

Breaking up Dogfighting Rings, One Swab at a Time

How one geneticist helps investigators put dogfighters behind bars using SoftGenetics' GeneMarker® Software

In 2012, when [the NYPD busted a dog fighting ring in the Bronx](#), they depended on Ginger Clark to make the charges stick.

That day, 47 dogs were rescued from ramshackle cages in the basement of an apartment building also containing a makeshift arena with space for 100 spectators. The ASPCA sent blood samples to Clark from stains found in the fighting pit to match with the dogs rescued from the scene.

"I was able to say several of those dogs were active fighters because they have DNA profiles in the pit," Clark said. "I was also able to say there were still dogs who contributed to the bloodstains that were not rescued. Based on that, they were able to go back out and raid another kennel. When they brought the DNA from those dogs, it matched the same information that I had. So, we shut down two fighting rings in that case."

From butterflies to snakes to dogs

Clark did not expect to be a crime fighter when she began her career in genetics. In fact, when she started, she was more interested in delicate creatures.

"When I started, I did a lot of training on how to sample organisms in a nonlethal fashion," she said. "You used to have to kill a butterfly to get a DNA sample. Now you can just take a few cells from the surface of a wing."



In her career, she also dealt with venomous reptiles while researching population genetics but recently handed off a lot of that work.

"I am getting older and I'm just not as fast as I was. Working with venomous reptiles is something where you need fast reflexes," she said.

Currently, Clark works at the Maples Center for Forensic Medicine at the University of Florida focusing on animal forensic DNA to answer legal questions for court cases.

"I work on a lot of cases of maulings—where investigators want to know which dog has been involved in someone being mauled," she said.

Using DNA to solve crimes

In the case of dog fighting, generally the evidence Clark receives is material from fighting rings, and swabs from the dogs suspected to be involved

"I generally start with samples from dogs with recent wounds because they're most likely to match the recent blood stains found in the pit," she said.

Then she develops a DNA profile using multiple loci in the DNA using GeneMarker software by SoftGenetics.

"Since I'm not working with human material, GeneMarker is actually better for me because it easily allows analysis of custom chemistries needed for animal profiles and evaluation of the mixture profiles from the dog fight rings; it doesn't force me to have everything that is associated with kits used for analysis of humans," she said.

Then she uses the markers to conclude whether the dog could be involved in the fighting ring.

Typically, dogfighting is not the only criminal charge in these cases. Often there is money laundering, drugs and a whole cadre of other illegal activities going on.

"People involved in dogfighting are just like people involved in poaching. That's probably not the only illegal activity that they're involved in," she said.

This was true in the 2012 case. Investigators confiscated a loaded handgun from the basement, along with muzzles, harnesses and other dog-training equipment including syringes and a shopping cart full of raw chicken parts, according to media reports.

The physical DNA evidence and analysis of samples from wounded dogs by Clark opens the door for law enforcement to obtain additional search warrants and further investigate the individuals, often uncovering drug traffic or money laundering; putting a stop to additional illegal activities.

"It's nice to play a role in cases like that," she said.

