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WINNIPEG BIOTECH COMPANY TESTS NEW WAYS OF FIGHTING COMMON SWINE DISEASES

CYTOPHAGE RECEIVES FUNDING TO DEVELOP ALTERNATIVES TO ANTIBIOTICS

WINNIPEG, Manitoba -- Manitoba biotech company Cytophage Technologies Inc. has been awarded \$431,000 in government funding to help test a new way of fighting bacterial infections in swine without using antibiotics.

The funding, provided through the Canadian Agricultural Partnership-Ag Action Manitoba program, will allow Cytophage to test bacteriophage treatment options that it has developed to be effective against two of the most common bacterial infections in swine--Enterotoxigenic *Escherichia coli* (ETEC) and *Streptococcus suis*.

Bacteriophages are naturally occurring viruses that infect and destroy bacterial cells, making them a powerful tool to kill bacteria, including antibiotic resistant types.

“Cytophage has modified bacteriophages to effectively target ETEC and *Streptococcus suis* pathogens in a lab setting. The next step is to see how well they work on infected animals,” says Dr. Steven Theriault, CEO and CSO of Cytophage.

The company previously received \$327,000 through the Ag Action program in 2019 to develop bacteriophages to protect animal health.

“Canadian swine producers work hard to keep their animals healthy, while doing their part to reduce the use of antibiotics,” said Marie-Claude Bibeau, Minister of Agriculture and Agri-Food Canada. “Projects like that of Cytophage are helping to provide the alternatives needed to control bacterial infections.”

“Bacterial infections can lead to significant financial losses for Manitoba producers each year,” said Manitoba Agriculture and Resource Development Minister Blaine Pedersen. “We are pleased to support Cytophage’s important work on bacteriophage technology, recognizing its potential to have far-reaching consequences for both human and animal health.”

ETEC is a major cause of diarrhea in pigs and causes significant damage to the swine industry worldwide. *Streptococcus suis* is one of the most common swine diseases in Canada and is a common cause of meningitis and death in young pigs.

The Ag Action Manitoba Program is funded through the Canadian Agricultural Partnership—a five-year (2018-2023), \$3-billion investment by federal, provincial and territorial governments to strengthen and grow Canada’s agriculture and agri-food sector. This includes a \$2-billion

commitment that is cost-shared 60 per cent federally and 40 per cent provincially/territorially for programs that are designed and delivered by provinces and territories.

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ADDITIONAL FACTS

- 2017 - Cytophage Technologies Inc. is established in Winnipeg, Manitoba, Canada by Dr. Steven Theriault--the former chief of the Applied Biosafety Research Program at the Public Health Agency of Canada.
- 2018 - Cytophage wins the International Nutreco Feed Tech Challenge for its breakthrough innovation to help feed the world.
- 80% -- estimated percentage of the world's antibiotics that were used on animals in 2014.
- 10 million – the estimated number of people globally who may be killed by antibiotic-resistant superbugs every year by 2050, according to the World Health Organization.
- 2018 - Cytophage files its first patent for its technology to create genetically engineered bacteriophages to address bacterial infection in humans or animals, including strains resistant to antibiotics.
- 2019 - Cytophage wins the TechConnect US Defense Innovation Award for its work on the use of bacteriophages against battlefield infections.
- 2020 – Dr. Theriault presents at the World Anti-Microbial Resistance (AMR) Congress - the world's largest AMR gathering of stakeholders combating antimicrobial resistance.
- 2022 - Cytophage's first commercial product will come to market -- a phage cocktail that prevents and treats *Salmonella enterica* infections in chickens.
- 10 – the number of Cytophage-created products currently in development to combat illness and antibiotic resistance.