

The Breeding Cycle – Care and Maintenance.

by Peter Ailwood

This article is designed for both the beginner and the expert and when you see a paragraph starting [Σ] it is a paragraph of what the expert breeder would do, but not totally necessary for the beginner. I have tried to keep it simple. It is also written for the Southern Hemisphere, so if you're in the Northern Hemisphere, you will need to juggle your months.

CONTENTS.

Preparing the Birds for Breeding	2
Feed.....	2
Exercise.....	2
Light.	2
Age	2
Soft Food.....	2
Separating the sexes prior to breeding	2
Preparing the Cage/s for Breeding	2
Pairing – the Selection process.....	2
Pairing - the bringing together	3
The Eggs	3
Soft-Shell.	3
Dead in Shell.....	4
Clear Eggs.	4
Egg-binding.	4
Removing the Cock	4
Returning the Cock	4
Egg & Biscuit.....	4
Soaked Seed.....	5
Topping-Up.....	5
Ring the Chicks	5
Entertaining the chicks	5
Removing the Parents.....	5
Wean off Soft Food- Egg and Biscuit.	5
Falsifying or altering the seasons.....	6
Variegation	6
Ticked	6
Lightly variegated	6
Heavily Variegated	6
Foul	6
Clear	6
Self.....	6
Grizzle.....	7
Breeding for variegation.	7
Colour	7
Yellow	7
Buff.....	7
White	7
Green.....	7
Blue	7
Cinnamon	7
Faun	7
Schedule / Cycle – Southern Hemisphere.....	8

Preparing the Birds for Breeding

The lead up to the breeding season is very important as this is where the birds gain their fitness and vigour, so that they can go through the breeding cycle and support multiple nests of young birds, without becoming run down and either leaving the nest or dieing.

Preparation goes for the 3 months June July & August then continues through the breeding season.

Feed

During the preparation you should feed your birds well, including different types of seed and plenty of greens. I use a mixture of 2 parts Canary with 1 part Rapeⁱ. This I supplement with a small quantity of Hulled Oats in the winter months. Hulled Oats I am told can be detrimental in summer as the birds put on too much weight and get too hot.

Exercise

It is important to give your birds plenty of exercise during winter. This can be done in an Aviary or in indoor flights. Keeping the birds in small cabinets year round reduces the birds overall breeding fitness and although breeding is possible, the reduction in fitness will reduce the breeding potential.

Light.

It is important to ensure that the birds receive natural light in the lead up and during the breeding season.

[∑ Breeding and keeping birds year round in artificial light requires special lighting and also you need to control the variables for the changes in light that occurs depending on the season. This also could involve temperature control depending upon your climate, as this will also affect the breeding Cycle]

[∑ Because my birds only get a small amount of Natural Sunlight, I supplement using fluorescent tube lights, which I control via a time switch. I increase the amount of time the light is on in relation to the seasons. I don't attempt to alter the seasons to trick the birds into a longer breeding season.

Fluorescent lights are used as they generate less heat. Too much heat at the wrong time can start the birds moulting out of season, which is not good].

Age

I only breed with Hens under 5 years and Cocks less than 7 years; as outside this age reproduction rates are low.

I also find that birds that are just 1 year are also finicky, particularly if born late in the previous season.

Soft Food.

[∑ (In August you should give Soft Food – Egg and Biscuit about once or twice per week.)

Separating the sexes prior to breeding

[∑ The expert breeder would most likely separate the Hens and Cocks during this preparation period. This is to avoid the cocks fighting each other and to avoid early mating.]

Preparing the Cage/s for Breeding

If you are breeding in cabinets, make sure that the cabinets are clean and free from mites. You may wish to use a sterilising liquid and something for pest control. Make sure the cabinets are dry and no food comes in contact with any sterilising or pesticide liquids or gas.

For aviary breeding, you also need to clean the aviary and my preference is to put up some partitions in the closed off area that do not have a base. To these attach securely your nest-pan. You can skip the next section because you will have no control over paring unless you only have 1 cock in the aviary. For aviary breeding I prefer 1 cock to 3 hens; this avoids the cocks and hens fighting each other. 1 cock will easily service 3 hens. Unfortunately the results from breeding in an aviary are not as good as cabinet breeding.

Pairing – the Selection process.

This can be as hard or as easy as you like. First of all I tag all my cocks when they sing or I am sure that they are boys; by putting a blue plastic split ring on the opposite leg to the fixed ring. This means I don't get the hens and cocks that are similar confused. (That's my confusion not the birds) I then do the following steps:

Assuming that you have the Hens and the Cocks separated.

