
concept that nonproductive poultry needs relatively more energy than protein is true. Which all goes to prove that caution (and knowledge of the subject matter) are essential.

It is easy to work out how much protein an adult hen needs to produce an egg: an average egg contains 5g protein and the bird's daily requirements are about 1.5 g (notice the difference!) - together, 6.5 g. As some 50% of ingested protein will be 'lost' and not effectively used, it can be seen that the hen needs 13g of protein daily in her food. Assuming a daily ration of 80g, at least 16% of the food should consist of pure protein. Even more important is that if less is eaten, then the percentage of protein should ideally be increased in order to provide the required amount for the hen to continue laying. Extra grain (which is mainly carbohydrate) could, therefore, cause the energy:protein ratio in the diet to be (further) disturbed in the summer months. So, even though the sight of free range hens searching for their food may conjure up a pastoral idyll, take care that they don't fill themselves up with grain and leave no room for the main food.

Different sorts of feed

When should the change over from chick starter feed to grower feed be made and when should layer feed be given?

A widespread misunderstanding is that birds should be given a particular sort of feed at a particular age. The age is not really important, what matters is the weight and condition. As soon as it becomes obvious that the chicks have come through the first growth spurt (in practice, usually at about 10 weeks of age) and are not suffering from any slight infections or slow moult, chick starter feed (which is either crumbs or mash) can be exchanged for grower feed (either

Healthy hens roaming in fresh grass

crumbs, pellets, meal or mash) which is given to point of lay. It is important that the changes are made at the pace of the 'weakest link' in the chain or that these birds are removed if they are not keeping pace. Any change in diet should be made gradually, given a 50:50 ratio for at least a week before changing completely to the new feed. When the change over is made to layers or breeders feed (pellets or mash, which is sometimes given damp), it is important realise that the amount of calcium in the diet is being tripled. This is necessary for the production of the egg shells, but only if the birds are in fact laying - if they are not (yet) laying, the extra calcium means a reduction in protein: less nutrition in fact. The precise timing is always guesswork but an experienced breeder will know when his birds are at the point of lay. For the less experienced, there are a few good guidelines: the comb becomes fuller and redder, the birds will inspect the coop during the day and they will start to eat more. But, there is no hard and fast rule and if oyster shell grit is strewn in the run towards the end of the growing period, hens which are coming in to lay will be able to find their own supply of calcium. From the point of view of breeding, the genetic background of the breed must always be taken into consideration; a Brahma, for example, which matures late, will need a high protein feed for longer than a faster maturing breed. The form in which feed is given is at least as important as its composition. Much is given in the form of meal, which has both advantages and disadvantages: there is less chance of fatty degeneration, the birds are less likely to suffer from boredom and there is a lower incidence of cannibalism among birds which are fed on meal as the birds take longer to collect their daily food. But it does make for messier eaters - the chicks will select



Signs of Feather Pecking and Cannibalism

the largest particles of food (taste is less important to a chicken: it has several thousand less taste buds than a calf does!) and particles of corn will often be chosen first, increasing the carbohydrate content of the diet in relation to protein. All the food in the feeding trough or feeder should have been eaten before new feed is given and the odd 'fast' day will not do any harm. Throwing away the old - protein rich! - feed is not only wasteful, but encourages dietary imbalance. Very fine meal makes the feed dusty and can, in extreme cases, cause mouth infections to occur if it 'sticks' inside the oral cavity, which can happen as chickens do not have a palate. Tapioca is often a culprit here, but is an important source of protein. Light coloured meal is likely to have a fairly high percentage of tapioca, which is not necessarily a problem as most birds can tolerate it well although the high potassium content can give rise to watery faeces - and dirty eggs. The problem is exacerbated by the fact that the birds will also need to drink more water - which will also make the droppings less solid. Pellets do not have the problems of dust or selection and they are manufactured hygienically, but it is easy to overfeed, which is likely to result in fatty degeneration and poor egg production. The golden rule is to watch what the birds are eating and how much they are eating, adjusting where necessary.

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WHAT TO EXPECT WHEN BREEDING POULTRY



Courtesy of the American Bantam Association. 1970.

A young Slashed White Pullet

Breeding Poultry with the object in view to produce specimens of a high degree of excellence and obtain as great a proportion as possible of good quality is a very old pursuit and engages the attention and interest of a great number of individuals. Were the problem of mating simply that of selecting individuals possessing the desired characteristics with the certainty that the offspring would be identical in character with the parents, it would be a comparatively simple one. Good results are obtained with a reasonable degree of certainty only as the result of long experience.

LIKE PRODUCES LIKE

This is a common expression employed by breeders. Within certain limits it is true. It means simply that there is usually a strong resemblance between parents and offspring, stronger than

that between the offspring and unrelated birds. Thus when two birds of the same breed or variety, which are from stock which has had no foreign blood introduced for a considerable time, are mated together, the offspring will all, or nearly all, resemble the parents quite closely in so far as the breed or variety characteristics are concerned, and usually also with respect to some of the individual peculiarities of one or both of the parents. The offspring are likely also to inherit in some degree the shape of the parents, the comb peculiarities or other similar traits. It must be borne in mind, however, that it is impossible to select parents which are identical in their characteristics, and as each parent may and does have an influence upon the offspring, it can easily be understood why the offspring may not be identical with one

or either of the parents. It must also be remembered that the grandparents, and in turn their parents and the ancestors still further back, all exert some influence and tend to bring about variation.

