

## **Breeding Methods to Predetermine the Sex**

In mammals, the male determines the sex of an offspring while the female determines the size of a litter by the number of eggs she drops that become fertilized. We have all heard that there are males who have a reputation for being “bitch producers,” but is it possible that breeders can control the sex of their puppies instead of their stud dogs?

We breeders have tried many methods in order to predetermine the sexes of our litters. Many have been based on old wives’ tales, cultural tradition, proper timing, and even scientific data based on child births.

Many swear that if you breed early, you will get bitches. I know breeder friends who have been successful using this method. To prove this even further, when progesterone testing is done, the “optimal fertile” time for breeding conceives mostly males, which may be yet another argument to “breed early for bitches.:

Breeders who have used the acid/alkaline method to predetermine the sexes believe it’s the PH level in the bitch’s vagina that makes the optimal environment for survival of either sex and an acidic environment will produce bitches while an alkaline environment will produce males.

One external method involves swabbing the bitch’s vagina with a diluted mixture of white vinegar to increase the acidic PH for bitch puppies or by swabbing it with a baking soda solution to increase alkaline PH level for male puppies. Although successful in predetermination, it may decrease the size of the litter. Was this because the male sperm did not survive in an acidic environment, and vice versa, thus decreasing the litter size? Or would the bitch have produced the chosen-sex pup without any intervention, being just the luck of the draw, since the chances are 50-50 of either sex?

Seemingly, a more successful method based on the bitch’s PH level is feeding her an acidic or alkaline diet depending on the desired sex chosen. This diet should be administered about two weeks before breeding for optimal results with multiple births of the desired sex.

Now there is technology available that can predetermine the sexes. Since the 1990s, gender selection has become more prevalent in the livestock industry and is accomplished by sorting semen according to gender before insemination. By using a flow cytometer, X- or Y- chromosomes can be distinguished in sperm cells. Then the semen is sorted according to the gender it would produce. Breeders of cattle, horses, sheep and pigs have been using this technology successfully for years. Cattle breeders want to breed heifers to produce milk and cheese, while sheep breeders want males for better wool quality. Neither industry wants to unnecessarily destroy animals because they were the wrong sex.

Dog breeders have many reasons to benefit from sex-semen technology, but is there enough business to warrant the industry to go in this direction? This technology, licensed to Sexing

Technologies has already been used for predicting gender for dogs in service work where they prefer one sex over another: Trainers of dogs for the blind primarily want bitches; males are preferred for police work. However, right now it is cost prohibitive for the small hobby breeder. But perhaps in the near future, sexed-semen technology will be a common tool easily available and more affordable.

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