1. I split the cocks and hens again by feather type ie I have one group of cocks that are yellow or yellow ground, and another, which are buff. (this includes Cinnamon) This now means I have 4 groups.
ie. Yellow cocks, Buff cocks, Yellow hens & Buff hens.

2. Now for White ground birds including Blue, Faun, I have a look at the feathers and if they are long and thin and tight against the body, they go with the Yellows and if the feather is more rounded and softer then I put them with the Buffs.
3. I pick the best cock bird from the Yellow group. This is usually the smallest with the best overall typeⁱⁱ.
4. I then pick the best Hen from the Buff Group. At this point I also consider if there is Cinnamon or White involved and the degree of variation. (See Variegation page 6 and Colour page 7 at the end of this document.)

This gives me my 1st pair and I place them in separate sections of the cabinet, separated by a solid slide. If I am going to use 1 cock to two hens I would pick the next most suitable hen from 4. above. I would place the next hen adjacent to the cock on the other side.

5. I repeat this process until all the Yellow & Buff Cocks are matched.
6. I then review what I have done. I often change my selections slightly as I am never happy.

Pairing - the bringing together

I usually bring the hen and cock together on the first week of September as I find this to give me the most satisfactory results for the climate. Before I bring them together I add the nest pan to each hen (see separate article) and give the hen material to make the nest (also in separate article). If the hen looks like she wants to breed, ie she starts carrying nesting material and looking for the cock; I then put a wire slide between the Hen and the Cock. If I don't have a wire slide, I slide out the solid slide just enough to allow the hen and cock to see each other but not get through. I then observe and if they are friendly towards each other, I take away the barrier and continue to observe. If they fight I return the slide if they don't I leave them together until the hen has layed all eggs, then if I am using the cock with another hen I will take him away.

The Eggs

A Canary when laying properly, lays 3 to 5 eggs (but usually 4), pale blue in colour with dark reddish spots. Each egg is laid in the morning and should be on consecutive days, but sometimes a day may be skipped.

[∑ The more experienced breeder steals each egg the morning it is laid and replaces it with a dummy egg or marble. The last egg laid is slightly darker blue and this information can be used to allow you to replace and remove the dummies. The reason why the eggs are removed and replaced altogether is so that all the eggs hatch on the same day, which gives each chick an equal opportunity to survive, rather than being hatched up to 4 days apart. You can in fact delay putting back the real eggs for a week or 2 and as long as the hen keeps sitting you will have no problems.]



The eggs hatch on the 13th or 14th day and this variation occurs because of how tight the hen sits. I have known hens to go to 16days, so don't get too hasty to throw out the eggs

[∑ When the hen has been sitting about 7-9days you can test to see if the eggs are clear. This is done by holding up to the light, or by using a light box. At 7- 9 days you should be able to see darkness inside the shell rather than clear. By knowing if the

eggs are clear you can stop the breeding cycle immediately and start again in about a week. Hence you saved about 5 days]

Soft-Shell.

This occurs mainly because the hen does not have sufficient calcium in her diet. This can be avoided by keeping shell grit available all year round. If Soft-Shell occur, give your birds an Avian Calcium mixture and make sure they get sufficient greens and light, preferably natural sunlight.



Photo: Peter Allwood

Dead in Shell

If you find that some of your eggs don't hatch it could be that the chick has died in the shell. This can be caused by the hen leaving the nest during a thunderstorm or for some other reason, long enough for the egg to cool and the young too die. Some breeders also believe that it can be caused by the eggshell being too hard, and the chick was unable to peck its way out.

[Σ Some breeders use a hand held water spray and spray the eggs at around 12 days in the hope that it softens the shell. I personally think this is a waste of time.]

Clear Eggs.

This is the most frustrating part of breeding, when the eggs are clear ie. No chick develops because the egg has not been fertilised. The causes can be many but it usually comes down to the hen or the cock not being ready to breed, or as some would say not breeding fit. The second nest is often found to be better than the first because we're too anxious to start breeding. If a hen doesn't look fit and well, or the cock is not singing in a vigorous way, then they are not ready and should be kept separated until they are fit.

[Σ As a breeder, I always trim the feathers around the vent on both the hens and cocks. Now you need to be very careful and cut away the excess feather under neath the tail, but not the part known as the feeler feathers, which stick out right at the vent and are smaller & finer. Now I said cut away the excess, not give the bird a shave.]

Egg-binding.

The first thing to be said about Egg binding is that it rarely occurs.

