



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



United States
Department of
Agriculture



Economic
Research
Service

Overview

Can Food Stamps Do More To Improve Food Choices?

Joanne F. Guthrie, Biing-Hwan Lin, Michele Ver Ploeg, Elizabeth Frazao

Economic Information Bulletin Number 29-1

September 2007

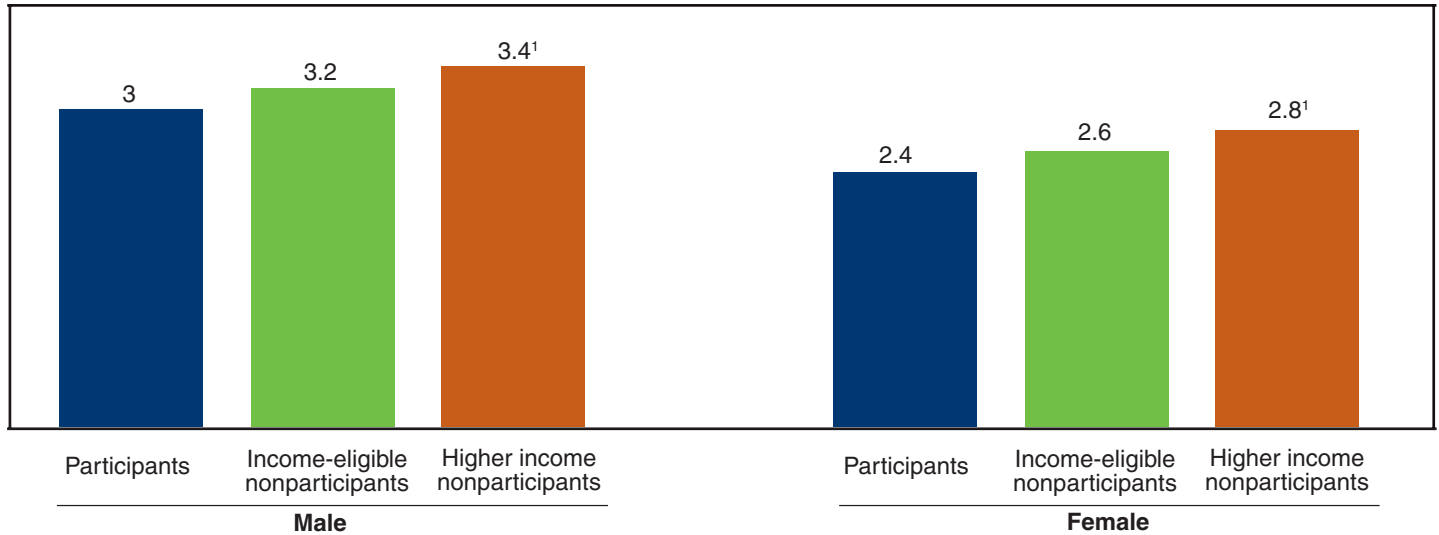
The Food Stamp Program began with the goal of assuring that no American would be without enough to eat. Serving more than 26 million Americans in 2006, the program continues to be an important part of the Federal safety net. The increased food purchasing power offered by the Food Stamp Program has been found to promote food security and improve the overall economic well-being of low-income households (LeBlanc et al., 2006). However, its effect on the quality of the diets of food stamp recipients is less clear.



Figure 1

Average daily vegetable consumption of Food Stamp Program participants and nonparticipants ages 9 and older

Number of servings



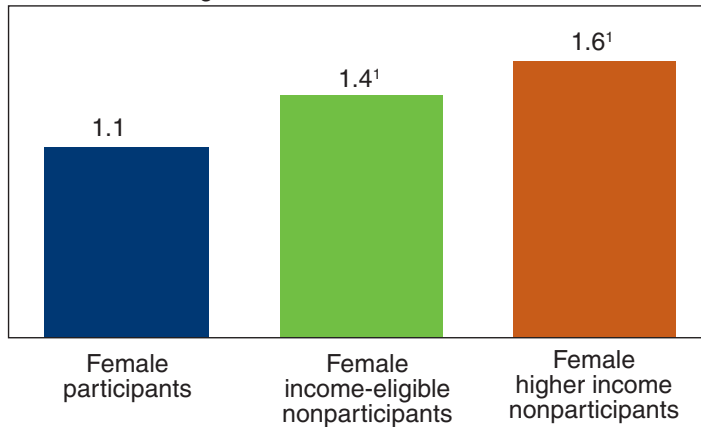
¹Statistically different from consumption patterns of food stamp participants.

