

DECLINING SPERM COUNTS; A POSSIBLE MAJOR FACTOR

If you breed animals, here's a fact. By the time you determine a stud is a superior producer, he's at an age when his breeding days are numbered.

Here's a scary fact. Since the beginning of World War 2, sperm counts among men around the world have dropped in half, and it's getting worse every year. And as you read these words, it's damaging your breeding program and valued stud dogs.

When scientists in the 1970's began noting sperm counts appeared to be dropping about 1.5% per year; they were initially considered alarmists. However, after decades of serious study, current thinking among most experts confirms this sharp decline in sperm counts. Even the conservative World Health Organization confirms this trend. The most visible proof of declining male fertility is the 3 billion-dollar a year fertility industry that's arisen as sperm counts have dropped.

Environmental scientists have noted similar problems with other species. For example, alligators exposed to polluted waters had penises only one-half normal size. Additionally, testosterone levels in these alligators were so low that they were permanently infertile, even when moved to unpolluted waters. Similar effects have been noted in mice, birds, cats and cattle. Clearly, the negative reproductive effects of pollutants are very similar for humans and animals, including dogs.

CANINE SPERM COUNTS ARE ALSO FALLING

Since dogs are subjected to the same environmental pollutants as their owners, canine fertility is reduced as well. If you've followed dog breeding over the years, you might have noticed a similar drop off in stud dog fertility. Ironically, this decline in canine sperm counts is occurring as prices for stud dogs reach all time highs, and well bred puppies cost as much as a nice vacation.

ENVIRONMENTAL ESTROGENS The Cause of Falling Sperm Counts

Leading researchers have recently identified chemicals called "**environmental estrogens**" which may be the leading cause of reduced male fertility. Environmental estrogens include such diverse substances as PCBs, endosulfans, atrazine, polycarbonate plastic and some chlorine compounds. While these chemicals may sound exotic, they are extremely common in modern day life, for humans and dogs.

We are surrounded by environmental estrogens, even in the plastic of our car steering wheel, and for our dogs, in plastic dog bowls. 24-hours a day, year-round, effects of low levels of these substances appear to be both accumulative and damaging to male sperm counts.

Environmental estrogens reduce canine sperm counts by binding with estrogen **receptor sites** in the cells of the canine body. Because they are structurally similar to real estrogen, environmental estrogens "trick" the dog's metabolism into reacting as if it received an injection of estrogen, which can cause major problems in both male and female dogs.

IT SOUNDS LIKE A HORROR MOVIE But It Explains A Lot

How real is the link between environmental estrogens and decreased sperm counts? Scientists have considerable evidence that high levels of these pollutants play havoc with reproductive physiology. For example, in 1978, cattle feed in Michigan was contaminated with chemicals called PBBs, which bind estrogen receptors in the body. Studies found that women who ate the beef contaminated with these environmental estrogens had increased levels of PBBs in their breast milk. Worse, these women had a much higher incidence of children born with abnormal sexual organs, specifically shrunken testicle and penial tissue.

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Similarly, Chinese babies of women exposed to a PCB spill had reproductive system problems as the children from Michigan In England, men whose drinking water came from the Thames River, which is highly contaminated by environmental estrogens had much lower sperm counts than men drinking from uncontaminated water supplies.

WHAT ARE ESTROGENS?

Know the Enemy of Valued Stud Dogs

Estrogen is the female hormone that, well, makes girls girls. Estrogen is secreted by the ovaries in females, and to a much lesser extent, by the adrenal glands. During pregnancy, the placenta produces high amounts of estrogens. The main estrogens are Beta-estradiol, estrone and estriol. Males also produce estrogen in the testicles and adrenal glands, but in much lower amounts than females. Both males and females share the biochemical trait of converting testosterone into estrogen in fat (adipose) tissue.

Estrogens, like other hormones in the body, work by binding to receptor sites within **target cells**. Both male and female dogs have estrogen receptor sites. When estrogen, or a chemical compound like environmental estrogens that the body mistakes for estrogen, binds with receptors, the metabolic actions of estrogen will occur.

WHAT ESTROGEN DOES IN THE BODY

Why it's Disaster for Stud Dogs

Estrogens have many effects on the body, virtually all of them negative for stud dogs. They are important in the development of female reproductive organs. They are responsible for the growth of breast tissue, and breast fat. They are critical for stimulating bone growth.

Estrogen also increases fat deposits; the main reason most human female athletes, no matter how aggressively they train, do not attain the leanness of male athletes in the same sport. That may not seem fair to women, but that's the way human evolution has designed the sexes. Estrogen also increases the metabolic rate, but not as much as testosterone, and raises fluid retention enhances the smoothness of the skin texture.

Estrogen is all well and good for female women and dogs; it helps them reproduce. But in male stud dogs, estrogen exerts two very negative effects. First, it blocks the production of testosterone, which is critical for sex drive, physical performance, as well as prey and territory drive. Lowered testosterone also tends to increase body fat, which causes some circulating testosterone to be converted into even more estrogen.

Second, and even worse, estrogen **decreases sperm counts** by suppressing the development of Sertoli cells in the testicles, the tissue that regulates sperm cell formation. Estrogen also suppresses testicle growth. Suppression of Sertoli cells is most significant to males during growth. During fetal development of male puppies, if the mother is exposed to environmental estrogens, sperm cell formation after birth may be lowered throughout life in the male dog.

Understanding the extent to which estrogen "makes guys into girls" explains why it is often given to male sexual predators to reduce sex drive. Make no mistake--estrogen has the same "**feminizing effect**" on your valued stud dog. To put it plainly, estrogen is the hormone of female fertility, and its presence in male stud dogs is the main cause of today's falling sperm counts.

A REAL ANSWER TO ENVIRONMENTAL ESTROGENS

Environmental estrogens and the drop in sperm counts they cause are getting worse every year. Understanding the nature of the environmental estrogen problem enables a sound strategy to combat it. This strategy strengthens the weak metabolic links leading to greater sperm output in spite of environmental estrogens, and consists of simple, real world changes you can make in your dogs' life.

END OF PART 1

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