If during the hens laying cycle you find the hen weak and what appears near death, it could mean that she is having trouble passing the egg and has collapsed due to exhaustion. The best treatment is to place the hen in a Hospital Cage or something similar and raise the temperature. This alone is often all that is required, however if the egg has not passed in an hour, a little olive oil can be dropped into the vent. It is NOT wise to attempt to remove the egg manually as this usually results in death.

The good news is that when the egg is passed the hen usually recovers to normal within hours, and often can finish the clutch. In extreme cases it is wiser to stop her breeding till the next season. The best method of avoiding egg binding is to prepare the birds well during the winter.

Removing the Cock

As mentioned above, if I am using one cock with 2 hens, I take away the cock after the hen has completed laying. This however is not the only time. If the cock continuously hounds the hen or pulls apart the nest remove him and rebuild the nest for the hen, replace the eggs, and the hen should continue to sit.

Returning the Cock

Once I take the cock away I usually don't return him unless the hen is struggling to feed her young and even then there is no guarantee that the cock will assist.

If you do return a cock, or a different cock that you want to use for the next nest, then you need to observe their behaviours for a while to ensure that they are not going to fight and abandoned the chicks completely. For the next nest I usually return the cock about 15 - 18days after the chicks are hatched.

Egg & Biscuit

Sometime referred to as just Egg Food. This is a soft food, which you provide to your birds to feed their chicks. As the name suggests it has varying degrees of egg & biscuit plus fillers etc. There are many different recipes and most breeders have there own concoctions.

I personally use any of the many proprietary brands available from the produce store and these days I don't even add boiled egg as the protein levels are already high enough.

You start giving just a little soft food on the day you expect the chicks to hatch, enough to cover a ½ " or 12mm circle. This you increase as the chicks get older. I like to feed a little as often as possible, rather than leaving a larger quantity the whole day, however this is not always possible with work and other commitments.

Soaked Seed

[Σ Some breeders like to use soaked seed to supplement the egg & biscuit. Soaked seed for me is too time consuming and has to be done correctly to avoid bacteria, which can be deadly. (see other article on Soaked Seed)

Topping-Up.

[Σ This is a practice done by many breeders. It involves removing the nest in the late afternoon and topping-up the chicks with a very soft food. Most breeders use a parrot hand raring mixture or egg & biscuit with just sufficient water added to make a thick paste. You feed this too the chicks with a tooth pick; they will raise their heads by simply tapping the edge of the nest. You can feed as much as they will take; sometimes the crop will be so full that it looks like it would burst. When you finished just put the nest back and the hen will return.

The reason why this is done is so that you can check that the chicks are being fed, and if not give them sufficient to last them too the morning when the hen will feed.]



Ring the Chicks

When the chicks are about 9 days old, it's time to ring the leg. This gives you the ability to know who its parents are and its age. To buy closed rings you need to be a member of a club and they will be able to supply you with closed aluminium rings at a reasonable price. Because they are closed they must be put on the leg before the Ankle gets too big but cannot be done too early or the ring will fall off and probably be lost. Now I ring pink-eyed chicksⁱⁱⁱ on the left leg and dark eyed chicks on the right leg (see article on Cinnamon).

To ring the chick you hold it in one hand and hold the leg with the fingers of the same hand holding the 3 forward toes together and the rear toe facing in the opposite direction to the front toes. Step 1 - You then using your other hand, slip the ring over the front three toes. Step 2 - Across the ankle and over the back toe. Step 3 - The back toe is then released. Replace the chick into the nest and the hen will never know that anything has changed.



Entertaining the chicks

When the young birds are weaned from their parents they sometimes get a bit bored and start pulling feathers out of each other, particularly the tail feathers. To avoid this you need to give them something to occupy themselves. I tie a number of pieces of string to the wire; each piece about 6" or 150mm long. The young birds tug and pull at the string. Another thing you can give them is old bread that has dried out and is quite tough and they will pick at it for hours. You can do the same with the hard centre of a Cabbage or Lettuce or Broccoli etc.

Removing the Parents.

When the chicks are about 21 days old you need to decide if the parents can be removed from the chicks. It is important you don't leave them together too long as the chicks will become dependent on their parents and it will make separation more difficult.

I watch for signs that the chicks are feeding themselves, this can be best seen when the egg or soft food or greens have been freshly added.

I separate by using a slide and if you find the egg and biscuit is being eaten everything is ok. If however a chick sits in the corner calling continuously and not eating return to the hen for a few days and try again.

During this period it is essential that you continue to feed soft food.

Wean off Soft Food- Egg and Biscuit.

I tend to wean all my young birds at the same time making sure my youngest bird is older than 6 weeks.

