

THE FIRST GENERATION = F1 crosses.

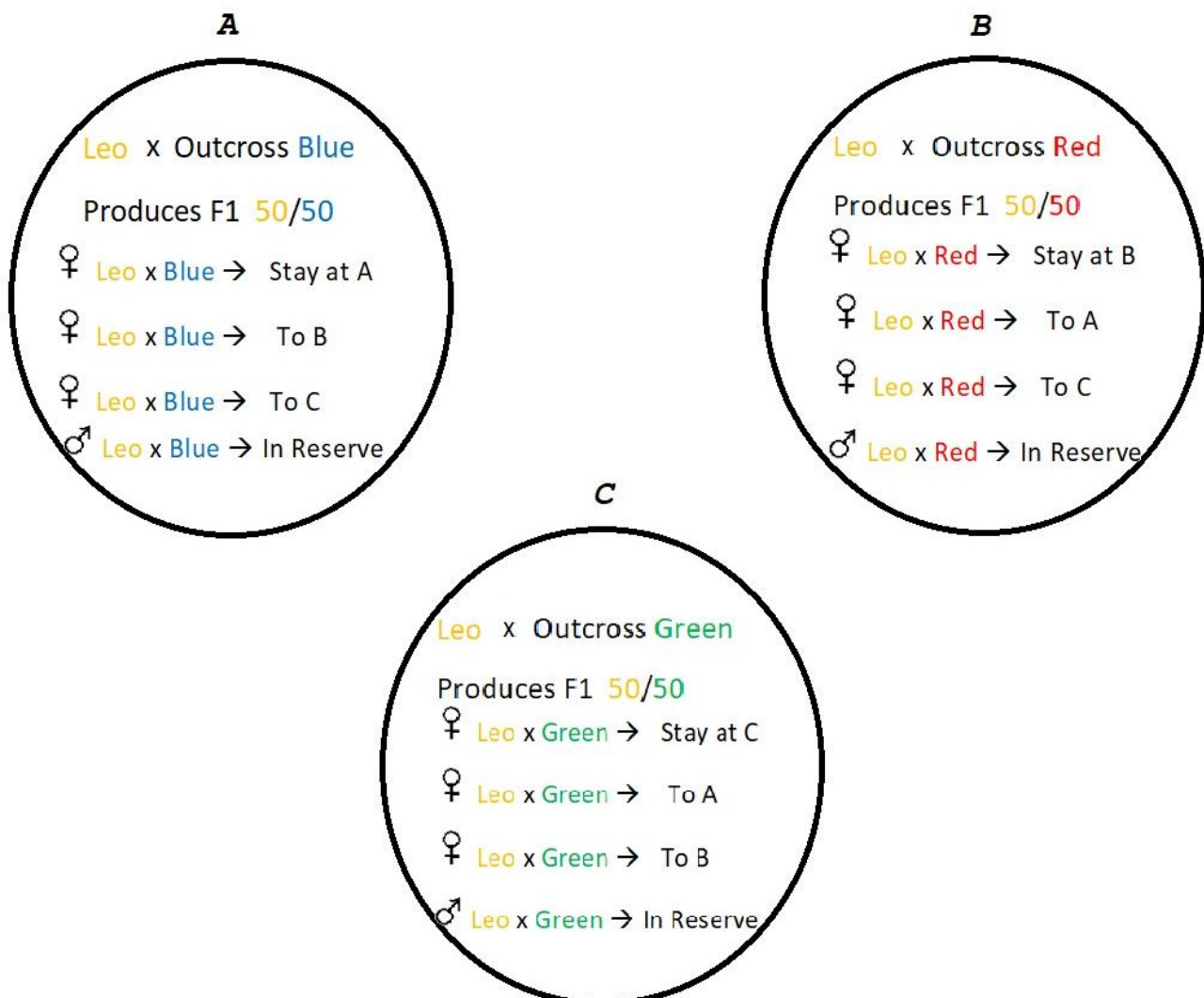
The first generation will be the **F1** progeny, 50 / 50 mixes.