VARIATION

The differences that exist between the offspring and their parents, or between offspring from the same mating, range from those rather slight in degree to those which are quite marked. For example, from a Rhode Island Red mating in which both parents are of fairly good colour and free from smut in undercolour, there may be obtained offspring ranging from very light, poorly coloured birds to dark, good coloured birds, and from those showing smut in undercolour. The offspring may therefore not only differ markedly from one another, but may also differ greatly from their parents, and may vary from those much poorer than the parents to those much better than the parent stock. It is the selection of those individuals showing variation in the desired direction that constitutes most of the endeavour in breeding. It is by the use of such individuals that breeders expect to make progress in their breeding operations. In the long run, this is usually a successful means of obtaining quality.

SPORTS OR MUTATIONS

Occasionally there occur individuals with characteristics which differ very markedly with either in kind or in a degree from those possessed by any of the known ancestors. These individuals are known as sports or mutations. Usually there is a marked tendency for sports to breed true, and consequently if the sport happens to be of a desirable kind, it may result in much more rapid or much greater improvement than could have been obtained by the more gradual process of selecting less marked variations.

REVERSION

By reversion is meant the appearance in the offspring of characteristics which do not exist in the immediate parents or ancestry, but which did exist in some of the ancestors several generations back. This is a common occurrence and is generally recognized and understood by breeders. Sometimes the reversion goes far back to some character in the distant ancestry, and this may be so far back that



A Young Brahma Pullet

the breeder has no knowledge that such characters existed, with the result that the reappearance of the character puzzles him.

An example of a common reversion is the continued reappearance of stubs on the shanks or of the down which occasionally appears between the toes, in spite of the use for generations of clean

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legged birds as breeders. The appearance of these rudimentary feathers undoubtedly is a reversion back to birds with feathered shanks which have been used at some distant time in making the breed. The more recently such birds have been used in the breeding, the more frequent and the more troublesome are such reversions. It is unwise to use individuals for breeding which show such a tendency toward reversion, particularly if the reversion is frequent in appearance,

ENVIRONMENT

The conditions under which Poultry grow and live may affect their development and may thus cause a modification in the size or type of the birds. The environmental conditions which most commonly affect Poultry are climate, feed and the various features of management including housing, feeding and care of eggs during incubation, and of the chicks during the growing period. Environmental conditions, particularly those of climate, may cause a modification of size or type, but affect the birds, it is now believed, only in the way of preventing them from developing their inherited characteristics to the fullest extent, and do not interfere with the transmission of these. The effort should be made to control or modify environment in so far as possible, so that it will be favourable for the full development of desired characters,

INHERITANCE OF ACQUIRED CHARACTERS

The question arises whether or not characters which are due to environment, and which are commonly called acquired characters, are inheritable or transmissible. For example, is the greater size which a certain variety of Poultry may reach, and which is due to climatic conditions, passed on to the offsprings? It must be remembered, in considering this question of the inheritance of acquired characters, that in many cases the modification which may be observed in a race, while apparently due to the inheritance of characters modified by environment, is probably often due to the fact that individuals which do not show characters varying in this direction are unsuited for the particular environment under which they are living, and are therefore gradually eliminated by the process of natural selection, while the individuals varying in the direction in which the modification has occurred were especially well fitted for the environment under which they live. Under these conditions the modification which occurs will be largely if not entirely due to the process of natural selection, rather than to the inheritance of acquired characters.

In general, it may be said that unless environment

has a modifying effect upon the germinal material of the individual concerned, the acquired character cannot be inherited, Experiments indicate that the germinal material is very difficult to affect in any way. It may be said that the weight of evidence is at present against the view that acquired characters are inherited.

In this connection it may be well to call attention to the matter of whether or not mutilations or deformities are inherited. Deformities due to faulty development, either embryonic or in the later life of the chick, or mutilations which may occur are very rarely if ever inherited. Thus we find that a fowl which has lost a toe is no more likely to produce offspring minus a toe than are those with all their toes intact. There need be no concern over the possibility of mutilations and but little over deformities being inherited, except such as seem to be in the blood, as evidenced by frequent occurrence.

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USING POULTRYNZ PRODUCTS



POULTRY LEG SPRAY

For Scaly Leg Mites use the Poultrynz Poultry Leg Spray regularly. Saturate the spray on the leg. Gently massage into the legs making sure all areas are covered. Repeat in 3-4 days and again in 7 days.

Do not pick off the debris as it can cause bleeding. The chickens will help by pecking the debris off the leg themselves. In cases where the chickens scales are lost they will not grow back. Even if your other chickens do not have signs of Scaly Leg Mites it is recommended that you do them as well so Scaly Leg Mites do not establish themselves in your flock. Check their legs regularly throughout the year.

The main ingredients are: Cotton Seed Oil and Eucalyptus. There is no

POULTRYNZ D.E. (Diatomaceous Earth)

Dusting your chickens with Poultrynz D.E. is a very good deterrent for Poultry Lice as well as Red Mite especially around the vent. Putting a handful of Poultrynz D.E. where they dust bath is also a perpetual way of keeping your chickens free of Poultry Lice.

For better Red Mite eradication mix Poultrynz D.E. with water to make a slurry. The amount of Poultrynz D.E. you use depends on how big your house or coop is. Mix the slurry to a consistency that is easily used with a paint brush. You then apply the slurry to the cracks, on the perches and nest box. Making sure that you apply a good amount under the perches. You can apply it to the walls and ceiling if you wish for a better affect. When you paint it on you are able to dab all the nail holes and cracks where mites live and in effect seal them off.

When the Poultrynz D.E. dries it will form a barrier that repels the Red Mites. Remember Red Mites can't fly so to feed they need to get at the bird and a lot will go under the perches. If they walk over the Poultrynz D.E. slurry you have got them, well within 72 hours. Avoid inhalation of dust using a suitable dust mask. Wear eye protection. There is no egg-withholding period.

