

Move Over, Catnip, This Is a Bigger Hit With Kitties

Not all felines react to catnip, so researchers set out to see if other plants might have a greater response. Measuring the response from four different plants, they were astonished to find one that was an even bigger hit with domestic cats than catnip.

Analysis by Dr. Karen Shaw Becker

STORY AT-A-GLANCE

- Indoor cats require environmental enrichment, and one important way to do this is through olfactory stimulation
- Some kitties don't respond to catnip, but recent research there are beneficial alternatives
- The study showed that more cats actually responded to silver vine than catnip, and about half the kitties also responded to Tatarian honeysuckle and valerian root
- A majority of catnip non-responders responded to silver vine
- Olfactory stimulation is just one aspect of environmental enrichment — others include visual and auditory enrichment; places for climbing, scratching, resting and hiding; and consistency in interactions with humans

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Cats are exquisitely sensitive creatures in every way, including their sense of smell. It's one of the reasons so many kitties are stressed during vet visits — veterinary clinics are full of what they perceive as strange and potentially threatening odors. The good news, however, is that thanks to their sensitive sniffers, kitties can also respond very positively to olfactory stimulation as part of an overall environmental enrichment program.

Catnip

Catnip is probably the most recognizable natural substance that appeals to the feline sense of smell. In fact, it drives many kitties wild thanks to nepetalactone, an organic compound in the plant. Some of the kookier behaviors cat parents have reported after offering catnip to their pet include:

- Nosing, chewing and batting the catnip container while drooling buckets
- Shaking their heads; repetitively kicking their hind legs
- Rolling around and rubbing their bodies on the floor
- Losing their balance, falling and stumbling around
- Showing excitement and chasing behavior

Research suggests the nepetalactone molecule stimulates opioid receptors in the brain in the same way morphine does. When a susceptible kitty gets hold of catnip and absorbs the nepetalactone, her pleasure centers (opioid receptors) in the brain are activated and the next thing you know, she's rolling around in a state of goofy bliss.

Despite the fact that catnip appears to make susceptible kitties "high," it is an entirely harmless and non-addictive herb. It may even help in certain situations, for example, with battling cats. Kitties who don't get along may see their nemesis in a new and friendlier light while under the influence of catnip — and the truce has been known to hold after the effects of the nepetalactone wear off. In addition, catnip has pain-relieving properties that may be helpful for some kitties, similar to the effects of marijuana in some people.

However, not all cats are affected by catnip. The sensitivity to nepetalactone may be inherited. Somewhere between one-third and one-half of domestic cats and most tigers don't respond to it.¹ In addition, very young kittens (under 2 or 3 months) and senior cats are less likely to react. Fortunately, there are alternatives for cats who don't respond to catnip.

Study Examines Cats' Response to Three Additional Plants

In a study published in 2017, researchers exposed 100 domestic kitties to powdered or ground silver vine, Tatarian honeysuckle, valerian root and catnip to observe their reaction.² Catnip and silver vine also were offered to nine tigers.

The plants were presented to the cats in their own living environment a minimum of five times in random order. There was at least a five-minute washout period between scents to allow the kitties to clear each scent from their noses before moving on to the next. The reactions the researchers were looking for included these behaviors:

- Sniffing
- Chin rubbing
- Raking/bunny kicking
- Licking
- Cheek rubbing
- Drooling
- Head shaking
- Rolling on back
- Undulation of skin on back

The four plants were also analyzed to determine levels of five known or suspected active compounds that cause the behaviors.

Surprise Results: Silver Vine a Bigger Hit Than Catnip!

