

Silkworm cat grub smells like success

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Scientists in Taiwan have developed cat food developed from silkworm pupae.

Licking its lips imperiously, a ginger cat mops up every last morsel of food from its curly whiskers, clearly undaunted by its supper's rather unusual base ingredient—silkworm pupae.

The 15 feline residents of the Mao Thai Thai cat cafe in Taiwan are

among volunteer taste testers sampling a new cat [food](#) developed by silkworm experts.

As well as making use of what was previously just a byproduct of silk production, the scientists say the food eliminates harmful intestinal bacteria—with the added bonus of reducing the odour of the cats' own byproducts.

"They have more energy and less smelly faeces, which is more than I expected," says the cafe's manager Rosa Su.

The food comes in various normal-sounding flavours—tuna and milkfish, beef and chicken—but the main protein component of the pink gloop is insect.

That doesn't seem to bother Su's cats, who clamour around her, impatient for their dinner.

The research team says much of the feedback from other owners involved in the trial has been positive too.

More than just fabric

At the century-old Miaoli Agricultural Research and Extension Station, where the food was created, hundreds of caterpillars wriggle around in trays as they munch on mulberry leaves.



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The facility houses 136 different silkworm varieties from all over the world.

The pupa is the intermediate stage in their lifecycles, when they form cocoons to transition from larva to adult.

"When we see silkworms, we think of silk fabrics," researcher Liao Chiu-sun tells AFP as she carefully slices the top off a silk cocoon to extract a squirming brown grub.

"But these highly domesticated insects have a lot more to offer."

The pupae are already rich in protein, fat and minerals, but the Miaoli team has also developed a technique to boost their content of immune proteins that kill harmful bacteria inside the host.

Stressing the silkworms and making them think they are in danger means they produce more of these proteins in the cocoon, after which they are harvested and turned into cat food.

Lucrative gloop

This innovative use of what was previously mainly a [waste product](#) could also be a potential lifeline for Taiwan's last remaining silkworm farmers.

They once numbered in the hundreds, but nowadays only two are still in business.



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Hsu Wei-chun, 30, a third-generation farmer, says it is no longer economically feasible to cultivate the insects for fabric alone.

Mulberry leaves are already used to make tea, for example, and cocoons can be used in cosmetics.

"Our competitiveness comes from the ability to use everything," Hsu explains. "We make use of every portion to keep costs down."

The pet food market in Taiwan presents a lucrative opportunity—animal ownership is on the rise, and the economy around it is valued at more than US\$1 billion.

A can of the [silkworm](#) cat food sells for NT\$68 (US\$2.43), a little more than average canned wet food.

"Even though it's a bit more expensive... I feel the acceptance level for sustainable and eco-friendly canned (pet) food is quite high in Taiwan," says Lee Wei-ting, department head of Cultural Creativity and Digital Marketing at National United University.

And pet stores in Korea, Japan, Thailand and the United States have already expressed interest in the product as well.

The CEO of the company that started mass producing the new food a month ago says the response has been overwhelming.

"I feel pet owners nowadays are more focused on ingredients," says Eva Liu.

"We used crowdfunding in the beginning as a pre-sale. On the first day, within 24 hours we reached our preliminary goal."

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