

Animal agriculture boosts antibiotic resistance

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But Steve Leech, national program manager with Chicken Farmers of Canada, says the extra-label use occurs "as part of our on-farm approved safety program."

"Health Canada and the Veterinary Drugs Director, which regulates antimicrobial approval, recognize the importance of extra-label use in agriculture and food producing animals, and it is viewed as a necessary tool."

RESISTANCE INCREASING

Antibiotic resistance has increased rapidly worldwide in the last decade, and miracle drugs that once delivered a knock-out punch to even the most virulent bacteria are increasingly losing their effectiveness.

In July 2008, the U.S. Food and Drug Administration ordered the livestock and poultry industry to stop extra-label use of cephalosporins because of the risk to human health.

Also in 2008, Health Canada, which did not respond to a request for comment by deadline, introduced nonbinding labels to ceftiofur packages warning against off-label use.

Critics say such measures don't go nearly far enough to address the problem of resistance, which is said to be at crisis proportions worldwide.

"There need to be tighter regulations," says John Prescott, a professor at the Department of Pathobiology at the University of Guelph in Ontario.

"I'm not sure where Health Canada's going to go with this, but they are responsible for the health of Canadians, that's their mandate. I don't think they can just ignore this, and they can't ignore some of the issues that are driving resistance including the issues of 'own use' and using antibiotics in an unregulated way."

"Own use" are provisions in which farmers can import cephalosporins without a prescription, explains Prescott, who is chair of the

Canadian Committee on Antibiotic Resistance.

"There's a loophole in the regulations which allows farmers to import drugs for their own use, and these don't have to go through an approval process.... So the quantities of non-approved drugs in food animal use are quite high."

Leech says the chicken industry is working with CIPARS to develop an on-farm surveillance program to examine antimicrobial use and determine the extent of the resistance.

"There are quite a number of confounding variables that come together to result in resistance, and I think it's worthwhile to go about the exercise and determine exactly where it comes from."

PARADISE FOR PATHOGENS

"The industry does not just use antibiotics to control disease levels, they also use antibiotics for the equal if not surpassing reason in meat-type animals to enhance growth rate and size," says Karen Davis, president of United Poultry Concerns, a Virginia-based organization dedicated to the respectful treatment of domestic fowl.

Davis, who just released an updated version of her book *Prisoned Chickens, Poisoned Eggs*, says the stress, overcrowding, and unsanitary conditions inherent in animal agriculture foster a host of diseases, hence the need for high antibiotic use.

Davis lives in a big poultry producing area on the eastern shore of Virginia, where it's not uncommon for as many as 30,000 birds to be housed in a 600-foot building.

"The way these birds are forced to live is the opposite of what nature intended. They're living in a very intensive type of slum situation where diseases are going to advance and become more virulent and it's a paradise for pathogens—that's just the reality of how the birds are living," she says.

Poultry litter, an important part of big broiler operations, is also a culprit in the problem of resistance. Researchers at the University of Georgia found that litter from industrial chicken houses harbours a "huge reservoir" of resistant genes, called integrons, which "promote the spread and persistence of clusters of varied antibiotic resistance genes."

Such litter, according to Davis, is rendered and reused in livestock feed, fertilizer, and other areas in the animal agriculture industry.

A study by the Massachusetts-based Union of Concerned Scientists found that tetracycline, penicillin, erythromycin, and other antimicrobials that are valuable for humans are used extensively in the absence of disease for non-therapeutic purposes in livestock production.

SUPERBUG MRSA

Researchers have found the presence of methicillin-resistant *Staphylococcus aureus* (MRSA) on pig farms, where strains of MRSA have been discovered that can jump from swine to humans. These strains have been isolated in several countries, including Canada and the U.S.

"Right now what's been shown is that in Europe, the U.S., Canada, and I think in some Asian countries as well, contact with pigs has definitely been shown to be a risk factor for carrying MRSA, and some people who carry MRSA are going to get sick and then transfer it to other people who will get sick," says Steve Roach, spokesperson for Keep Antibiotics Working.

To prevent disease outbreaks and to stimulate growth, the hog industry adds more than 10 million pounds of antibiotics to its feed, according to UCS. The organization estimates that 70 percent of antibiotics and related drugs used in the U.S. are used in animals.

However, some progress is being

made in addressing antibiotic resistance, largely through the voluntary decisions of private companies.

In 2003, McDonald's Corporation announced it would only buy chicken from producers who do not use antibiotics for growth promotion, and some other restaurant chains have followed suit. According to UCS, four of America's top ten chicken producers have stopped using antibiotics for growth promotion.

Using antibiotics for growth promotion has also been banned in Europe, resulting in a dramatic decline in total antibiotic use in most European countries. North America, says Roach, can do the same.

"I think that we can do a lot better than we're doing in the U.S. and Canada. The Europeans have reduced their amounts drastically.... So it can be done."



WASTE FOR SALE: Hard drives bought from e-waste vendors in Ghana contained sensitive U.S. security information as well as private financial data such as credit card numbers, account numbers, and records of online transactions. COURTESY OF UBC GRADUATE SCHOOL OF JOURNALISM

B.C students find U.S. security data in Ghana dump

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Such information could easily have been misused—especially in a country listed by the U.S. State Department as one of the top ten sources of cybercrime in the world.

"We had the drives analyzed after leaving Ghana and were surprised at what we found," said UBC Associate Professor Peter Klein in a news release. Klein, an Emmy award-winning former 60 Minutes producer, is one of the three instructors of the course.

According to the team's investigation, the FBI is concerned that companies such as Northrop Grumman probably believe their drives are wiped clean by software before being recycled. Northrop Grumman is currently looking into how its hardware and information ended up in West Africa.

Klein said that a "parachute journalist" probably wouldn't have been able to ferret out such a story.

"The reason the students discov-

ered this security breach is that they took the time to go see for themselves what's going on, without preconceived ideas of the story, and they did some amazing enterprise reporting."

Agbogbloshie, a shanty town in Accra, Ghana, has become one of the world's digital dumping grounds where hundreds of millions of tons of electronic waste ends up each year.

The students, who traveled to three countries to do their research, made a documentary named *Ghana: Digital Dumping Ground*. The film is a pilot production resulting from a \$1-million donation by Vancouver philanthropist Alison Lawton to UBC's Graduate School of Journalism.

The donation launched Canada's first International Reporting course that sent journalism students abroad to cover important and under-reported issues.

GUESS the hidden saying, phrase or word(s) suggested by the graphic below

PUZZLES 4 PEACE



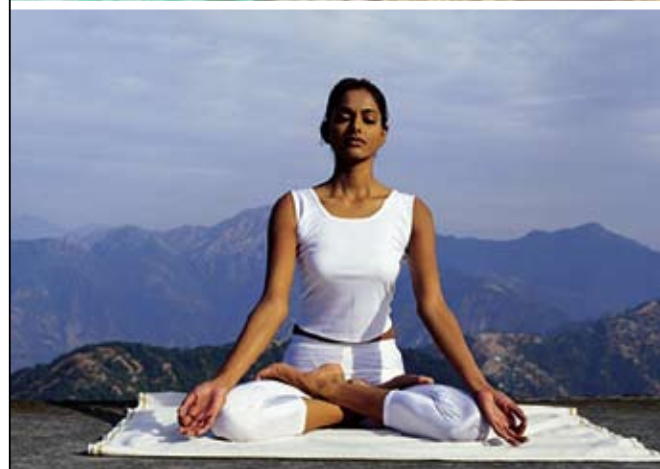
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Solution on P7



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