

Is the cow a white elephant?



J. B. KENDRICK JR.
*Vice President
Agricultural Sciences
Director, Agricultural
Experiment Station
University of
California*

As population and the need for food continue to grow, more questions are raised about the world's ability to feed itself, and about how it should be done. One line of argument holds that livestock production should be restricted or abandoned on the grounds that it is inefficient, wasteful and even immoral. The contention is that human beings should have priority over livestock, and that the eight pounds of grain required to produce one pound of beef should be consumed directly by man. Statements are made that a small reduction in American meat consumption would release enough grain to feed many millions in the hungry world.

Most of the arguments that attack livestock production as the villain of the piece seem somehow incomplete. It is not made clear how the cost of planting, harvesting, storing, transporting and distributing these released grains is to be met. Other "grain drain" activities are not mentioned—for example, the enormous quantities used to provide food for the enormous pet population, or the more than one million tons used in the production of alcoholic beverages in the U.S. alone each year.

But the major omission in these discussions is any reference to the unique capabilities and role of ruminant animals as human food resources. While most crops are limited to specific areas by climatic conditions, various kinds of livestock adapt to almost any climatic zone. Roughly 60 percent of the world's grazing land is unsuitable for cultivation and therefore, without animals, millions of acres of the earth's surface would go largely unused for the production of human food. Animals are the only converters of the forage-held carbohydrates and proteins into edible human food, and they do so with relatively little economic input. In addition, because of their unique digestive system, the ruminants (sheep and cattle are examples) are able to use as food many materials not consumable by men. They can convert to high-quality human food various agricultural wastes such as cornstalks, straw and sugar beet pulp.

They are able to use unwanted materials such as waste paper and sawdust, and currently consume millions of tons of the by-products from food processors, brewers and distillers which otherwise would constitute a serious disposal problem.

In addition to high quality protein, vitamins, minerals and other nutrients, livestock provide many other by-products such as leather, wool, gelatin, lanolin, soap, and pharmaceutical supplies such as hormones, enzymes and cortisone. In many areas of the world, the animals ultimately used for food are also used to provide farm power.

While large quantities of grain are used at the feedlot stage in U.S. livestock production, about 70 percent of the final weight of the animal comes from forage. Principal grains fed to livestock are corn, oats, barley and sorghum—grains not widely used as human food. For example, our major feed grain is corn, but we use only about three percent of our corn crop for human consumption.

Without question, plants are more efficient producers of food per unit area than any form of animal production, but, as the foregoing suggests, there is some question about the concept and the degree of direct competition for food between people and livestock and about the notion that animal production is wasteful. In any case, it is unrealistic to expect the developed countries to give up grain-fed animal products or to expect world food supply problems to be solved if they did.

Traditionally, plant and animal cultures have been complementary, and as the pressure on food resources increases, there are good reasons to believe that animal agriculture will fill a vital role in the future. The potential for increased animal contributions to the human food supply is suggested by on-going research in improving efficiencies in feed conversion and reproduction, increased productivity of rangelands, and continuing developments in the utilization of the millions of tons of agricultural residues and by-products as animal feed.