

To prevent bird flu, let nature take its course

By DEBRA PROBERT

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The inexorable increase in avian influenza hysteria is leading governments locally and internationally to consider increasingly radical measures to contain the perceived threat of a human pandemic.

The swift and lethal response of the Canadian Food Inspection Agency to the duck infected with a harmless H5 virus in British Columbia is a good example, and the recent discovery that people have been infected in China can only exacerbate this situation. These measures include keeping all domestic birds indoors, away from wild birds; culling flocks at the first sign of even a harmless strain of flu; draining wetlands; culling wild populations of birds and stockpiling masses of expensive drugs of questionable efficacy. But before we impose such drastic methods, we should heed the root cause of the problem.

Many strains of avian influenza circulate in wild birds at low levels, without causing illness. Natural selection plays an important role in regulating wildlife populations. A virus enters a population and removes those that are unable to defend themselves from the attack.

Biological diversity is the key to the population's survival. Animals that survive infection and reproduce will likely pass on their "resistant" or "tolerant" genes to future generations. This does not always mean they are immune, but they may be asymptomatic (carriers of the disease). In the case of avian influenza, for example, wild waterfowl (ducks and geese) have undergone such a process. They are now carriers, but do not necessarily show signs of the disease. Given time and successive generations, nature has taken its course.

The conditions in modern, intensive poultry farms are quite different from those found in nature. There is no question that the virulence and rapid spread of the H7N3 outbreak in British Columbia, in February of 2004, was exacerbated by the limited genetic diversity of the birds and the way they are raised. Almost all the chickens bred for meat in North America are the same breed. They are bred specifically to crave food and to grow at an accelerated rate while they are kept in sheds with near-continuous artificial light. They spend their short lives eating, sleeping and defecating in the same confined space before they are sent to slaughter at between 34 and 42 days old. Egg-laying hens present a similar case. These birds are nearly identical genetically. Under these conditions, natural immunity is virtually impossible.

In contrast, backyard and organic flocks are typically more diverse and more closely emulate nature. During the 2004 outbreak in British Columbia, of 553 backyard flocks tested, only one tested positive for the virus, and that was after testing negative twice.

What does this have to do with the spread of the virus in southeast Asia, China and Europe? Why, in apparently more open systems, have avian flu outbreaks been increasing? The Food and Agriculture Organization of the United Nations (FAO) lists six contributing factors affecting the spread of highly pathogenic viruses in Asia. Three of these have to do with an increase of poultry populations and intensification of poultry production.

The rise of poultry consumption across the world is exponential. In North America, per capita consumption was 33.8 pounds in 1970. In 2003, it had risen to 111.9 pounds. In developing countries, poultry consumption rises with economic prosperity. Consequently, Asia has seen an explosion of industrial poultry farming and is expected to eventually dominate global production. Not only have developed countries exported their insatiable appetite for animal products, they have also exported intensive poultry and egg production technology.

But this technology is being exported into a potentially devastating environment. In developing countries, a dramatic increase in intensive poultry production is often combined with poor hygiene and little or no bio-security. Domestic ducks are turned out to feed with wild birds in rice fields, then confined in tight quarters with other poultry at night. Domestic birds from different areas travel long distances, sometimes hundreds of miles, and are brought together in poultry markets crowded with people. Government corruption is rife, with cover-ups to protect business interests. National and international monitoring systems are ignored or inadequate.

In both developed and developing countries, intensively farmed poultry populations are a jackpot for viruses. The cramped quarters make transmission from host to host extremely easy. The diversity that is key to the survival of wild bird populations does not exist among domestic flocks and animals' immune systems are compromised, rendering them susceptible to infection.

Sloppy hygiene and lack of regulatory oversight, along with a lack of international accountability make an already serious situation deadly. What is an economically devastating problem in North America becomes a life-threatening one in developing countries.

Before we resort to extreme measures that can and will have a permanent effect on nature as we now know it, we need to assess the devastation wreaked globally by the unsustainable appetite for animal protein. The intensification of animal agriculture seriously compromises the welfare of animals. It is also ruining the environment and our health. Now it threatens to destroy millions of human lives.

Is it worth it?

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