I do the following:

1. I start the process by ensuring the chicks are receiving greens every day.
2. I make sure that tonic mix or a blend of 50% Rape and Canary is available all the time.
3. Over a 2-week period I slowly reduce the quantity and time that I provide the egg and biscuit.
4. After 2 weeks. Feed egg and biscuit whenever, as the chicks should now be eating seed.

Falsifying or altering the seasons.

This is a practice that I personally do not condone, because it reduces the life span of the birds and puts them under unnecessary stress.

So that you can recognise this practice and therefore avoid, I will provide you with the basic concepts.

1. Increase the amount of light slowly day by day to give the birds the impression that spring then summer is arriving.
2. If necessary and at the same time as above, increase the temperature (this is dependent upon your climate).

Once the birds commence breeding keep the light and temperature at the same level. When you finish breeding reduce the light and temperature slowly to represent autumn and winter.

The problem with falsifying the seasons, is that the birds because of the increase in seasons have a shortened life and problems associated with moulting etc.

Variegation

This is the amount of plumage that is in irregular areas of light and dark feather, varying from all green to clear. For the purpose of classification particularly in showing, the degree of variegation has been divided into many categories. It is important that if you are showing your canaries that you check these categories with the society as slight changes may exist between societies.



the total area of the bird.

Ticked

A single area of dark feather, anywhere on the bird, with a total area less than a 10¢ piece.

Lightly variegated

This is where the total area of dark colour makes up less than 50% of the total area of the bird.

Heavily Variegated

This is where the total area of dark colour makes up 50% or more of



Foul

This refers to a Green or Cinnamon bird that has some white flight feathers in their wings or tail. It does not imply that it is offensive or dirty etc.

Clear

A clear canary has no dark feather however the skin of the legs and beak may have patches of dark colouration.

Self

This is a bird where all feathers have the dark melanin. No white feathers exist. The bird therefore could be Self-Yellow, or Self-Buff, Self-Faun or Self-Blue or Self-Cinnamon Yellow or Self-Cinnamon Buff.

Australian Fife Canary – www.fifecanary.org

Grizzle

Is where feathers of the head, body wings etc have a greyish appearance. Grizzle birds are usually shown in the corresponding light or heavily variegated classes unless specifically identified.

Breeding for variegation.

When breeding with variegated or clear birds, the results are NOT always an exact science, however as a rule of thumb, the off spring in general should represent either of the parents but not usually a combination of both. However colour and cinnamon do have some predictable effects.

Colour

This can be a very technical subject however I will briefly describe the colours; the more technical aspects can be read in other documents.

Yellow

Yellow is a rich bright yellow feather. The feathers tend to be harder and longer, with no tendency to be white/mealy at the edges. This is covered more in other documents.

Buff

This is a softer feather than the yellow and more rounded. The margins of the feather are white giving the appearance of a frosting which results in a soft lighter yellow.

White

Is White. There are two types Dominant and Recessive. Dominant is the most common and can be identified by the tinge of yellow on the primary flight feathers. It should be noted that if you mate dominant white to dominant white an average of 25% will be non-viable as the dominant white gene is lethal, when in both chromosome pairs.

Green

Green represents the dark melanin of brown & black of the wild-type of plumage superimposed over buff or yellow. ie Buff Green or Yellow Green.

Blue

This is where the dark melanin of the Green, is superimposed over White. This creates a slate blue colour.

Cinnamon

Cinnamon is a mutation of the dark melanin, which only has the brown pigment present without the black. Cinnamon is a sex-linked form of inheritance and therefore the results of breeding are predictable but complex. Refer to other documents for a more technical explanation. Cinnamon is either over Yellow or Buff ie Yellow Cinnamon or Buff Cinnamon.



Faun

Faun is Cinnamon superimposed over White.

Schedule / Cycle – Southern Hemisphere

June July August	Prepare the birds for breeding
August	Prepare the cages
August	Paring the birds
September	Mating
Lay eggs or replace	commence count
9 days	Σ Check the eggs for clear.
13days	Add soft Food – due to hatch
Hatch	Commence to count from 0
9 days	Ring the chicks
18 days	Add a new Nest for the next round
19 days	Return a Cock if he has been taken away
21 days	Wean from parents
Mid December	Stop New Nests
February	Wean birds off Soft Food

ⁱ Rape seed also known as Canola, is high in Oil and should be purchased when it is really black and not old and greyish.

ⁱⁱ Type refers to the Standard of what a Fife Canary is supposed to represent in terms of shape.

ⁱⁱⁱ Pink-eyed birds are always Cinnamon and may only be carriers ie no Cinnamon feathers.