



JR

ANIMAL SCIENTIST

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Animal health is a team effort

Animal health takes teamwork!

If your pet gets sick, what do you do? You call a **veterinarian** for help! Veterinarians are important because they serve as doctors for animals. Veterinarians and **veterinary technicians** work together to diagnose diseases in animals, give them vaccines, medications and even perform surgery to keep animals healthy. There are many jobs that are important for keeping animals healthy! This issue of Jr. Animal Scientist magazine is all about the people who protect animal health.

Meet the team!

Animal health starts with science! **Animal scientists** work with all types of animals. They investigate animal diseases, animal nutrition and all the best ways to raise animals. Many animal scientists work with farm animals, animals in zoos and pets. Other animal scientists work with animals in laboratories. They need help from special animal care experts, called **animal technicians** or **laboratory animal veterinarians**.

Producers or **farmers** are the people who work with farm animals every day. They make sure animals have healthy food, clean water and the shelter they need to stay healthy. Producers also monitor their animals every day for diseases and other health problems. Producers often work closely with **extension specialists** who share the latest research on healthy animal diets and other scientific developments!

When an animal does get sick, **veterinarians** are there to help. Sometimes diseases can spread between animals. In these cases, **epidemiologists** study how a disease spreads and where other animals might be at risk.



Keeping animal housing clean is a key part of protecting animal health.

Caring for baby animals



Taking care of animals begins before they are even born!

Producers can protect animal health by selecting healthy animals for breeding. This includes selecting animals that may be resistant to disease. Then, when a female animal is pregnant, veterinarians and producers make sure she has nutritious food and medical care to help her young develop. Some animals, like cattle, need special vaccines during pregnancy to help the cows and their young build immunity to disease.

Once the animals are born, producers can take important steps to make sure the babies stay healthy! Animal scientists have found that different animals need different kinds of care:

Drying off babies. Calves are very wet when they are born, and their mothers usually lick them dry. This process is important for keeping the calf warm, so producers will dry off the calf with towels if the mother doesn't do the job.

Turning up the heat. Piglets can get sick if they are too cold, so producers make sure they stay warm by turning on heat lamps or heating pads.

Calling a veterinarian. Baby horses, called foals, need a check up after they are born! People who have horses usually call a veterinarian soon afterward to check on the foal and the mare who gave birth.

Monitoring animals for disease

We tend to show symptoms when we get sick. Symptoms are signs that the body has a disease. If you have a cold, your nose might run with mucus. That is a symptom that your body is trying to fight off the cold virus. If you eat contaminated food and get bacteria in your digestive system, you might have a stomach ache or throw up. Those are symptoms that your body is sick and is trying to get rid of the contaminated food. Symptoms don't feel great, but these kinds of symptoms do help us realize that we are sick. Watching animals for symptoms of disease is important too!

Animal scientists, veterinarians and producers learn about common symptoms of disease, for example:



Panting

Panting is when an animal breathes really quickly. Some animals even stick out their tongues when they pant. You may have seen a dog panting on a hot day or when it has been running around. Really, really fast panting can be a symptom of a health problem called heat stress. Dogs who pant too quickly often need water and help to cool off and catch their breath. Panting is also a sign that cattle and pigs need immediate help cooling off.



Not eating

You probably don't feel like having a big meal when you feel sick. Animals often don't want to eat when they are sick either. In cats, for example, a lack of appetite can be a symptom of a stomach problem, such as a clump of hair (hairball) clogging up the cat's digestive system. Cats usually get rid of hairballs themselves by throwing up, but a lack of appetite can also mean that a cat has something else stuck in its stomach. A cat might also stop eating if it has an infected tooth or gum infection that makes it painful to chew. That's why veterinarians see not eating as a possible symptom of disease.



Tracking animal diseases around the world

It is important to monitor our pets, livestock and zoo animals for diseases. Scientists called **epidemiologists** monitor diseases too, but they are interested in how groups of animals are doing in each part of the world!

Epidemiologists are interested in how and where diseases spread. For example, pigs can catch a disease called African swine fever. This virus has actually spread to pigs around the world pretty quickly. Epidemiologists work with producers in different countries to monitor how many cases of African swine fever are in their countries. This kind of research helps other producers understand whether their pigs might get the virus.

Tracking the spread of animal diseases is really important work! By studying how African swine fever spreads, epidemiologists, producers and animal scientists have actually stopped the virus from infecting pigs in the United States!

Animal care in the laboratory!



Animal scientists don't just study animals that live on farms or in zoos. Many researchers study animals in laboratories. These animals are usually smaller than livestock. Some common laboratory animals are zebra fish, mice, rats or guinea pigs.

We can learn a lot from laboratory animals! For example, before studying how a medicine works in humans, scientists may test the medicine in mice to see if it works.

Because laboratory animals are so important, scientists need to make sure the animals are fed and cared for. People who want to care for laboratory animals include **laboratory animal veterinarians** or **animal care technicians**.

FUN FACT:

Some scientists learn about the brain by studying tadpoles in the lab! Tadpoles can be bred nearly transparent. That means scientists can use microscopes to see right through the living tadpoles! These transparent tadpoles are really useful. Scientists can't see directly into human brains, so they use tadpole brains as a "model" to learn how parts of the brain work.



ACTIVITY:

Animal health word search

It's time to hunt for these animal health terms!

The rules: Words can share letters as they cross over each other.
Words can go in any direction.

Appetite

Disease

Fever

Laboratory

Nutrition

Panting

Producer

Symptom

Q	N	C	L	Q	D	Z	R	S	H	I	N	D	E	G
O	U	S	U	A	U	A	M	E	I	K	O	B	T	N
T	T	Y	Q	I	B	P	M	T	C	X	C	E	Y	I
U	R	D	G	P	W	O	D	C	O	U	J	H	U	T
O	I	N	B	Y	B	I	R	G	I	R	D	B	V	N
L	T	H	X	C	S	U	E	A	H	X	H	O	D	A
W	I	H	H	E	J	D	S	B	T	T	F	W	R	P
T	O	O	A	Y	G	O	E	F	U	O	S	V	E	P
Q	N	S	F	O	F	T	J	V	A	U	R	A	B	F
V	E	Z	X	M	I	D	L	Q	I	V	D	Y	H	Y
V	I	Q	X	T	V	W	B	R	K	O	M	O	V	B
F	E	V	E	R	X	K	B	O	R	D	T	D	T	M
B	T	P	K	G	U	R	F	R	E	H	E	X	R	O
W	P	R	O	C	M	O	T	P	M	Y	S	R	Q	F
A	H	N	M	W	J	D	G	S	Z	H	V	I	A	B

American Society of Animal Science
PO Box 7410, 201 W. Springfield,
Champaign, IL 61826-7410



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CONTRIBUTORS: ASAS staff.

DESIGN: M. Ryan

CONTACT: jranimalscientist@asas.org

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