



The amount of humanly edible protein fed to American livestock and not returned for human consumption approaches the whole world's protein deficit.

—Frances Moore Lappe
Diet for a Small Planet

According to some analysts, livestock in the United States is fed enough grain and soybeans to feed a group of people more than five times the size of the U.S. population, which consumes one-tenth of the amount of grain that is fed to livestock.* The amount of pesticides used in the United States escalated from 200,000 pounds (of the active ingredients) annually in the 1950s to 300 million pounds in 1966 and more than one billion pounds in 1987. The production of corn and soybeans (both of which are used primarily to feed livestock), wheat, and cotton accounts for 70 percent of the amount of insecticides used in this country and 85

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percent of the amount of herbicides. Raising and finishing livestock on forages and agricultural by-products instead of on corn and soybeans would significantly reduce the amount of pesticides used in agriculture. That would benefit wildlife, the environment, soil microorganisms, and consumers alike—all of which are harmed by pesticides and other widely used agrichemicals.

Even if such high-energy and high-protein products as corn and soybeans are raised organically or under integrated pest-management systems and the use of chemical pesticides is thus eliminated or reduced, is it acceptable to maintain the status quo of using them to feed livestock? The World Health Organization estimates that 1.3 billion people are suffering from malnutrition. Food-aid programs are undermined not only by politics, corruption, and grain cartels' market manipulation but also by shortages of food for export to developing countries. Such shortages arise because land that could be used to raise food is instead used to raise feed.

Making more food for the world's hungry available by producing more forage crops and using them to feed livestock for consumption in the developed countries would help, but it would not suffice. The livestock populations of the United States and the other developed countries would have to be reduced as well, by means of breeding fewer animals. The first sectors to be affected by a substantial shift to forage production would be the pork industry, which relies almost exclu-

sively on the use of corn and soybeans to raise and finish pigs (and cannot do so by using forages alone), and the beef-feedlot system, in which cattle are raised and finished on corn and soybeans.**

Furthermore, the health and welfare of livestock raised by intensive methods and under stressful conditions should be of concern not simply to humanitarians but also to the consumers of such animals. The wholesale use of drugs to control animal diseases and boost productivity poses considerable public-health risks. The development of antibiotic-resistant strains of bacteria that frequently cause outbreaks of food poisoning is well documented.

The use of grain and soybeans to raise and finish broiler chickens is more cost-effective than the use of those materials to raise and finish pigs and feedlot cattle, and the final product is cheaper for consumers. In spite of its low cost, however, chicken meat is a major source of food poisoning; bacterial contamination occurs as a result of stressful handling and transportation methods as well as poor management and inadequate inspection of the packing plants. Moreover, the methods used in the handling, transportation, and slaughter of poultry are generally unacceptable from a humane standpoint.

Market costs should not be the final determinant of what kinds of farm animals are raised for human consumption or what those animals are fed. However, nonvegetarian conscientious consumers can and should help to determine what is marketed. They can do so by eating less meat and by restricting their meat

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consumption to beef and lamb raised primarily on forages or pasture and free-range poultry and dairy products from animals that have been fed organic produce and agricultural by-products. They must also continue to fight to ensure that farm animals are raised, transported, and slaughtered according to the highest humane standards and support those farmers who practice humane, sustainable methods of agriculture. Conscientious consumers can thus help to transform animal agriculture into an agriculture that is humane, ecologically sound, and socially just—and improve their health in the process.

That becoming a vegetarian or even halving one's consumption of meat will be harmful to one's health is a myth perpetuated by the livestock and meat industries. Several studies have shown that the average American consumes roughly twice as much protein as the body needs. However, many studies have linked a high animal-protein and fat intake with kidney, gall bladder, and heart diseases, osteoporosis, obesity, and cancer, especially cancer of the colon. In short, using meat as a dietary staple is not only conspicuous consumption; it is a major contributor to the diseases prevalent in affluent societies.

Water and soil are two resources that are being squandered by the livestock industry in particular. Various studies have revealed that the irrigation of crops to be fed to livestock accounts for more than half of the water used in the United States; 100 times as much water is needed to produce one pound of meat as to grow one pound of wheat. Livestock produces nearly two billion tons of waste annually, much of which is not recycled back to the land and thus becomes a major source of ground- and surface-water pollution. The excrement of

livestock accounts for five times as much water pollution as the excrement of humans. Furthermore, each year about six billion tons of topsoil are lost to erosion caused by the overgrazing of rangeland and the production of livestock feed.

Unlike pigs, ruminant animals (such as cattle, sheep, and goats) can convert a wide variety of agricultural by-products, including corn and sorghum stalks and citrus and wood pulp, into protein. Also unlike pigs, they thrive on forages (such as alfalfa, grasses, and clover) as well. Raising them can enhance the quality and biodiversity of rangeland. They can therefore play a vital role in the recycling of agricultural by-products and the creation of a sustainable agriculture. But using good land to raise corn and soybeans for ruminant animals' consumption rather than for human consumption is one of the practices that must, in the face of growing world hunger, become a thing of the past. And we should not forget that much of the high-protein material fed to farm animals in such rich countries as Britain, Japan, and the United States is exported from poor countries. That category includes oilseeds (such as peanuts, palm kernels, and copra) and oilseed products, fish meal, soybeans, and other legumes. Poverty and malnutrition in the exporting countries increase as they are drawn into the colonial web of economic dependence and exploitation.

By supporting local farmers and cooperatives that produce meat, eggs, and dairy items

through the use of humane, ecologically sound farming practices, we may be able to save the family farm, the backbone of a sustainable U.S. agriculture. Since 1985, 400,000 family farms have been forced out of operation by agribusiness, which is gaining a monopolistic hold over the nation's food-production system. As Rev. David L. Ostendorf, director of PrairieFire Rural Action, noted in *Prairie Journal* last year, *Seventy years after the Consent Decree of 1920, which split up the four-firm beef trust controlling 49 percent of the cattle slaughter, three corporations now control 68 percent of the nation's steer and heifer slaughter. In spite of the Packers and Stockyards Act, still in effect today, Cargill, ConAgra, and IBP [Iowa Beef Processors] also control over 80 percent of boxed beef production and over 30 percent of U.S. hog slaughter.*

Without a more widespread recognition of the urgent need to reduce meat consumption and take other steps to make agriculture sustainable, ecologically sound, and socially just, the quality of life on this planet will continue to decline. There is simply no reason for anyone to regard meat as a dietary staple. To do so is to show flagrant disregard for the enormous waste and now well recognized environmental and health risks created by a meat-based agricultural system and a meat-centered diet. ■

* For documentation of these data and others that are of concern, see Walter H. Corson, ed., *The Global Ecology Handbook: What You Can Do about the Environmental Crisis* (Boston: Beacon Press, 1990).

** Almost seven pounds of grain and soybeans are needed to produce one pound of pork, five pounds to produce one pound of beef, and three pounds to produce one pound of chicken.

ANIMAL WELL-BEING

By Dr. Michael W. Fox