

cause the increase in feed cost is relatively small. Projected prices of beef (Nebraska Direct Fed-Steer) increase by 1.4 percent. Projected prices of pork (Iowa Southern Minnesota Barrows and Gilts) increase by 5.6 percent. Beef prices are less sensitive to feed costs because the feed cost share is smaller in beef production than in pork, and because pasture-fed cattle can substitute for grain-fed cattle. Because of these price increases, world supplies of beef, pork, and poultry decrease by 360 thousand metric tons (about 0.3 percent).

#### INCREASE IN FARM REVENUES

The potential for acreage reductions to result in increased revenue is limited, especially for soybean produc-

ers. After eight years, the 10 percent decrease in U.S. acreage would increase the price of corn by 12.9 percent and the price of soybeans by 6 percent. For the Iowa farmer who is in a 50-50 corn-soybean rotation, this means that revenue per planted acre would increase by about 9.6 percent. But, of course, there are 10 percent fewer planted acres, which means that total revenue would decline by a small amount. This decline in total revenue must then be compared to the decrease in production cost that comes about because of fewer planted acres.

In all likelihood, the FAPRI estimates overstate the price impacts of a reduction in U.S. planted acreage if it were implemented as a policy. History tells us that profit-driven

farmers, both in the United States and around the world, have a great deal of imagination when it comes to taking full advantage of opportunities caused by big changes in policy. Undoubtedly, the net effect of an attempt to decrease U.S. crop acreage by 10 percent would result in less than a 10 percent reduction in U.S. planted acreage and quite a bit less than a 10 percent reduction in production. And overseas, farmers would increasingly devote attention to supplying program crops that are in relatively short supply. ♦

## USDA's Nutrition Education Program Pays Long-Term Benefits

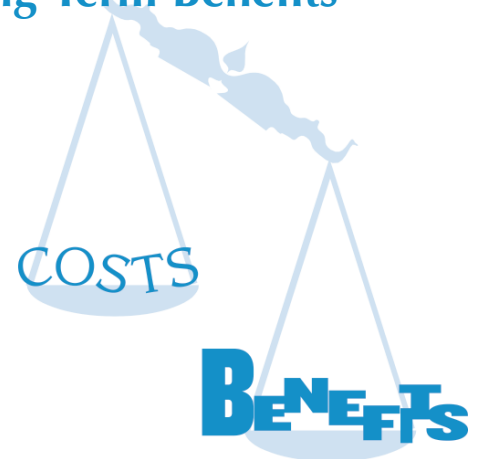
**Helen Jensen**

hhjensen@iastate.edu  
515-294-6253

The United States Department of Agriculture (USDA) spends over \$30 billion a year on food and nutrition assistance programs, an amount that is over one-half of the USDA budget today. Historically, U.S. food assistance programs featured purchase and distribution of surplus agricultural commodities to low-income households and to school lunch programs. Today, food and nutrition assistance includes a wide range of programs designed to provide low-income households access to adequate nutrients and a balanced diet, to increase food security in the general population and reduce hunger, especially for children, and to encourage low-income adults and children to acquire knowledge and skills to improve their diets with better food choices through nutrition education programs.

A recent study in Iowa shows that USDA's Expanded Food and Nutrition Education Program (EFNEP) has been successful in achieving improved diets among low-income youth and low-income families with young children. (See CARD Staff Report 00-SR 93.) The Iowa study evaluated the costs and benefits of Iowa EFNEP to measure the net economic impact of the program from September 1998 to February 2000 for the seven Iowa counties offering the program to eligible participants. The study finds that Iowa EFNEP returns benefits of \$10.75 in reduced long-term health costs for every \$1.00 spent in program costs.

EFNEP is an educational intervention program designed to help limited-income youth and adults with young children acquire the knowledge, skills, attitudes, and changed behavior leading to the improvement of the total family diet and nutritional well-being. Participants learn



about low-cost, nutritious foods and about managing food expenditures, including the use of Food Stamps and WIC coupons. The federal program operates at approximately \$60 million per year and has been in existence since 1969.

