BREEDING STATISTICS & IMPLICATIONS:

# Know the Odds with Recessives.

**By Jay Bangles**

Assume for a moment, that a female F1 has 16 kittens in her breeding lifetime. Statistically, half of those would be male, the other half female. The following charts assume that the hypothetical F1 carries X number of undesirable recessives (blue, longhair, solid, etc.). If we breed her to a male who carries the same number and type of undesirable recessives, you can see the number of desirable kittens goes down. Desirable kittens are females, who do not carry any of the recessives, acceptable kittens are females who carry, but do not express the recessives.

The complication comes in when you start adding multiple undesirable recessives. Take, for instance, longhair and blue and solid. You can get a litter where all three express themselves in the same cat, but you only have a 1.5% chance of that happening. You also only have a 1.5% chance of producing a cat that is free of any of the undesirable recessives (with our assumption of 16 kittens, that would be NO kittens, male or female, that are free of all undesirable recessives). 12.5% will carry all three (1 in 8, one male and one female). 18.75% will carry 2 of the three (3 of the 16 total kittens, you have a 50/50 chance of the third being one of your females). 65.75% will carry one of the three (11 kittens).

If you are dealing with only two undesirable recessives, you have 6.25% chance of producing a cat that is free of both undesirables (1 kitten out of 16, again a 50/50 chance of that one kitten being female). 25% will carry both genes (4 kittens, 2 females), 62.5% will carry one or the other (10 kittens, 5 females).

One undesirable recessive, you have a 25% (1 in 4) chance of producing an unencumbered cat.

Of all cats produced, 25% will be free of any given recessive, 50% will carry that recessive and 25% will exhibit that recessive.

Now this may not sound like that big of a problem. More than half the cats produced only carry one undesirable recessive. True, but which one? Without test breedings with cats that express that particular recessive (or accidentally getting an expression), you don't know. And it is possible to have a cat that carries all three (or more) undesirable recessives, passing those genes on to their progeny, without anyone being the wiser. Until two cats are bred together and you get nothing but solids, longhairs and blues. After all, who will spay a beautiful, producing F1 or F2?

*Food for thought.*

# Registration Considerations for Foundations

**by Libbie Kerr**

Potential foundation cat owners should be aware of several points...

- Some contributing cats and their first generation progeny are not registered by the exotics dealers who put the domestic with the ALC. This does not make these F1s or even F2s any less valuable for their alc gene contributions. It might make lineage hard to verify however. Ultimately however the test is the trait in the show ring (on SBTs) and that is measured by TICA as three generations from the first TICA registered Bengal. Note that any cat, foundation generation or otherwise, can be registered as an O1T if declared acceptable by three judges.

- The ALC is considered to be a breed other than Bengal as any other breed and ancestry cannot be differentiated by TICA registration code alone. Thus a B2T foundation cat could be two generations away from either an ALC (all ALCs are registered as OOT in TICA) or an unregistered alley cat. However an ancestral outcrossing to a registered SBT cat of a registered breed (like Mau) can be induced from an AOT, BOT or COT registration code. Newer TICA registration papers for Foundation cats will indicate the breed mix after the code. See "TICA Registry Codes" by Libbie Kerr, Summer, 1998 THE BENGAL BULLETIN.

- Technically, the Bengal is the only Category 1 breed that allows an outcross to be the determining cat of breed identity. Anything bred to an Alc, registered with TICA as an 00T "to be used in the Bengal breeding program", is automatically a foundation cat in the Bengal breeding program. ANYTHING... be it long hair, short hair, hairless.... any color any type. So, a new line of first generation cats may be contributing more new genes than you anticipated. New TICA code (See THE BENGAL BULLETIN December 1998 or January 1999) may help to clarify. Also breed derivations of foundation cats on pedigrees and ads could be helpful.

- TICA and other registries must trust the breeder to a large extent (at least until micro chipping and DNA parental testing and records become common place). Thus it is in some cases wise to contact the owner/breeder of your ancestral Alc before purchasing an F1 or sometimes F2 to verify validity of pedigree. Some of the old time breeders have seen pedigrees that indicate offspring from one of their cats with an unknown and impossible mate. Buy for the cat — not the pedigree alone.