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Extension's Role in the United States' Campaign to Reduce Food Waste

Abstract

Extension can play a role in the United States' campaign to reduce consumer food waste by 2030. Food waste exists alongside food insecurity and affects individual households, agriculture, and the environment. Addressing food waste through a food systems approach requires involvement from Extension experts in family and consumer sciences, agriculture, environmental health, community development, policy, research, and education. Understanding the magnitude of and reasons for consumer food waste in the United States helps educators address this complex issue. By changing how people think about and manage food and food waste, Extension can have a significant impact on future generations.

Keywords: food waste, climate change, food insecurity, food systems, food safety

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Introduction

Approximately 40% of the United States' food supply is never eaten, and this figure reflects an increase of 50% since the 1970s (Reich & Foley, 2014). Food waste is an emerging global issue that spans the food system from agricultural production to purchase, consumption, and disposal. All involved parties need to make better use of the food that is produced by wasting less of it.

In September 2015, the U.S. Department of Agriculture (USDA) and Environmental Protection Agency (EPA) collaborated to issue their first food waste reduction goal: for the United States to reduce food waste at the retail and consumer levels by 50% by 2030 (Gunders, 2015). Applying a food systems approach to this challenge is logical as all steps involved in producing, distributing, and consuming food relate to the issue of food waste. As the community education outreach arm of the National Institute of Food and Agriculture, an agency of the USDA, Extension is the ideal organization to promote the reduction of food waste. The comprehensive nature of a food systems approach to reducing food waste lends itself to the expertise of

Extension professionals in family and consumer sciences, agriculture, environmental health, community development, policy, research, and education (Morgan & Fitzgerald, 2014). And with its broad scope, Extension reaches all segments of the population having an impact on food waste in the United States.

The Food Waste Issue

The issue of food waste is complex and influences all areas of the food chain. Consumer food waste is the largest contributor to the food waste issue (Reich & Foley, 2014), which explains why the aforementioned USDA Food Waste Challenge focuses on retail and consumer food waste. A discrepancy between people's growing awareness of the food waste issue (Qi & Roe, 2016) and their personal behaviors suggests that many do not think when making food-related decisions about the impacts on even their own households, let alone retailers, agricultural producers, the environment, and so on.

Consumers interact with food at various stages that can influence food waste, including the prepurchasing, purchasing, consumption, and disposal stages (Block et al., 2016). Various factors influence decision making at each stage, and that decision making can have ripple effects. For example, consumers prefer "perfect" foods and expect such from retailers. If a food has imperfections, they expect the retailer to charge less or they will not purchase it (Aschemann-Witzel, de Hooge, Amani, Bech-Larsen & Oostindjer, 2015). Some of these "imperfect" foods may pose a food safety risk, such as when the food surface is broken and thus the risk for growth of pathogens is increased (Snyder, Shumaker, & Nelson, 2018). In general, however, consumers' preference for "perfect" foods results in retailers' wasting large amounts of acceptable food. Or retailers may refuse to purchase certain goods from producers in the first place. Thus the stringent standards for "perfect" foods influence the agricultural community in that farmers experience food loss because they cannot sell to retailers produce that fails to meet quality or size requirements (Campbell & Munden-Dixon, 2018).

Many Americans live in a culture of food abundance in which they buy more food than they can use because it is cheap and readily available. Consumers may not track foods stored at home and, consequently, may purchase duplicate items. Shoppers also may overestimate the amount of perishable food that can be consumed in a short time. Both duplicating purchases and overestimating the potential for consumption lead to household food waste (Aschemann-Witzel et al., 2015; Block et al., 2016). In addition, consumers are quick to buy foods in bulk to save money but often waste food and money when unused portions of such foods are thrown out (Block et al., 2016).