3 female puppies (plus spare females) and one male puppy (plus one spare male) will ideally be available from each of these initial outcross litters to breed on from.

So, in a perfect world, we are looking for at least 6 puppies in the F1 generation from each of the three teams, or 18 puppies in total across the three breeder teams. It might be necessary to do a double mating for the F1 generation, in order to have the required 4 female and 2 males required by each team.

We will need caretaker homes for some of these first generation puppies so as to not over-burden the breeders themselves. Selections going forward will be based on phenotype, genotype and temperament.

In preparation for the next generation, each team holds one female F1 puppy from their own initial cross mating and sends the other two female puppies to the two other breeder teams. This results in each of the three teams, Blue, Red and Green, now each possessing three bitch puppies, each one of which is a 50/50 F1 Leonberger x one other source cross. See following illustration.



Each of the breeder teams also holds onto one of their male F1 50/50 crosses to raise and utilise in future matings.

Spare puppies are placed in pet homes with the understanding that they can be drawn back into the project should one of the designated breeding puppies fail a health test or suffer some sort of accident.

This will be a requirement of *each generation*, so we are looking at the need for a lot of fully cooperative pet homes!

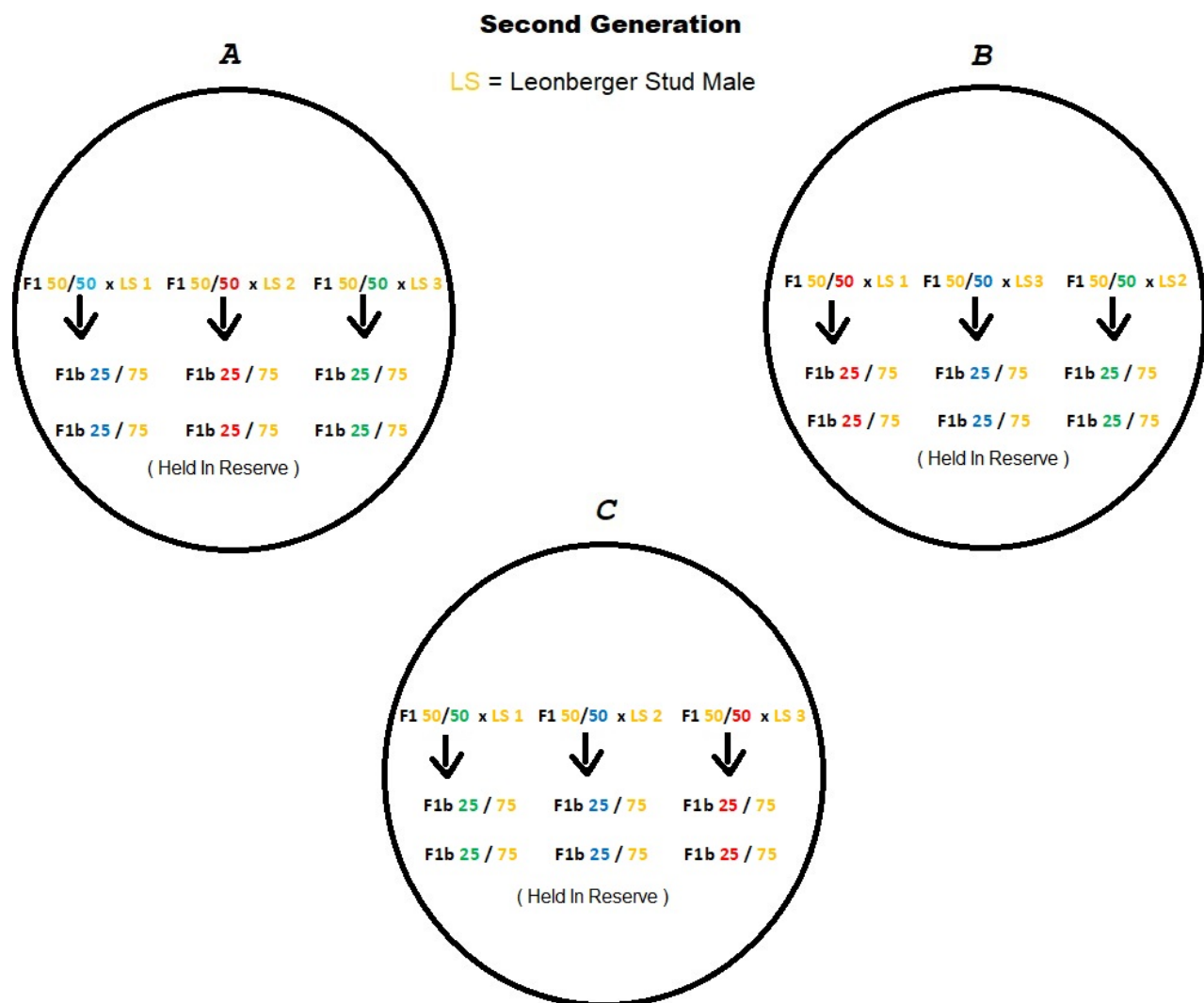
THE SECOND GENERATION = A Leonberger Backcross.