Funding for the Iowa EFNEP comes from USDA. During the 2000 program year, the Iowa program served about 2,200 families in eight counties. In addition, over 17,000

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youth participated through school or after-school programs. Eighty-four percent of Iowa EFNEP families had incomes below 100 percent of the Federal Poverty Income Guidelines, and 53 percent had incomes below 50 percent of poverty. The 2000 poverty threshold set for a family of four is \$17,050. The EFNEP program is designed as a series of lessons, conducted for participating individuals by paraprofessionals and volunteers, many of whom come from the targeted population.

The study of the costs and benefits of Iowa EFNEP was completed in August 2000 (see CARD Staff Report 00-SR 93). The benefits of the program were measured through questions administered to the adult participants as they entered the program, and at the end of the program. The data included food intake measured by 24-hour food recall, food practices including the safe handling of food, and resource management. These data, along with evidence concerning the relationship of various food practices and nutritional behavior to the onset of diseases, were used to determine a specific percentage of those practicing "optimal nutritional behavior" for each disease. The challenge in doing such a cost-benefit study is to quantify the "improved health" of program participants. Current health care costs, current wage rates, and the changes in food practices and nutritional behaviors were used to quantify the benefits that occur with changes in nutritional habits.

Benefits of the program (that is, future health cost savings) occur because participants

- learn safe food handling practices, and thus have fewer foodborne illnesses;
- eat better during pregnancy, resulting in fewer low birthweight babies;
- are more likely to breastfeed their babies, resulting in fewer childhood diseases;
- improve overall diets, resulting in delay or prevention of chronic diseases.

The relevant nutrition-related diseases and conditions are broken into three categories. The first category includes diseases considered life-threatening with the average onset delayed only through good nutritional habits. The diseases included in this category are stroke, hypertension, colorectal cancer, and heart disease. The

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second category includes non-life threatening diseases. Good nutritional food-related habits contribute to avoiding these diseases, which include osteoporosis, foodborne illness, obesity, diabetes, and commonly occurring infant diseases. The third category includes conditions that require a one-time treatment and which can be avoided through good nutritional habits. For this study, low birth-weight babies are considered in the third category. The sum of the positive outcomes related to optimal nutritional behavior for these three types of diseases is the benefit of EFNEP. The benefits for EFNEP over the time period totaled \$14,354,479. The costs of EFNEP include the sum of all state-wide salary costs, part-time county wage costs, transportation costs for the participants, as well as county rent, utility, travel, supplies, and fixed costs. These costs totaled \$1,334,848 for the same time period.

A number of analyses help band a reasonable range for the benefit-cost figure. One analysis uses more recent medical findings to determine the percentage of participants practicing optimal nutritional behavior. Because the incidence rate for osteoporosis is higher, this analysis leads to a benefit-to-cost figure of \$12.50/\$1.00. Another analysis cuts the number of participants practicing optimal nutritional behavior by 75 percent to simulate the possibility that more participants stop practicing optimal nutritional behavior in the future. That analysis gives a benefit-to-cost ratio of \$2.64/\$1.00.

The results of the analysis of Iowa's program show that large economic savings exist because of the EFNEP program, and these were positive even under a range of assumptions. The results in Iowa are similar to those of another study on EFNEP in Virginia. Both studies show that individuals with better information about nutrition do a better job of following federal dietary recommendations and that the more a mother knows about health and nutrition, the better is the overall quality of her child's diet. EFNEP may be successful because it is a program that reaches its target audiences at a time when the benefits of healthy diets may be especially high. Food assistance programs have made a concerted effort in recent years to increase nutrition education efforts. With nutrition education becoming a more important part of food assistance programs, it is important to consider how it can best be delivered and how its effectiveness can be assessed. The finding of a favorable benefit-cost ratio for EFNEP lends support to efforts to increase funding for such nutrition education programs and, thus, achieve savings in health care costs. ♦