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California Adopts Strictest Limits on Livestock Antibiotics



SACRAMENTO, Calif. (AP) California has adopted the toughest limits in the nation on the use of antibiotics in healthy livestock. They have barred their routine use to prevent illness or promote growth.

Gov. Jerry Brown is calling the overuse of antibiotics "an urgent public health problem." Gov. Brown announced Saturday that he signed bill SB 27. It will curb the overuse of antibiotics in livestock. Overusing antibiotics limits the effectiveness of the medicines in both animals and people. It contributes to the spread of dangerous, drug-resistant superbugs.

The science is clear that the overuse of antibiotics in livestock has contributed to the spread of antibiotic resistance in humans. "It is undermining decades of life-saving advances in medicine," Brown said in a statement.

The U.S. Centers for Disease Control and Prevention calls antibiotic resistance one of the world's most pressing health problems. It estimates that 23,000 Americans die annually as a result of antibiotic-resistant infections.

The agency has recommended phasing out their use in cases solely to promote growth in livestock. In low doses, some antibiotics can generate greater muscle development in animals. They do so by boosting the efficiency of food that animals eat.

Supporters of the legislation by Sen. Jerry Hill say the antibiotics are fed to mostly healthy animals such as cows, pigs, and chickens. The antibiotics make them grow faster and prevent disease in crowded industrial farms.

Widespread use of antibiotics by humans and animals reduce their effectiveness in treating illnesses. This is because the diseases adapt by mutating and creating superbugs. Once-treatable illnesses can become dangerous infections when antibiotics are no longer effective.

"The lifesaving potential of antibiotics is quickly diminishing. People are dying because the drugs are less effective," Hill said in a statement.

Opponents of the bill argued that the California legislation does not go far enough to restrict preventive or routine use of antimicrobial drugs. Groups such as the California Cattlemen's Association remained neutral on the bill.



Science Today

Michael Hansen is a senior scientist at Consumers Union. He said many companies have voluntarily agreed to stop using antibiotics to promote growth. This is after guidance from the Food and Drug Administration.

"No state yet has been able to pass a bill that is stronger than the one in California. The fact that California is an important ag state makes this an important action," Hansen said.

The antibiotics are different from the growth hormones used by many food producers that have drawn criticism. Some grocery stores and food chains have phased out these food products. Companies including McDonald's, Chipotle, and Panera also have begun promoting their chicken as raised without antibiotics.

Gov. Brown vetoed a similar version of the bill last year. He urged the state Department of Food and Agriculture to work with lawmakers on the issue. His office helped make changes to this year's measure to strengthen protections against using antibiotics to prevent disease.

The bill allows exceptions when a licensed veterinarian determines antimicrobial drugs are needed to treat a disease or infection. It also allows exceptions if needed to control the spread of a disease or in relation to surgery or a medical procedure.

The California Veterinary Medical Association expressed concern that veterinarians might not be able to prescribe the drugs preventively to treat diseases for which there is no test available to determine which animals are carriers.

The law takes effect in 2018. It also eliminates the availability of livestock antibiotics for over-the-counter sales.

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What is natural selection?

How is the information in the article an example of natural selection?

Natural Selection

Create a colored diagram to depict how the population of organism the antibiotics were designed to kill, changed over time. Show the original population and the mutant population and how the two changed over time.

How do you predict the population of the drug-resistant superbug might change once the use of antibiotics is drastically decreased?