Source: 1988-94 National Health and Nutrition Examination Survey (NHANES III) data, as reported in Fox and Cole, 2004.

Figure 2

Average daily fruit consumption of female Food Stamp Program participants and nonparticipants

Number of servings



¹Statistically different from consumption patterns of food stamp participants.

Source: 1988-94 National Health and Nutrition Examination Survey (NHANES III) data, as reported in Fox and Cole, 2004.

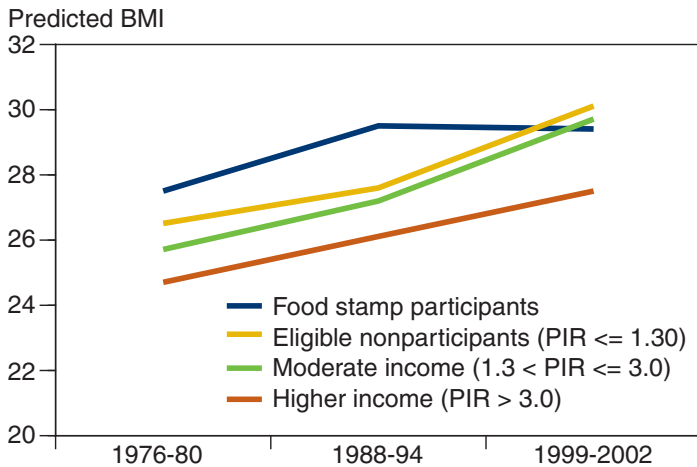
Consumption data show that the diets of food stamp participants do not follow the pattern recommended by the 2005 Dietary Guidelines for Americans and USDA's MyPyramid. Intakes are higher than recommended in saturated fat and sodium and lower than recommended in servings of milk, fruits, and vegetables (Fox and Cole, 2004). Among the most notable problems are underconsumption of fruits and

vegetables. This problem is not unique to food stamp participants; most Americans fail to meet recommendations for these foods. For example, vegetable consumption of food stamp participants is lower than that of higher income nonparticipants but is not statistically different from those of nonparticipants with incomes low enough to qualify for food stamps (income-eligible nonparticipants) (fig. 1). Fruit consumption of female food stamp participants is lower than that of both income-eligible and higher income nonparticipants (fig. 2). These simple, cross-sectional comparisons cannot be used to assess the effect of Food Stamp Program participation on fruit and vegetable intakes; groups may differ on several other factors that may contribute to the differences found. However, it is clear that not consuming enough fruits and vegetables is a major dietary problem for Americans, especially for those who receive food stamps.

Similarly, food stamp participants are not alone in suffering from the growing prevalence of obesity. In fact, recent national data on the weight status of Americans indicate that differences in the weight status of food stamp participants and nonparticipants have diminished. Unfortunately, this reduction is because nonparticipants have become more likely to be overweight and obese not because food stamp participants have become less likely to be overweight and obese. Among non-Hispanic White women, the group for which the change in trends is most dramatic, food stamp participation was strongly associated with overweight 20

Figure 3

Among non-Hispanic White women, the BMI of food stamp recipients has remained steady but has increased for nonrecipients



Predicted BMI (Body Mass Index) calculated using regression coefficients assuming age 40. PIR is the ratio of income to the Federal poverty threshold.

Source: Economic Research Service/USDA, using data from National Health and Nutrition Examination Surveys.

years ago, but more recent national data show that, since then, the prevalence of overweight has grown most among nonparticipating women (fig. 3). Trends are less dramatic for African-American and Hispanic women, but overall, the data show a similar pattern.

