

Researchers create heartier catnip breed for specialized commercial farmers

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A super catnip has been developed by Rutgers that will allow commercial farmers to grow bigger yields at more affordable prices.

A bigger more hearty catnip plant – whose enriched oil not only promises to drive cats crazy with pleasure but also may be a safer, more effective mosquito repellent – has been developed for specialized commercial farmers by Rutgers University.

The Rutgers New Jersey Agricultural Experiment Station (NJAES), which has spent more than a decade developing the new breed, CR9, for the insect repellent and pet toy industries recently licensed the product to Ball Horticulture, an Illinois company that will produce the seeds for commercial farmers.

"In the past catnip wasn't grown much because the plant itself was never developed to generate commercially acceptable yields from its leaves and flowers which produce its aromatic volatiles oils, and thus, wasn't profitable" said James Simon, professor in the Department of Plant Biology and Pathology at the Rutgers School of Environment and Biological Sciences who led the plant breeding in the development of the new catnip variety. "We developed a super catnip that can survive northern winters and produce copious amounts of aromatic [oil](#) with a special composition that is rich in the bioactive compound that repels the mosquitos away and drives cats wild."

Catnip is a short-lived perennial herb and a member of the mint family. The aromatic oil consists of many compounds but it is the nepetalactone, the chemical in catnip that triggers the flipping out response experienced by some cats that react by rolling around and becoming hyperactive. Cat owners give catnip to their pets as a treat to play and have fun.

The problem, however, is that this bioactive compound found in the essential oil of the catnip breaks down fast and the product then appears old or stale, Simon said. This means catnip toy products lose their potency quickly. The new CR9 variety has bigger leaves and flowers that can be dried, processed or distilled producing three times as much enriched oil which results in a longer shelf life. Its size makes the CR9 catnip ideal for harvesting mechanically—allowing it to be collected twice a year instead of just once annually.

Simon said research conducted by others shows that the oil from the catnip plant is as efficient if not better than DEET, the most common pesticide in standard mosquito repellent, which is used throughout the world to prevent malaria, yellow fever and West Nile virus.

"These new studies have identified that this extract from catnip is very effective in repelling mosquitos," said Simon. "While mosquitos are an

inconvenience to us here in the United States when we are outside and need to use an insect repellent lotion, or feel forced to go inside due to the mosquitoes, in other countries, people have to worry about the deadly diseases that are being transmitted by mosquitos."

Catnip oil has also been shown to repel flies, cockroaches, termites, dust mites and deer ticks and is being suggested as an organic pesticide for peach orchards and potato fields. The problem is that it has been too expensive to use as a repellent.

Simon developed this new variety of catnip with William Reichert, a Rutgers graduate student in plant breeding who is studying the biology and genetics of catnip as part of his doctoral research. The new Rutgers CR9 variety catnip will provide a plant with a custom designed essential oil composition that will help make developing these products more profitable for commercial suppliers. The new breed of catnip, which should be available as seed by 2017, outperformed all other commercial catnip lines now available on the seed market, Simon said.

The NJAES expects to release a line of smaller catnip plants also with unique essential oils for the home gardeners. "It is smaller and a pretty plant that can also serve as an aromatic ornamental good for the home gardener who wants to put it in the backyard or a container on the patio," Simon said. "Both the commercial and the plants for home gardeners are exciting new lines that will enable [catnip oil](#) to be used in many different ways."

Provided by Rutgers University

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