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Analysis of Produce Related Foodborne Illness Outbreaks

Commissioned by the Alliance for Food and Farming
January 2010

Introduction and Background:

This report was commissioned to analyze data associated with foodborne illness outbreaks and produce. The report analyzes the likely source of an outbreak and divides the data into two categories: 1) outbreaks associated with the growing, packing, shipping or processing of produce 2) outbreaks associated with improper handling of produce after leaving the farm or shipping facility.

The analysis was done to provide the produce industry with better information about foodborne illness outbreaks. While other reports have examined similar data, the Alliance's analysis is unique because it identifies where the contamination occurred to provide needed perspective and information for farmers, retail chains, restaurants and consumers.

While we all share in the responsibility of food safety throughout the food chain, it is understood that providing safe food must start on the farm. While percentages of on-farm contamination remains relatively low, the produce industry must continue to make strides toward improvement. Two percent is still too high. We must work to get that percentage to zero.

Data analyzed for this report included:

1. The CDC U.S. Foodborne Disease Outbreaks Report Annual databases for 1996-2007
2. The CDC U.S. Foodborne Disease Outbreaks Report Searchable database 1990-1995



Key Findings:

Approximately 12.3 percent of all foodborne outbreaks from 1990 to 2007 were associated with produce. Of that, 10% were associated with improper handling after leaving the farm and 2.2% were associated with the growing, packing, shipping or processing of produce.

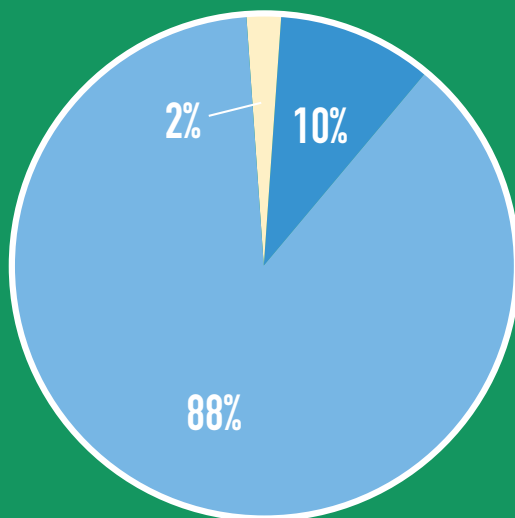
The report also analyzed the percentage of illnesses that are associated with produce-related outbreaks. In that analysis, 21.9 percent of all foodborne illnesses were associated with produce. Of that, 15.8 percent were a result of improper handling after leaving the farm and

6.1% of illnesses were associated with the growing, packing or shipping of produce.

Foods items other than produce caused 87.7% of the outbreaks or 78.1% of the foodborne illnesses from 1990 to 2007.

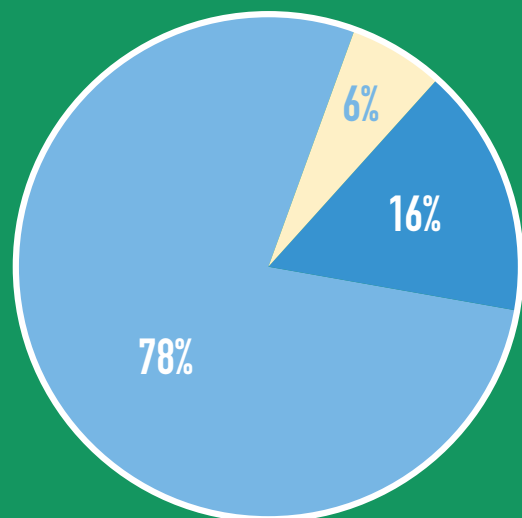
Again, emphasis must be placed upon reducing further the incidents of on-farm contamination. Through applied research, continued and increased diligence on behalf of farmers and shippers and increased oversight, on-farm microbial contamination can be further mitigated.

1990 – 2007
All Outbreaks of Confirmed Etiology



- Produce related outbreaks associated with growing, packing, shipping, or processing
- Produce related outbreaks associated with improper handling after leaving the farm
- Other foodborne related outbreaks

1990 – 2007
All Illnesses of Confirmed Etiology



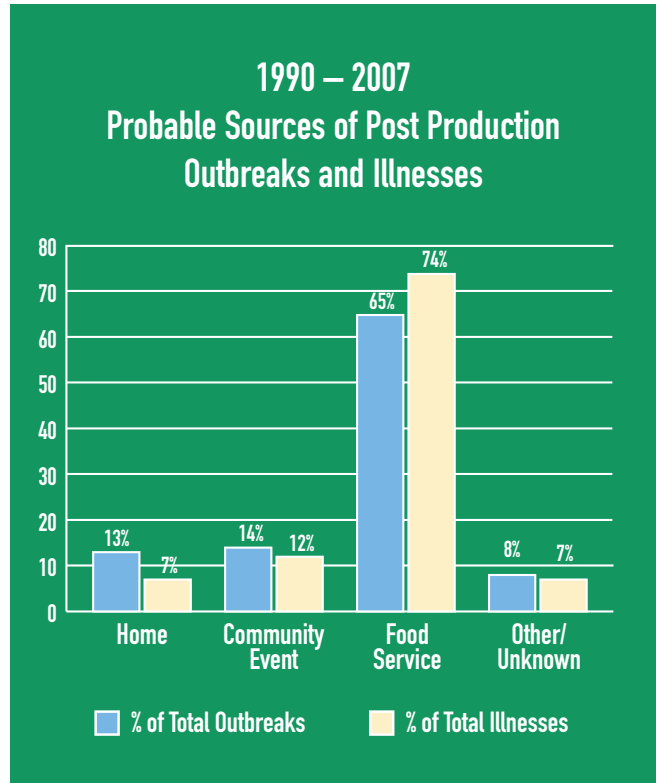
- Produce related illnesses associated with growing, packing, shipping, or processing
- Produce related illnesses associated with improper handling after leaving the farm
- Other foodborne related illnesses

In cases where it was not reasonably certain, the default category was "the growing, packing, shipping or processing of produce."