The researchers observed that the cats responded positively to all four plants:

- 79% responded to silver vine
- 68% responded to catnip

- 53% responded to Tatarian honeysuckle
- 47% responded to valerian root

There was no difference in response rates between male and female cats, but younger kitties had more intense reactions. The four plants were found to have significantly varying levels of the five tested compounds. Additional observations:

- It was the fruit galls of the silver vine plant that drew the most intense response, though some of the cats also responded to the wood of the plant
- Almost 75% of the catnip non-responders responded to silver vine, and about 33% responded to Tatarian honeysuckle
- Unlike the domestic cats, the tigers either had no response to the silver vine, or didn't like it
- The level of nepetalactone was highest in the catnip and only present at negligible levels in the other plants
- Silver vine contained the highest concentrations of all other compounds tested

The researchers concluded that olfactory enrichment for kitties may have great potential. They noted that silver vine powder from dried fruit galls and catnip were most appealing, and silver vine and Tatarian honeysuckle appear to be good alternatives for kitties who don't respond to catnip.

Enriching Your Cat's Indoor Environment

Stimulating your kitty's olfactory senses is one of several ways you can help him feel more at home in your home. There are five basic components to a cat's indoor environment, and each should be considered from the perspective of your kitty. These include:

1. **Food, water and litterbox locations** — In the wild, cats not only hunt prey, they are prey for other animals. They feel most vulnerable while eating, drinking or eliminating. This vulnerability is what causes a fearful response when a cat's food dish litterbox is in a noisy or high traffic area.

The essentials of your kitty's life — food, water and his bathroom, should be located in a safe, secure location away from any area that is noisy enough to startle him or make him feel trapped and unable to escape.

2. **Places for climbing, scratching, resting and hiding** — Cats are natural climbers and scratchers, and those urges don't disappear because kitty lives indoors. Your cat also needs her own resting place and a hiding place (sometimes these are the same spot) where she feels untouchable. A quiet, dark, EMF-free zone is the best way to make a cat feel secure in her environment.

Cats prefer to interact with other creatures (including humans) on their terms, and according to their schedule. Remember: Well-balanced indoor kitties are given the opportunity to feel in control of their environment. Jackson Galaxy has written several books on creating feline environmental enrichment around the house that I highly recommend.

3. **Consistency in interactions with humans** — Your cat feels most comfortable when his daily routine is predictable. Performing little rituals when you leave the house and return can help kitty feel more comfortable with the comings and goings of humans in the household. A ritual can be as simple as giving him a treat when you leave and a good scratch behind the ears as soon as you get home.

Playtime should also be consistent. Learn what types of cat toys he responds to and engage him in play, on his timetable. Of course, while you can encourage him to play, it's pointless to force the issue. Oh, and when he's had enough, he's had enough!

4. **Sensory stimulation** — Visual stimulation: Some cats can gaze out the window for hours, provided the window shades or blinds are opened for their outdoor viewing. I recommend making it a habit to allow as much natural light into your home during the day as possible for your cat to enjoy. Others are captivated by fish in an aquarium. Some even enjoy kitty videos.

Auditory stimulation: When you're away from home, provide background noise for kitty that is similar to the ambient sounds she hears when you're home, for example, nature music or a TV at low volume.

Olfactory stimulation: Experiment with stimulating your cat's delicate sense of smell with any of the herbs or plants discussed earlier, a synthetic feline pheromone like Feliway, lavender or chamomile flowers. If you discover she has a particular favorite, consider safely adding the scent to an area of your home your kitty hangs out in.

Also keep in mind that some smells cause stress for cats, including include cigarette smoke, chemical cleaning products, cologne, air fresheners, upholstery sprays and scented candles, all which have negative health implications for animals. Air quality is critically important for kitties.

5. **Same species friends** — This can be a sensitive area. The way cats interact with each other is very different from most other animals. Trying to predict how two or more cats will get on living under the same roof is nearly impossible.

Females tend to get along better with other cats than males do, and intact males can be a special challenge in a multi-cat household. Problems with inter-cat aggression can arise when a new cat is brought home, when two cat owners blend their feline families, and even among cats that have lived peacefully together for years.

Because of the complex nature of feline social structures, if you have a multi-cat household and there are problems, or you're hoping to add a new cat to the family, I recommend you talk with your veterinarian or an animal behavior specialist. Often there are things you can do to minimize problems with aggression or other undesirable behaviors.

Sources and References

¹ [dvm360, November 29, 2017](#)

² [BMC Veterinary Research. 2017 Mar 16;13\(1\):70](#)