This sets everything in place for the second generation; the first back cross.

For this stage, the core team will identify three unrelated Leonberger stud dogs, (ideally not directly related to each other or to the three initial Leonberger lines),
These three males will be mated with the F1 50/50 bitches from the first generation.

This will result in a generation that is 75% Leonberger and 25% another breed. The F1b generation if I have my terminology correct.

Once again, a set of breeding females is selected from this generation – along with a set of back up females that will be held in case of failure or calamity, and all others will be found good pet homes. See Illustration 2

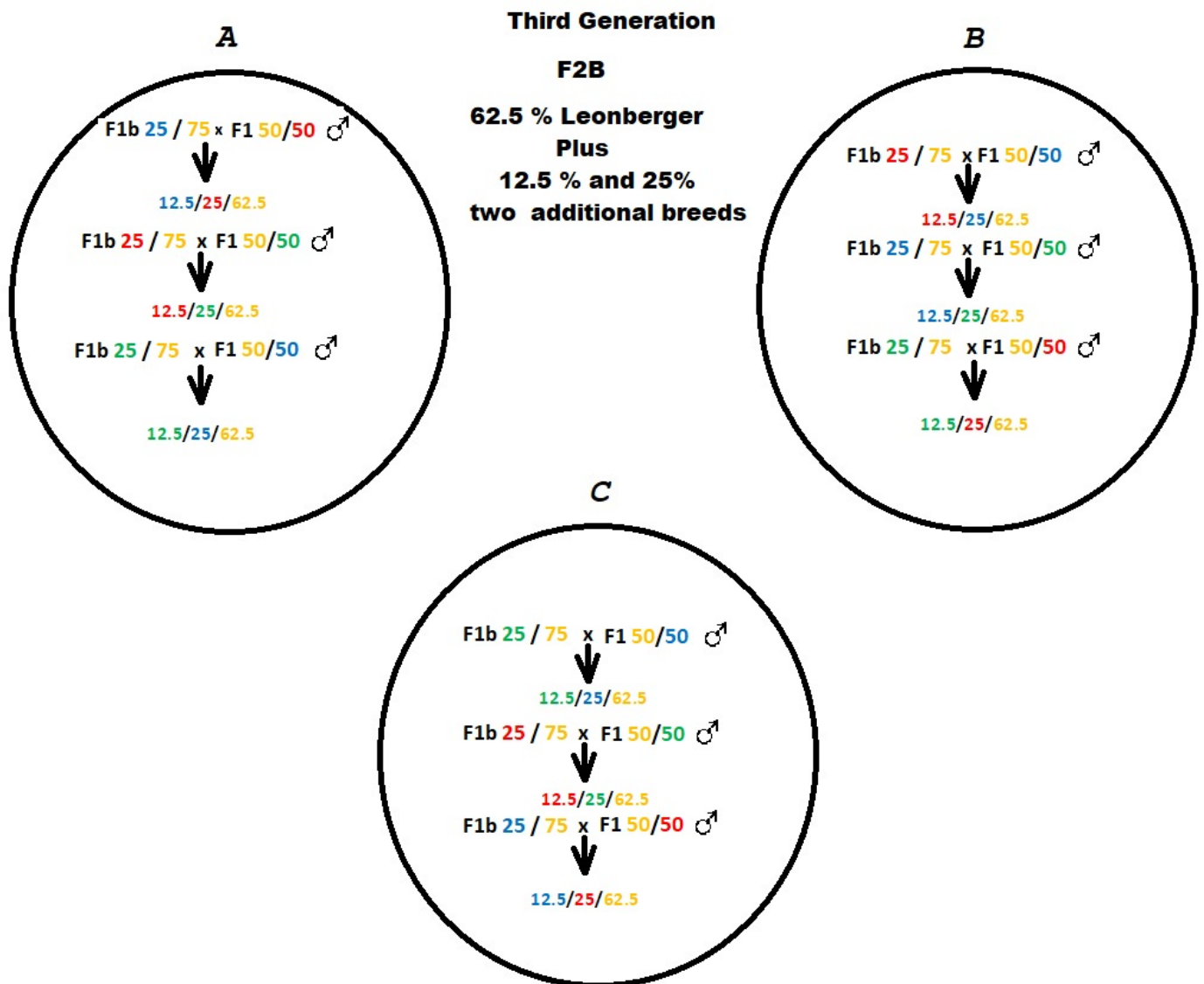


THE THIRD GENERATION = a “rotational-cross”

The third generation will see females once again rotated around the circle of the three breeder teams.

Then these F1b females mated to the 50/50 males that had been held in reserve from the initial F1 generation, taking care to match unrelated crosses with the F1b females. (see the diagrams to understand this).

This will result in what is referred to as an F2b generation, each of which is 62.5% Leonberger, as well as 25% alternative cross-breed A, and 12.5% alternative cross-breed B. As illustrated below.

