

HOW MUCH GOES WHERE?**THE CORNER
ON FOOD LOSS**

We need to understand what food is, why the loss rate surpasses \$90 billion per year, and what needs to be done to stop this significant negative impact on the national economy.

Timothy W. Jones

OVER the last eight years, I have been conducting Contemporary Archaeology studies on the American food system with a focus on food losses. Food loss is a poorly recognized but gargantuan issue costing the American economy at least \$100 billion annually. Scraping the leftovers from the dinner plate into the garbage is just a tiny fraction of the problem. What's really at issue is a lack of understanding of what food is and its place in our culture, and why it is time to address it as a nation.

Nearly a decade ago my colleagues and I began a study to measure food loss in the United States looking at how food is harvested, processed, stored, distributed, consumed and discarded. The study is only one bite of a very big apple into the food loss issue.

I'm a contemporary archaeologist in the Bureau of Applied Research in Anthropology (BARA, for short) at the University of Arizona. Contemporary archaeologists study modern materials, uncovering the who, what, when, where, why and how much about material use with traditional archaeological techniques and concepts. By weighing and voluming materials, we measure actual material use rather than rely on indirect measures or questimates of use. In addition to actual measures, we observe the material in its context of use and conduct ethnographic interviews and discussions to discover the users' perceptions of material. The outcome is scientifically documented material use in conjunction with explanations for that use based on an understanding of social and cultural variability.

You might ask, "Why do we have to do archaeological studies in contemporary society. Why don't we just ask people what they do and measure material use that way?" There has been much research showing that information about behavior derived from the study of modern materials can provide different information than that derived from interview and questionnaires. People report far wider varieties and type of behavior than is actually measured archaeologically since their perceptions and realities are more likely to influence their reported behavior than their actual behavior.

FRESH VEGETABLES, FAST FOOD**AND HOME KITCHENS**

We started in the Salinas Valley in California, the nation's primary center for growing and processing fresh vegetables; apple country in Washington and Oregon; and Florida's orange growing region. We then moved into the retail food sector, including fast food, traditional restaurants, supermarkets and convenience stores, and finally to the kitchen.

What we discovered was a loss rate roughly twice what most people guessed. Retail sector losses are nearly \$30 billion (almost \$20 billion in fast food alone), \$20 billion in the farming industry and more than \$40 billion in households. These are conservative estimates based on the areas we studied.

Food loss represents a significant drain on the American economy particularly since more than half of these losses could be stopped easily and economically. The result would increase profits in fast food and convenience store companies by at least 5 percent, save farms and fresh fruit and vegetable processors billions and could add another \$200 to \$300 a year to the budget of each American household — an effect greater than the Bush administration's tax cuts. And there are other benefits: more jobs, energy savings, less environmental degradation, and others.

It takes land, fertilizer, water, soil nutrients, pesticides, herbicides, fuel and labor to produce our food. The waste of precious energy resources (fertilizer, many pesticides and herbicides, diesel and gasoline are produced from oil) is staggering, and at these levels are not sustainable, either from a resource efficiency or an economic perspective.

POTENTIAL SECURITY THREAT

Besides keeping 40 to 50 percent of the harvest from ever reaching our mouths, food loss also represents a potential threat to America's security. An example might be a disruption to a key point in the distribution system for fresh fruits and vegetables. Creating a choke point in just one city could put tens of millions of people at risk. Methods to reduce losses could extend perishable food supplies by a month or more buying precious time while new supplies could be developed and supply lines cleared.

The specific behaviors and processes that

create food loss vary depending on the food sector. Some industries have already thought about this and become very efficient. Others don't have a clue.

Much deeper underlying issues, though, create those less efficient behaviors and processes. Americans, even those in the food industry, are not aware of these losses. Fast food companies lose more than twice as much food as they calculate in their shrinkage figures. Many households report almost no food loss, although I watched couples trash plates of food while telling me that they did not waste food.

Tackling the food issue is a "win, win" situation for all Americans. With the next issue I will begin to detail food losses starting on the farm. ■

Dr. Timothy Jones is at the Bureau of Applied Research in Anthropology, University of Arizona in Tucson.