

Photos by Tony Bucci

*Frill Canary*

# Canary Culture

by Tony Bucci

The dominant white canary appeared in the year 1667 in Germany. Later introduced in other parts of the world, the dominant white canary was referred to as the "German White".

Genetically, the dominant white canary is characterized as lethal-dominant. This characteristic is the very same as found in the crested canary and deep yellow (intensive-hard feather). Knowing this lethal characteristic, it is not recommended to mate dominant white to another dominant white. This mating will produce 25% of chicks, which will die in the shell or soon thereafter. It is recommended to mate dominant white to a clear (lipochrome) yellow or red-orange. This mating will give 50% white and 50% yellow or red-orange. The dominant white canary will always show a small amount of lipochrome color on the shoulder, wing and tail feathers. This color could be yellow or red-orange, depending on the previous mating.

Figure 1 will show schematics for dominant white and yellow matings. Let me explain how to interpret the schematic.

Refer to Figure 1 mating "A": Each square represents a chromosome. Each chromosome is numbered, and the letter within the square represents the type of genes within the chromosome (genotype). A pair of chromosomes represents the bird, and the color of the birds feathers (phenotype) is indicated below the squares. The top two pairs of squares represents the parents, and we can assume either pair of squares is a father or mother. The four pairs of squares below represent the offsprings.

The white offspring inherited a combination of 1 & 3 and 1 & 4 chromosomes, and the yellow offsprings inherited 2 & 3 and 2 & 4 chromosomes. Note that each offspring is a combination of each parent. The white offspring (1, 3) has one white chromosome and one yellow chromosome, and in this case, white is dominant. Therefore, the bird will be white and carrier of yellow.

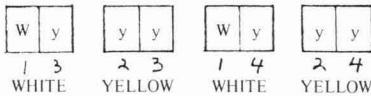
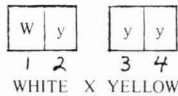
Notice: Figure 1, "B" – 1 & 3 Mating has a double dominant white factor chromosomes. The chick will die due to the double white lethal combination.

In the case of either mating, Figure 1

W WHITE

y YELLOW

A



B

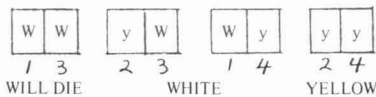
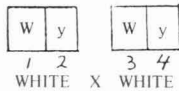


FIGURE 1

or Figure 2, we have to assume that 50% of the offspring are hens and 50% are males.

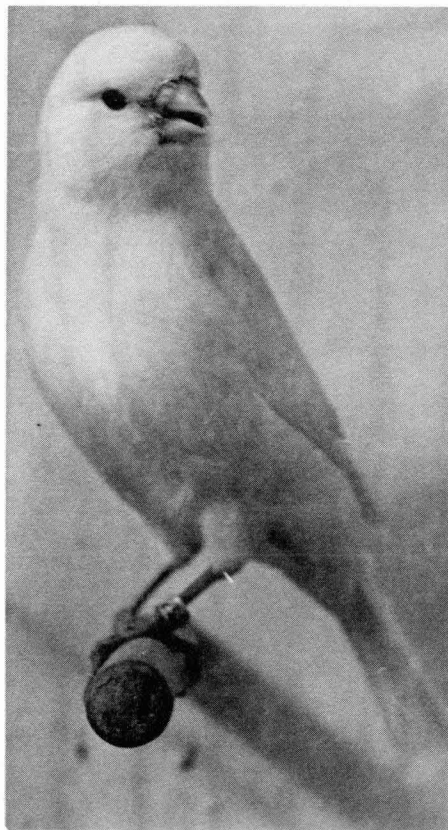
The results of matings in Figure 1 are:

A) Dominant white X yellow = 50% white, 50% yellow.

B) Dominant white X dominant white - 25% will die, 25% yellow, 50% white.

We can conclude that: a dominant white canary is always a carrier (Heterozygote) of yellow or red-orange. Yellow or red-orange canary can not be a carrier of dominant white canary. A dominant white canary can't be pure white (Homozygote) due to the lethal dominant factor.

Not as popular as dominant, the recessive white canary is very much the same in appearance, but when closely observed, it lacks the lipochrome color on the shoulder, wing and tail, which the dominant has. This small apparent difference, makes the recessive white canary totally white. Where the two are totally different, is in their genetic makeup. The recessive white is very much the same genetically as the opal factor or recessive Ino (Red Eyes).



Border Canary

Figure 2: is a schematic to show recessive white and yellow matings. We could substitute lipochrome (clear) red-orange, for yellow.

In Figure 2 "B", notice that all of the offspring are yellow carriers of white and therefore yellow is dominant over the recessive white.

The results of matings in Figure 2 are:

A) White recessive X white recessive - 100% white recessive.

B) White recessive X Yellow - 100% yellow/white\*.

C) White recessive X yellow/white - 50% white recessive, 50% yellow/white.

D) Yellow/white X yellow/white - 25% yellow, 50% yellow/white, 25% white recessive.

E) Yellow/white X yellow = 50% yellow, 50% yellow/white.

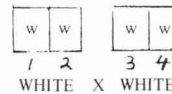
The last two matings, "D" and "E", are rather non practical because we can't recognize the yellow/white from a yellow. To find the carriers, we must try them in the next year's matings, thereby losing much time.

\*Slash between colors indicates carrier of.

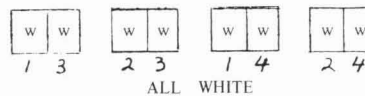
FIGURE 2

A

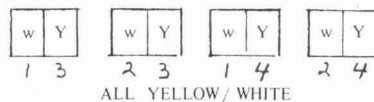
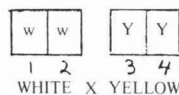
Y YELLOW



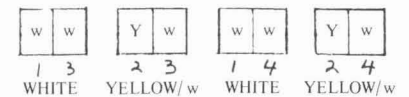
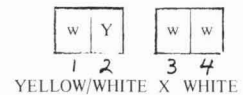
w WHITE



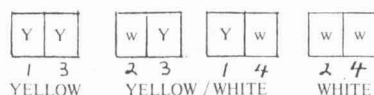
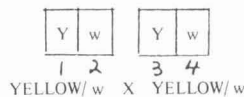
B



C



D



E

