CAT ALLERGY CURE?

A special cat food might prevent some people from being allergic to their furry friends.
Scientists have developed cat food that could stop your sniffles.

Ten years ago, Ebenezer Satyaraj's (SAT-eh-rahj) daughter was playing with a friend's cat when she started to feel sick. She had itchy eyes, a runny nose, and redness where the cat had licked her. It turned out that she was allergic to cats. Satyaraj's daughter is not alone—one in seven kids ages 6 to 19 are allergic to cats. Many people experience symptoms like sneezing, coughing, a runny nose, itchy eyes, and rashes.

To keep from feeling sick, some cat owners might decide to spend less time with their pet or take allergy medicine. "Allergies can hurt the relationship between people and their pet cats," says Satyaraj.

He hopes to change that. As a scientist at the pet food company Purina, he found that adding a special ingredient to cat food could help allergy sufferers. Satyaraj and his team followed these steps in the scientific process to make their discovery.

1. IDENTIFY THE PROBLEM

Cat saliva contains an allergen called Fel d1. It can trigger an allergic reaction in people. When a cat licks its fur, saliva gets on its hair and into the environment. If someone with a cat allergy touches the allergen or breathes it in, the person can have an allergic reaction.

Satyaraj asked: Can the allergic reaction be prevented?
to cat allergens. This makes the allergen inactive, blocking its effects. The researchers wondered if they could extract the antibodies from chicken eggs and feed them to cats. That way the cats would produce allergens that weren’t active. Satyaraj designed an experiment to see if this would help stop allergic reactions in people.

Scientists kept 105 cats in a facility that was set up just like a home. For 10 weeks, some of the cats ate food that contained the antibody. Another group of cats ate the same food without the antibody mixed in. The scientists also gathered blankets that the cats had slept on. The blankets had fur on them from the cats.

People with cat allergies sat in a room for three hours while fans blew air over the blankets toward them. The people then noted their allergy symptoms every 15 minutes.

3. DRAW CONCLUSIONS

Satyaraj studied the allergens on the cats’ hair. He found that cats that had been fed the special food had about half the amount of active allergens on their fur as the other cats had.

People exposed to the fur of these cats had less severe allergic reactions than people exposed to the fur of cats that didn’t eat the special food. Symptoms such as watery eyes and sneezing decreased. Just as Satyaraj had hoped, the food was lessening allergy symptoms.

4. APPLY THE SCIENCE

The team is now working to get the food to cat owners. Satyaraj thinks it will be in stores this year.

Cat lovers may soon get to enjoy their pets without having an allergy attack. “Now it’s just a matter of time before my daughter asks for a pet cat!” says Satyaraj.

—Amy Barth

2. INVESTIGATE

Satyaraj and his team knew that when chickens spend time around cats, they produce a protein called an antibody. The antibodies build up in their eggs. These antibodies can attach

WORDS TO KNOW

allergic: relating to a condition in which the body overreacts to a substance that is usually harmless
symptom: a change to someone’s body that is caused by an illness
allergen: a substance that causes an allergic reaction
antibody: a substance that attacks harmful particles inside the body

Think Like a Scientist

Scientists follow steps to make discoveries. First, they ask a question they want to solve. Next, they predict what the answer might be. Then they collect data, or evidence that could help answer the question. Finally, they make a claim using evidence that supports the answer to their question.

1. What question did Ebenezer Satyaraj try to answer?
2. How did Satyaraj gather evidence?
3. What were Satyaraj’s conclusions?
4. How might the conclusions help people with cat or other allergies?

Go to scholastic.com/sciencespin3-6 to download a blank answer sheet to write your answers.
INSIDE AN ALLERGIC REACTION

Here's what happens in someone's body when he or she has an allergic reaction to cats.

1. An allergen called Fel d1 is in cat saliva. When cats groom themselves, the allergen sticks to their fur and is released into the environment.

2. People breathe in the allergen or touch it while petting their cat.

3. The body thinks the allergens are threats and releases compounds, called histamines, to stop the allergens. This triggers an allergic reaction.

QUICK QUIZ: Answer the following questions using what you learned from the article and the diagram (left).

1. Scientists created a(n) _____ that may lessen allergic reactions to cats.
   - allergy medicine
   - cat food
   - drink
   - cat collar

2. Ebenezer Satyarah wanted to know _____.
   - if sneezing is a symptom of cat allergies
   - if he could stop allergic reactions to cats
   - if cat hair causes cat allergies
   - if cat food causes cat allergies

3. Cat allergens are released into the environment when cats _____.
   - purr
   - eat
   - groom
   - sleep

4. Which of the following was NOT part of Satyarah's investigation?
   - collecting hair from cats on a special diet
   - exposing people to blankets covered with cat hair
   - feeding a special food to people with cat allergies
   - noting the allergy symptoms of people exposed to cat allergens

5. Which of the following is true about cat allergies?
   - Everyone has cat allergies.
   - Children don't have cat allergies.
   - For some people, petting a cat can trigger an allergic reaction.
   - All people with cat allergies dislike cats.
What’s the Context?

When you come across a word that’s new to you, don’t worry! Use context clues to figure out the word’s meaning. Context clues are words or phrases that can be found before and after an unfamiliar word. Use this sheet to find context clues for the challenging words in any Science Spin article. Write down at least one clue for each word you choose.

1. Challenging word: __________________________
   Context clues: __________________________
   I think this word probably means: ________________

Reread the sentence with this meaning in mind. Does the sentence make sense?  □ Yes  □ No
If you checked “No,” look up the word in the dictionary. Then revise your definition.

2. Challenging word: __________________________
   Context clues: __________________________
   I think this word probably means: ________________

Reread the sentence with this meaning in mind. Does the sentence make sense?  □ Yes  □ No
If you checked “No,” look up the word in the dictionary. Then revise your definition.

3. Challenging word: __________________________
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