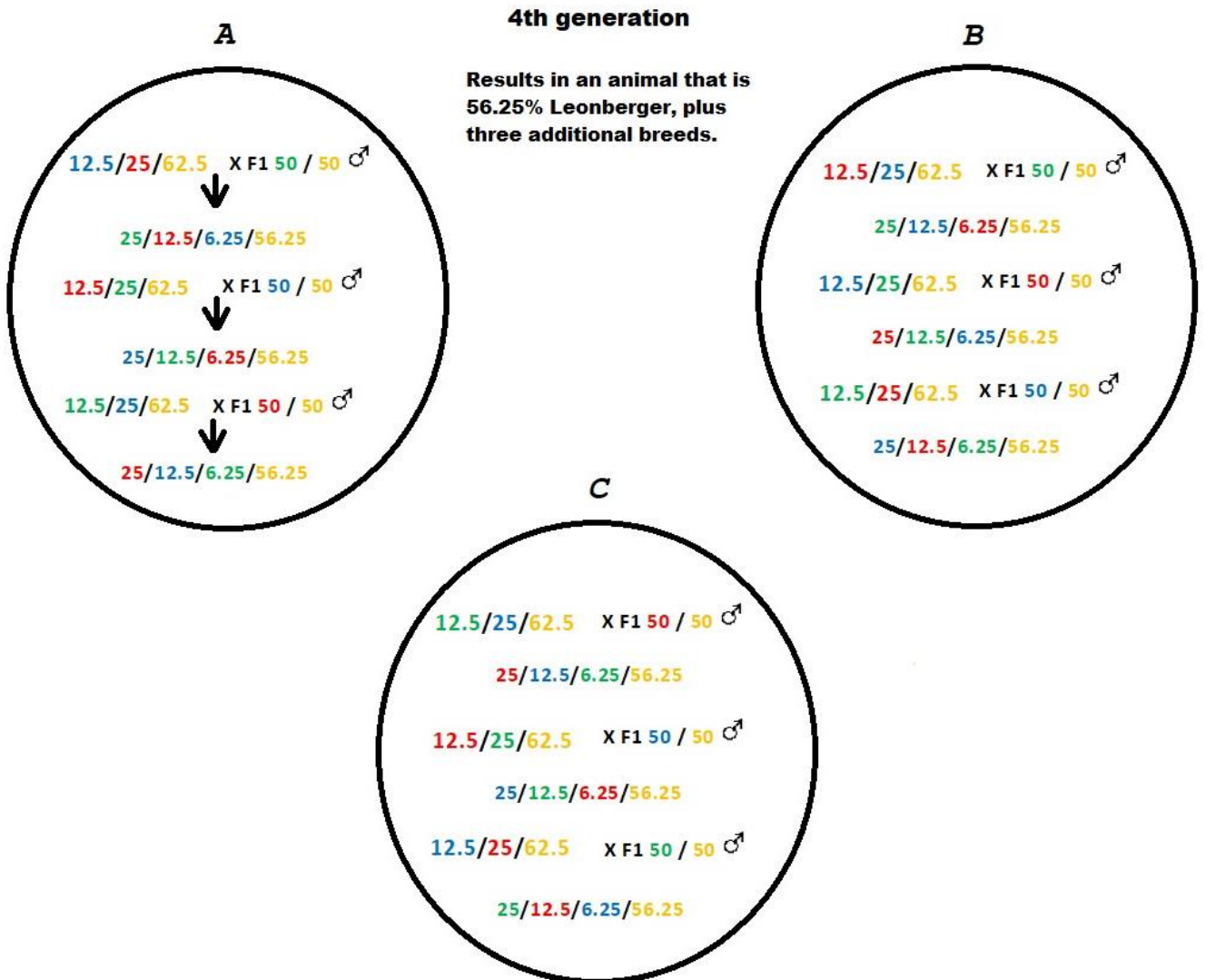


FOURTH GENERATION = also a “rotational –cross” breeding

The fourth generation sees the original F1 50/50 males rotate around and again mated with the remaining unrelated females arising from the F2b generation.

It is a little hard to imagine how this will work without looking at the illustrations, however, what this will result in is a generation that is 56.25% pure Leonberger, plus all three additional breeds, 25%, 12.5% and 6.25% respectively.

For lack of a better term, let’s call this the Leo +3 hybrid generation.

