

Hoof-and-Mouth Crisis Shows We've Come A Long Way

By ACSH Staff — March 22, 2001

The 20th century was characterized by economic and technological change of unprecedented rapidity as shown by all economic indicators. The non-economic indicators are just as spectacular life expectancy, health and increases in per capita food supply, which more than accommodated population growth that virtually all "experts" believed could not be fed. Both the developed and developing worlds added a nearly 30 years in average life expectancy. Strange as it may seem, the longer that we live, the lower percentages of our lives do we spend with disabilities. Yet, the alleged dangers of modern life have become conventional wisdom to large segments of the population and nowhere is that more true than in agriculture and food supply.

Because of this burgeoning population, agriculture has the additional challenge of putting nutrients into the soil to feed the plants so crops could be grown to feed the people. Paradoxically, these gains are largely denied, if only by implication, and the science and technology that allowed them to happen have been under attack for almost the entire century. This is clearly evident in a multitude of responses to the hoof-and-mouth disease crisis which is being attributed to some fault of modern agriculture which could allegedly be cured by a return to a more benign, eco-friendly organic agriculture.

First, it has to be stated that prior to the 20th century, humans never had consistent access to clean water and clean, adequate, nutritious food. Drinking water in the wild, now (or by our hunter-gatherer ancestors) can cause "beaver belly" (giardiasis) or be a source of microorganisms derived from moose, ducks, and geese. Diseases caught from wild animals include tularemia (a disease related to bubonic plague) by those who regularly handled game and fur bearing animals. Wild animals or their remains can be infected with such diseases as rabies, toxoplasmosis, hemorrhagic fevers, leptospirosis, brucellosis, anthrax, salmonellosis, and lethal anaerobic bacteria - gangrene, botulism, and tetanus - which can be transmitted to humans.

The history of agriculture is a history of plant and animal diseases that were a regular and largely inseparable part of our food supply. The aflatoxins that infect grains such as maize and rye have brought misery to countless millions of our ancestors and still plague the world's poorest populations. The best estimates today are that 40% of the loss of years of healthy life in the world result from such food-borne mycotoxins. It was the Industrial Revolution and modern chemistry that brought us clean water and it was modern agronomy, science, and technology that brought us consistent, adequate, clean, healthy food year-round.

Prior to the 1920s, hoof-and-mouth disease was almost an annually recurring threat to livestock everywhere. Modern animal husbandry has allowed for the creation of relatively disease-free herds that are highly productive of meat and milk. These greatly contribute to human health in both

developed and developing countries. Demand for animal products is increasing throughout the world as income rises. The US has not had an outbreak of hoof-and-mouth disease since 1929, while the disease remains endemic in poor areas in Central Asia, Africa and South America. It was more prevalent before modern high density husbandry and remains endemic only in areas of less developed, low density husbandry. Thus it is ridiculous for critics of modern agriculture to blame modern practices for hoof-and-mouth disease.

The irony is that hoof-and-mouth disease creates a crisis precisely because of the high level of health of our herds. Since the threat to human health is virtually non-existent, we could have chosen to simply contain the disease and accept vastly less productive herds and less meat and milk to consume, as is the case in many poor countries today. In poor countries, I have seen scrawny herds where specific diseases were undiagnosed and accepted because there was no other choice. I have been involved in the herculean effort to keep plants disease free using chemical pesticides in order for people to simply have a crop which still may be laden with micro-organisms.

Modern agriculture and husbandry, as any human endeavor, merits constructive criticism and can be further improved but using any crisis as a basis for attacking it, is wrong. I invite all such critics to join me in my next foray into regions where people are struggling to survive and where they would be happy to reach a level of development to deal with the problems of modern food production as we are privileged to know them.

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