Trends for men are almost the exact opposite of those for women. Data from previous years showed that male food stamp recipients were less likely to be overweight than eligible male nonparticipants and higher income men. However, the most recent data show that differences in overweight status have almost entirely disappeared. Thus, over the past decades, the weight status of male food stamp participants has become more like that of other American men (Ver Ploeg et al., 2006).

These findings indicate that food stamp participants are not much different from other Americans in needing to eat more fruits and vegetables and to improve their weight status. Although the findings may not support contentions that the program is a major reason for the problems, neither do they undercut arguments that the Food Stamp Program should do more to improve food choices of participants. Poor diets, obesity, and associated health problems exert heavy costs to society in increased medical expenditures and lost productivity. If program changes were successful in promoting healthful food choices among the 26 million low-income Americans participating in the Food Stamp Program, these changes could yield considerable benefits in reduced medical costs and increased productivity.

This folder compiles evidence to help answer the question of whether the Food Stamp Program can do more to improve the food choices of benefit recipients. It examines the evidence that affordability and price of healthful foods affect food choices and the role of education in improving food choices. Innovative approaches to improving food choices drawn from behavioral economics are considered. Finally, measuring the effects of any policy change on food choices and health outcomes continues to be a challenge; ERS activities to meet the challenge through improved data, measures, and analytical methods are discussed.

Are Healthy Diets Affordable for All Food Stamp Participants?

Some nutrition advocates argue that food stamp benefits are not sufficient to purchase all the foods recommended for a healthful diet, including a variety of fruits and vegetables. Maximum food stamp benefits are set and updated annually based on the Thrifty Food Plan, a market basket of foods that can guide recipients in purchasing a diet that meets Federal dietary guidelines, including the recommended servings of fruits and vegetables, at minimal cost. Households with income are expected to spend some of their own cash resources on food (30 percent of income adjusted for allowable deductions). Therefore, households receive benefit amounts that augment cash resources to bring them up to the Thrifty Food Plan level. In 2004, for example, the maximum benefit level for a family of four was \$471, with an average benefit level of \$326. So, on average, participating four-person households were expected to contribute \$145 of their own income to food spending. Participants are not required to buy the mix of foods in this market basket; they are free to buy almost all foods sold in grocery stores, with a few exceptions, such as hot, prepared foods.

Program benefits are based on average national food prices, but prices vary in different areas of the United States. If food prices differ greatly from area to area, food stamp benefits will have a lower purchasing power in higher priced areas compared with lower priced areas, possibly making it more difficult for some participants to afford a healthful diet. Using data on food prices paid by a national sample of consumers, **Leibtag**¹ found considerable differences in food prices for a broad mix of foods. In 1998-2003, average prices in the East and West ranged from 8 percent to 11 percent above the national average, whereas average prices in the South and Midwest ranged from 7 percent to 5 percent below the national average. Leibtag also found that

¹Bolded names indicate author(s) of relevant bulletins in this folder. See box at end of this overview for full citations.

prices paid for foods can be influenced by consumer behavior and that low-income consumers typically economized with such strategies as buying private-label (store brand) products, items on sale, and less expensive fruits and vegetables. Nevertheless, regional differences in prices could be a challenge to the affordability of a healthful diet for some food stamp households.

Using data from a national sample of households, **Nord and Hopwood** found that the amount of money that low- and medium-income households believe necessary to “just meet their food needs” (“enough food”) can vary considerably across different geographic areas of the country. Although the cost of “enough food” is affected by many factors, such as social norms and nutrition knowledge of what constitutes an adequate diet, the association of perceived cost of “enough food” with the area within which a household lives suggests that local food prices also play a role. About 17 percent of food stamp participants live in areas where the “cost of enough food” is 10 percent above the national average or higher.

Increasing Food Purchasing Power May Not Change Spending on Fruits and Vegetables

Some program critics believe that the problem of affordability is general enough that the best way to improve food choices would be to increase food purchasing power by raising food stamp benefits. Increasing benefits would essentially provide households with greater income, hopefully resulting in more purchases of fruits and vegetables.

