

Interbreeding Silver Varieties

By Ellyn Eddy

Black, Brown, Fawn. Such a unique set of varieties we have in Silvers! How did we come to have such a trio of colors? And how do we manage them now?

One of the questions most frequently asked by new breeders is "can you breed the colors together?" The short answer is that most experienced breeders will say no, that raising three silver colors should be like raising three different breeds. Although some people do interbreed the color, I believe it's best for the breed if we don't. Here's why:

Picture a fawn silver, or go pull one out of your barn. Admire the pure fawn color, silver on gold. The fawn color in silvers is amazingly clean. In some breeds, the fawn is covered with smut, or dark ticking especially around the flanks, face, and ears. This smut is caused by genetic modifiers that have been successfully bred out of fawn silvers, leaving us with a clean gold color. However, black and brown also carry those genetic modifiers for smutty fawns. The smut may or may not be bred out of blacks or browns, we don't know because we can't see it on them anyway. But when you take a black or brown to a fawn, you could be unwittingly introducing smut modifiers, and spoiling generations of pure gold.

We're Talking about the Genes

Black, brown, and fawn to all appearances look like three very different colors. But genetically, they aren't that dissimilar. Black is removed from brown (chestnut) only by one gene, and brown and fawn have also only have one gene's difference.



brown silver

There are five sets of genes that control a rabbit's basic coat color. They are the same for all breeds. Each set, or series, is given a symbol: A, B, C, D, or E. All silvers are BB CC and DD, so we just have to worry about the A and E series.

The A-series determines if the silver is agouti (brown, fawn) or self (black). Agouti is symbolized by a capital

"A" because it is stronger than self (black), which is symbolized by a lowercase "a".

E controls the yellow factor in the coat. Dominant "E" is brown/black and recessive "e" is fawn.

A rabbit has two genes (alleles) in each series: two A/a's and two E/e's. One "letter" comes from each parent. If a rabbit is A or E it may carry a or e, and therefore would be written like Aa or Ee, though it has no effect on the rabbit's appearance. If a brown does not carry black (self) or fawn (yellow), it would look like AA EE. If it is black (self) it is written aa. If it is yellow (fawn) it is written ee. If we don't know what the rabbit carries, we leave a blank, like A_ or E_.

Without Silver colors, we have four possible gene combinations.

A_E_ is brown.

aa E_ is black.

A_ ee is fawn.

So what is aa ee? Tortoisie. Not a showable variety. When we begin breeding black and fawn together we will eventually arrive at tort.

Say you take a black and a fawn, both from pure lines of their respective colors. (aa EE x AA ee). When you breed these two together, you may be surprised to get 100% browns! But consider: the black can only give a and E, and the fawn can only give A and e. So all the babies will be Aa Ee: brown!

Okay so far—but look: those brown babies will carry both black and fawn. In other words, they carry tort. Breed two of those browns together and you'll wind up with all four colors.

If you never planned to sell your silvers, interbreeding browns with blacks OR browns with fawns would present no real problems. No unrecognized colors should crop up. But for the sake of the fancy as a whole, please don't do it. Eventually when buying a brown we'd have to ask if it was a "pure brown" AA EE, a "black-brown" Aa EE, or a "fawn-brown" AA Ee. You couldn't just buy any brown and breed it to your line of browns without the possibility of unrecognized colors down the road.

I'm certainly not condemning those who breed varieties together. But I hope I have helped everyone understand why people say not to do it. Some people don't mind, others do, and crossbreeding colors will make your stock less desirable from a sales point of view. The most important thing of all, however, is that we "keep breeding those silvers!"

While we're on the topic...

Here are couple of interesting side notes:

First, let's take a minute to think about how rare Silver color is. The black silver color is recognized in only five breeds in the United States: the Silver, Silver Fox, Mini Lop, French lop, and English lop. Personally I think the sleek "Silvery" look can only be achieved on a short flyback coat like the Silver has. The Silver Fox, Mini Lop,

and French Lop have long fur. I've seen pictures of a silvered Mini Lop, but that is one of the most rare Mini Lop colors. In fact, I've heard of a silvered Mini Lop being disqualified for excessive white hairs, because the judge didn't know any better. I'm not certain it exists at all in English and French Lops, but it's recognized because they share a color standard with the Mini. The Lop color standard recognizes fawn, brown, black, and blue silver. The lop color standard doesn't give any description for the base color. We assume that "brown" is supposed to mean chestnut like in silvers, but under the present wording I don't think that a chocolate or sable silvered lop should be disqualified, since it is "brown". There is a "brown" Beveren being presented, but I don't know if it is a chocolate. Currently, no breed besides the silver recognizes a color just called "brown".

How did these colors come to be? The original silver variety was gray, which we now call black. The gray silvers are one of the oldest of rabbit breeds, kept as early as 1500 AD. The first fawn silvers appeared in the 1870s, called creams. Because they were sports from the blacks, I believe that these were actually a tort, and it became fawn when brown was developed in the 1880's, from crosses to a Belgian Hare. In other parts of the world, a blue silver is recognized. But if we brought blue silvers here and interbred them with our current colors, we'd end up with blue torts, creams, and opals!