

Russian geneticist repeats dog domestication with foxes in just fifty years

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Red Fox. Credit: Jonn Leffmann/Wikipedia/CC BY 3.0

(Phys.org)—A Russian geneticist, the BBC is reporting, replicated the process that led to the domestication of the dog, with foxes, over the

course of just fifty years. Curious about the means by which dogs became domesticated, Dmitry Belyaev began a breeding program in the late 1950's aimed at replicating the process using foxes.

Foxes cannot be tamed, the conventional thinking goes—you can raise them in your house, feed them like babies and try to cuddle with them, but their wild nature will eventually win out—they will become unruly and eventually unwelcome pets. But what if the wildness was bred out of them? That is what Belyaev wondered, so he set to work on a very long term project—one that was very simple. He and his intern, Lyudmila Trut, wandered around Russia searching for foxes to start their experiment. Foxes were chosen based on their behavior in the presence of humans. Those that showed slightly more tolerance of humans were brought back to their Novosibirsk lab to serve as the start group. From there, the foxes were mated, and once again, those cubs that showed the most tolerance for humans were kept as part of the experiment while the others went on to become fur coats.

This process was repeated for a half-century—the research pair found that within just a few generations, the foxes had begun to lose their wildness and mistrust of humans. The fourth generation, they reported, showed traits that we see in modern dogs, such as tail wagging, seeking human contact and licking people. Over the course of 50 years, the foxes became friendly, their behavior nearly indistinguishable from domestic dogs. They changed physically, too; their ears drooped and their legs and snouts became shorter and their heads got wider. And it was not all on the outside—their adrenal glands became more active, resulting in higher levels of serotonin in their brains, which is known to mute aggressive behavior.

Today, the [foxes](#) are still being bred, but they are also being sold as pets to help pay for the cost of the research center. Belyaev died back in 1985, but the program is still overseen by Trut, and by most standards,

the long-term experiment has been a resounding success—most researchers who visit the lab have found that theories regarding how dog domestication came about were consistent with what has been observed in the novel experiment in Russia.

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