Frazaio and colleagues assess the likely effects of an unrestricted increase in food purchasing power, such as an increase in food stamp benefits, by examining food expenditures of households at various income levels. They find that, as annual household income increases, spending on

As annual household income increases, spending on fruits and vegetables changes little until income reaches about \$70,000.

fruits and vegetables changes little until income reaches about \$70,000. Besides nutrition, households have competing wants and needs; with small increases in income, other wants and needs take priority over purchases of fruits and vegetables. Only a large increase in household income seems to have much effect on fruit and vegetable purchases.

Changing the Relative Price of Healthy Foods—A Potential Policy Strategy

The findings of Frazao and colleagues indicate that a general increase in food stamp benefits would not have much effect on fruit and vegetable expenditures. A proposed alternative strategy is to encourage fruit and vegetable purchases more directly via bonuses or coupons when fruits and vegetables are purchased with food stamps. This approach would lower the price of these foods for food stamp participants, potentially making fruits and vegetables more appealing.

Lin and Guthrie examined the likely effects of such an approach, using ERS-generated information on the response of low-income consumers to changes in food prices and two case studies of consumer response to food prices. Although consumer response to prices may be weak for some foods, the response to prices for fruits and vegetables is stronger, and price manipulation via bonuses or coupons for food stamp participants who purchase fruits and vegetables may increase purchases of these foods.

Whether the effect would be powerful enough to result in food stamp participants consuming a diet that met Federal recommendations for fruits and vegetables is another question. The response to price depends on the size of the manipulation. Lin and Guthrie estimated that a 20-percent price reduction would raise fruit and vegetable consumption to 2.2 cups per day—an improvement but still below recommendations for typical adults. Nutrition education and promotion activities may enhance the effectiveness of price manipulation strategies. Stronger price manipulations, such as providing food stamp households with vouchers for fruit and vegetable purchases, essentially reducing the price to zero, could also be tested.

Guthrie and colleagues examine two proposed strategies for improving food choices of food stamp participants that are currently the subject of much debate (this article previously appeared in the ERS magazine *Amber Waves*). The first strategy would restrict purchase of “unhealthful” foods with food stamp benefits; the second would expand benefits by offering bonuses or vouchers for purchase of healthful, underconsumed foods, such as fruits and vegetables. The analysis suggests that bonuses or vouchers may be a more successful strategy; coupling this approach with market innovation, retail promotion, and nutrition education may increase its effectiveness.

Changing Knowledge and Attitudes May Help

In addition to being influenced by income and price, food purchasing choices can be influenced by nutrition knowledge and attitudes. USDA uses nutrition education as its primary strategy to improve the food choices of food stamp

Resisting a sweet treat today because of good health tomorrow—or 20 years from now—can be difficult.

participants, with annual Federal expenditures for Food Stamp Nutrition Education reaching almost \$250 million in 2006. **Guthrie and Variyam** examine the challenges faced by Food Stamp Nutrition Education.

Nutrition information can prompt consumers to change their food choices—a well-known example is the shift from whole milk to reduced- and low-fat milk. Consumer response to information, however, can be inconsistent because consumers have other preferences, such as taste, convenience, etc., that compete with nutrition preferences. Also, good nutrition is a longrun benefit, whereas other preferences may be satisfied more immediately, making it hard, even for individuals who value nutrition, to consistently resist immediate gratification. Resisting a sweet treat today because of good health tomorrow—or 20 years from now—can be difficult.

Finally, developing and implementing effective public education programs, such as Food Stamp Nutrition Education, is not easy. The Food Stamp Program serves millions of people of all ages and backgrounds. Federal and State funding levels for fiscal 2006 translated into less than \$20 per food stamp participant in available funds for education programs. Cost-effective strategies for reaching and teaching such diverse audiences are a challenge, as are cost-effective strategies for evaluating educational outcomes. Improving data on nutrition education program outcomes could provide information on the programs' effectiveness and potentially guide development of improved educational approaches.