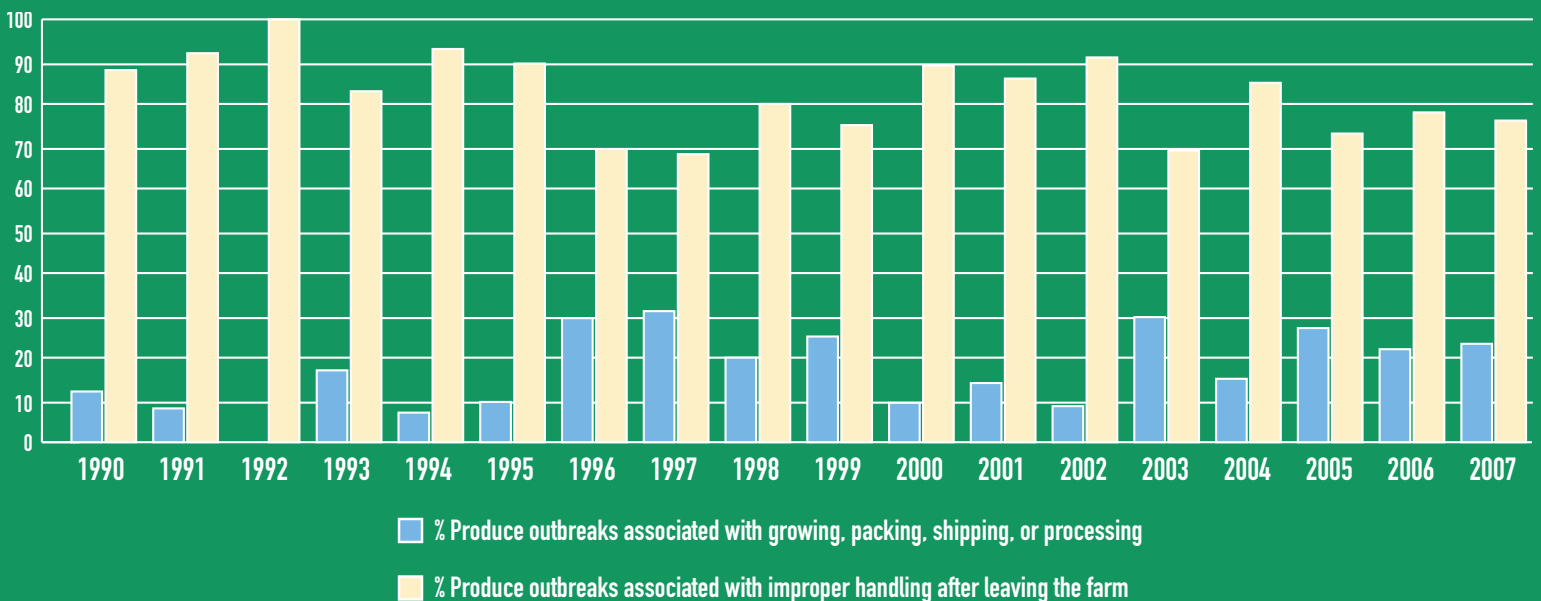
Key Findings:

The vast majority of foodborne illness outbreaks associated with produce contaminated after leaving the farm is attributed to mishandling at the foodservice level (65% of outbreaks and 74% of illnesses). This is followed by mishandling at community events (14% of outbreaks) and mishandling in the home (13% of outbreaks).

These statistics underscore the importance of vigilance at all levels of the food chain. Along with efforts on the farm, efforts to reduce microbial contamination of produce at both the foodservice and consumer levels must also be enhanced and improved. With the majority of produce being consumed in a raw form, diligence by restaurants and by consumers must be emphasized if we are to reduce the incidents of foodborne illness.



Produce Associated Outbreaks Comparing Farm to Post Production



Produce Associated Illnesses Comparing Farm to Post Production



Summary and Recommendations:

Fresh produce comes from multiple sources and countries depending on weather and the season. It is often widely distributed and eaten without further processing. Since fresh produce is often not cooked before consumption, it is susceptible to contamination and must be handled carefully at all levels, including the farm, the shipper, the processor, foodservice operators, retailers and consumers.

It is important to note that no health official is recommending that consumers stop or reduce consumption of fresh fruits and vegetables. In fact, consumers should be encouraged to eat more fresh produce both in the home and when eating out. However, the report findings show that both consumers and restaurant employees need more training and education on proper handling to avoid cross contamination with fresh produce. Consumer groups and restaurant trade associations involved in efforts to reduce foodborne illnesses and

outbreaks may want to consider expanding food safety education and outreach efforts regarding the safe handling of fresh fruits and vegetables. These groups could also consider providing increased support for food safety education programs like FightBac.

Regarding agriculture, it is important to reduce any on-farm incidents of foodborne outbreaks and industry must continue its efforts to implement processes which have been successful in reducing on-farm risks. Agricultural associations and organizations must continue to conduct research, implement food safety programs, and prioritize outreach education for farmers, shippers and processors. Further the agriculture industry must support education programs, like FightBac, for the foodservice industry and consumers to encourage and promote the safe and careful handling of fresh fruit and vegetables after leaving the farm.

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