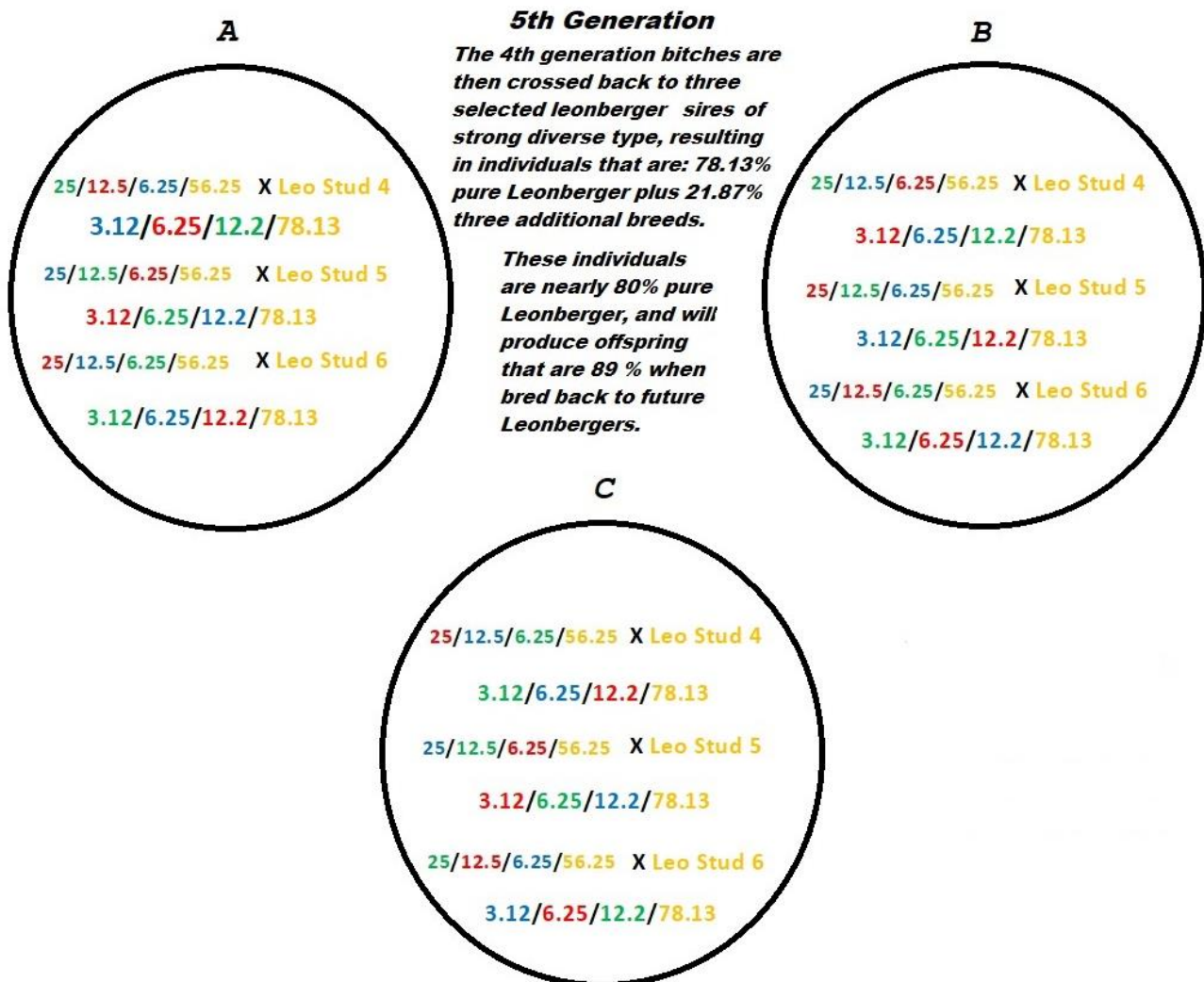


FIFTH GENERATION = Leonberger backcross.

Finally, we suggest that 3 additional young Leonberger males of good strong type and as much as possible unrelated lines be sourced to mate with the Leo + 3 hybrids.

The math indicates this will produce a generation that is 78.13% pure Leonberger from 9 unrelated lines, (6 pure bred Leonberger stud dogs, plus the three original first generation Leos), plus 21.87% each including genetic contributions from all three of the initial unrelated breeds.

Final illustration



Through this model . . . we anticipate that beneficial diversity can be introduced into the breed over a series of 4 to 5 generation, while at the same time ensuring that strong type will be preserved throughout.

If selections are carefully done at each step, we expect that these dogs will have a strong chance of looking like any other well-bred Leonbergers, and ideally they will act like Leonbergers.

But they will be much more genetically diverse than the current population.

And there will be a lot of them.

This is a critical point because it means that they can then blend into the current population, without the need for one line to be over-utilised, thus leading to yet another breeding bottle-neck.

Indeed, if successful there will instead be a colony of LEOGEN progeny, each of which will be bringing a strong element of diversity with them for the benefit of the entire worldwide Leonberger gene pool.

And hopefully to the benefit many future generations.