Behavioral Economics Research Suggests New Approaches

New ideas for improving food choices of food stamp participants may come from the field of behavioral economics. Traditional economic thinking assumes that consumers, once they become knowledgeable about diet and health, will act rationally in choosing foods that will lead to long-term well-being. Behavioral economics, in contrast, emphasizes the reasons individuals regularly and predictably act in ways that seem to contradict typical notions of rationality. It suggests new explanations of why individuals may choose behaviors contrary to their long-term interest and has generated new ideas about how policies and environments might

be modified to help individuals act in their long-term best interests (Just et al., 2007). **Mancino and Andrews** examine findings from behavioral economics that suggest strategies that might be useful in improving the food choices and diet quality of food stamp participants.

Improved Evaluation Data and Methods Are Needed To Assess Effects of Policy Changes

This folder compiles information that policymakers, program officials, and health advocates can use in considering potential approaches to improving the food choices of food stamp participants. However, without adequate evaluation, policymakers will never know whether any changes that are adopted turn out to be effective, ineffective, or even counterproductive. Unfortunately, measuring the effect of the Food Stamp Program on food choices and health outcomes is a difficult endeavor. An ERS review of research on Food Stamp Program outcomes found broad consensus that the program increases food spending and household income, but its effects on the nutritional quality of participants' diets is uncertain (LeBlanc et al., 2006).

That there would be uncertainty and debate on this topic may seem surprising, given that national food consumption survey data on food stamp participants and nonparticipants have been collected for decades. The basic problem is that a simple comparison of diets of participants and nonparticipants does not address the bias introduced by "self-selection" of program participants. The Food Stamp Program is an entitlement program, but eligible households choose

Behavioral economics....has generated new ideas about how policies and environments might be modified to help individuals act in their long-term best interests.

whether or not to participate—and only 60 percent do, based on the most recent available estimates. Those who choose to participate may be different from those who choose not to participate, and these differences could also be related to their food choices. While demographic and other characteristics can be used by researchers to help control for differences between participants and nonparticipants, it's impossible to be sure that such factors fully capture all differences relevant to food choice. If researchers do not account for "self-selection bias," simple comparisons

of diets of food stamp participants and nonparticipants will not provide an accurate answer to the question of how the program affects food choice. Although a variety of sophisticated statistical procedures to counteract selection bias have been developed, none of these techniques can guarantee that selection bias has been eliminated.

Frazao and colleagues review the priority needs for improved evaluation of nutrition outcomes of the Food Stamp Program and summarize activities that the Economic Research Service (ERS) is currently undertaking in support of improved evaluation. The ERS Consumer Data Initiative is designed to provide decisionmakers with more timely, accurate, and comprehensive data. It should result in expanded data on consumer food purchases and prices paid, consumers' nutrition knowledge and relevant behaviors (such as use of nutrition labeling), and, through linkage with program participation, enhanced ability to examine participation-related outcomes. Although expanded data per se will not solve the problem of selection bias, they will provide improved understanding of the relationship of important economic and policy factors to program participation and outcomes and could expand analytical options for addressing selection bias in analyses.

ERS is also working to improve measurement of nutrition outcomes. Early evaluations of the Food Stamp Program typically compared average consumption of foods and nutrients by participants and nonparticipants, implicitly assuming that "more is always better." Modern nutritional thinking stresses moderation and balance, with new Dietary Reference Intakes (DRIs) better designed to identify both adequate and excessive nutrient intakes. ERS has supported research to improve these outcome measures and to develop methodologies to apply them to food assistance program evaluation. Finally, ERS, in collaboration with USDA's Food and Nutrition Service (FNS), is working to develop a cost-effective method for assessing outcomes of Food Stamp Nutrition Education.

Conclusions

The increase in food purchasing power provided by the Food Stamp Program has helped low-income Americans solve the basic problem of getting enough to eat. Can changes in Food Stamp Program policies do more to help participants solve the nutrition problems of today, which are associated with choice of food, as well as amount? Specifically, can policy changes encourage food stamp participants to purchase and consume recommended amounts of fruits and vegetables? Changing participants' behavior will not be an easy task. The most recent data indicate that, despite 15 years of vigorous promotion through the public/private "5-

A-Day" initiative (recently renamed the "More Matters" initiative), Americans, as a whole, have not improved their consumption of fruits and vegetables (Casagrande et al., 2007). Clearly, low income is not the only barrier to consumption that must be addressed.