Consumers justify household food waste by linking it to the need for food safety and freshness (Qi & Roe, 2016). This circumstance relates to consumers' confusion about date information on food labels, such as sell-by, expiration, and use-by dates (Aschemann-Witzel et al., 2015; Block et al., 2016; Qi & Roe, 2016). They perceive food to be unsafe and potentially hazardous if eaten after the label date. Although ready-to-eat refrigerated foods, such as deli meats, should not be consumed after the "use by" date as the risk for food poisoning is much higher (Snyder et al., 2018), many foods are still safe to eat after a date shown on a label. Date labeling is provided voluntarily by food manufacturers and is not required by the Food and Drug Administration except for infant formula. Varied phrases are used for dating on food labels because no uniform or universally accepted descriptions exist (U.S. Department of Agriculture [USDA], 2018). Such ambiguity results in consumers' confusion regarding food safety. The average family in the United States loses approximately $1,500 each year from household food waste (Gunders, 2015). This statistic prompts

one to imagine the wasted food in the country feeding hungry people in our communities.

The first stage of the food chain is agricultural production, and as noted, consumer behaviors have impacts as early as this stage. Producers may use the term *food loss* rather than *food waste* as much edible food that is never harvested or is lost between harvest and sale is reused as compost, as animal feed, or for other purposes and is not wasted (Campbell & Munden-Dixon, 2018). In fact, farmers in Campbell and Munden-Dixon's (2018) study estimated food waste as less than 10% of their crops and believed that the processing and retailing sectors had more food waste than farms. The farmers in the study also shared that most of the factors affecting food loss are out of their control, including weather, labor supply, pests, and market dynamics (Campbell & Munden-Dixon, 2018)—the very factors that can lead to the "imperfect" foods scenario described previously.

Beyond effects on households and the agricultural community, food waste results in environmental impacts as well. A main concern is the impact of food waste on climate change. Consumer food waste, which comprises 61% from households and the remaining proportion from food establishments, is the largest component of municipal solid waste in landfills, where it creates methane, a potent greenhouse gas (Reich & Foley, 2014). Environmentalists believe that this methane gas is a contributor to climate change globally.

Extension Opportunities

The Extension community must create a shift in how people think about and manage food and food waste in the United States. With its Food Waste Challenge, the USDA is leading the charge to address food waste at retail and consumer levels, including in grocery stores, restaurants, food manufacturing facilities, and universities and schools (USDA, 2013). It is logical that Extension educators intervene at the producer level, working with farmers to help them decrease food waste by donating leftover food to local food pantries and food banks and establishing processes for the gleaning of excess crops. Indeed, many farmers already donate leftover food to local food banks, regarding such donation as a charitable contribution (Campbell & Munden-Dixon, 2018). Additionally, some farmers have formal and informal gleaning relationships in their communities. However, farmers are more likely to participate in gleaning efforts if volunteers are trained and there is no liability to the farmers themselves (Campbell & Munden-Dixon, 2018). Extension also can collaborate with local food councils to educate local restaurants, schools, and institutions on how to donate leftover food to community food pantries, soup kitchens, and food banks. Another opportunity for Extension involves enlisting master gardeners in educating the public about composting food to decrease the amount of food waste going into landfills.

The bottom line, however, is what happens at home. Consumers are becoming more aware of this complex issue as evidenced by research by Qi and Roe (2016) indicating that more than 50% of Americans surveyed had an awareness of food waste and the need to reduce it. In spite of this increased awareness, consumers do not seem to be connecting the global issues related to food waste with their personal food waste behaviors. This gap opens the door for many opportunities for consumer education on meal planning, food preparation, and use of leftovers through established Extension-based programs such as the Expanded Food and Nutrition Education Program and Supplemental Nutrition Assistance Program Education. In addition to Extension's providing these educational programs, family and consumer sciences Extension educators can teach consumers how to preserve food safely so that they do not waste food. Extension 4-H and youth educators can highlight the issue of food waste with youth through public speaking competitions, food

preservation classes, and community volunteer efforts involving working at local food banks or gleaning at local farms. It is important to clearly convey to all consumers the message that every action makes a difference. Through these efforts, we in Extension can increase our audiences' awareness of the need to decrease food waste and the impact that doing so can have on the future of our world.

Conclusions

Food waste is a complex issue that has deep roots connected to all areas of Extension. The USDA and EPA launched a challenge for Americans to make a difference in their food waste behaviors by 2030. It is time for Extension to move this challenge forward by sharing the message of reducing food waste with our participants in all areas of Extension across the country. Many states already have stepped up to this challenge and created programs related to food waste reduction. Now is the time to prioritize participation by all states in this national challenge. If we can change how people think about and manage food and address food waste in the United States today, we can have a significant impact on future generations.

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