Nevertheless, the Food Stamp Program, with its influence on the food consumption of almost 1 in 12 Americans, offers an important opportunity for promoting healthful food choices. The success of proposed policy changes rests on their effectiveness in creating the intended changes in consumer behavior. The ERS research summarized in this folder can guide policymakers, program officials, and health and poverty advocates in assessing the likely effects of proposed policies. Ongoing ERS research and evaluation activities can also provide decisionmakers with feedback on the outcomes of policy changes.

Information Sources

Casagrande, S.S., Y. Wang, C. Anderson, and T.L. Gary. "Have Americans Increased Their Fruit and Vegetable Intake? The Trends between 1988 and 2002," *American Journal of Preventive Medicine* 32(4):257-63, April 2007.

Fox, Mary Kay, and Nancy Cole. *Nutrition and Health Characteristics of Low-Income Populations: Volume I, Food Stamp Program Participants and Nonparticipants*, E-FAN-04-014-1, U.S. Department of Agriculture, Economic Research Service, December 2004, available at: <http://www.ers.usda.gov/Publications/efan04014-1/>.

Just, David R., Lisa Mancino, and Brian Wansink. *Could Behavioral Economics Help Improve Diet Quality for Nutrition Assistance Program Participants?* Economic Research Report No. 43, U.S. Department of Agriculture, Economic Research Service, June 2007, available at: <http://www.ers.usda.gov/Publications/err43/>.

LeBlanc, Michael, Biing-Hwan Lin, and David Smallwood. "Food Assistance: How Strong Is the Safety Net?" *Amber Waves* 4(4):10-15, September 2006, U.S. Department of Agriculture, Economic Research Service, available at: www.ers.usda.gov/amberwaves/september06/features/foodassistance.htm.

U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. *The Thrifty Food Plan, 2006*, CNPP-19, available at: <http://www.cnpp.usda.gov/Publications/FoodPlans/MiscPubs/TFP2006Report.pdf>.

Ver Ploeg, Michele, Lisa Mancino, and Biing-Hwan Lin. "Food Stamps and Obesity: Ironic Twist or Complex Puzzle?" *Amber Waves* 4(1):32-37, February 2006, U.S. Department of Agriculture, Economic Research Service, available at: <http://www.ers.usda.gov/Amberwaves/February06/Features/Feature4.htm>.

Can Food Stamps Do More To Improve Food Choices? An Economic Perspective

Briefs in This Series

- ***Overview: Can Food Stamps Do More To Improve Food Choices?***
Joanne F. Guthrie, Biing-Hwan Lin, Michele Ver Ploeg, and Elizabeth Frazao
- ***Stretching the Food Dollar: Regional Price Differences Affect Affordability of Food***
Ephraim S. Leibtag
- ***High Cost of Food in Some Areas May Affect Food Stamp Households' Ability To Make Healthy Food Choices***
Mark Nord and Heather Hopwood
- ***Food Spending Patterns of Low-Income Households: Will Increasing Purchasing Power Result in Healthier Food Choices?***
Elizabeth Frazao, Margaret Andrews, David Smallwood, and Mark Prell
- ***How Do Low-Income Households Respond to Food Prices?***
Biing-Hwan Lin and Joanne F. Guthrie
- ***Nutrition Information: Can It Improve the Diets of Low-Income Households?***
Joanne F. Guthrie and Jayachandran N. Variyam
- ***Making Healthy Food Choices Easier: Ideas From Behavioral Economics***
Lisa Mancino and Margaret Andrews
- ***How Can We Tell If We Are Making a Difference? ERS Efforts To Improve Evaluation of Nutrition Outcomes***
Elizabeth Frazao, Joanne F. Guthrie, and David Smallwood
- ***Improving Food Choices—Can Food Stamps Do More?***
Joanne F. Guthrie, Elizabeth Frazao, Margaret Andrews, and David Smallwood
(Reprinted from *Amber Waves*)

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and, where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.
