safe plates

HOME DELIVERED FOODS & MEAL KITS

While the popularity of home delivered foods and meal kits is increasing, few details are known about the journey of these packaged foods from when they leave the vendor to when the foods are delivered and prepared in consumer homes. Gaining a better understanding of the journey of these packaged foods would identify opportunities for providing safer foods to consumers and higher customer satisfaction. Our team evaluated 12 different vendors that deliver meal kits, ready-to-eat meals, or perishable foods via a delivery service such as FedEx. We placed three orders from each vendor over the course of a month. Each order contained identical meals/menus resulting in a total of 72 deliveries for evaluation. Our team evaluated several variables to establish baseline performance levels and targets for vendors across categories.

Temperatures are an important aspect of food safety. Storing perishable foods below 40°F limits the growth of bacteria, so our team evaluated several temperature readings and factors that could influence temperatures as part of this investigation.

KEY FINDINGS

Out of 12 Companies

- 10 companies shipped boxes with at least 1 item above 40°F
- 7 companies shipped boxes with at least 1 fruit/vegetable product above 40°F
  - 5 of these companies had all deliveries above 40°F
- 6 companies shipped boxes with at least 1 meat/poultry product above 40°F
  - 1 of these companies had all of their deliveries above 40°F
- 55 of the 72 boxes shipped with at least one product over temperature at the time of opening

Coolants Can Make a Difference

- 2 companies shipped with dry ice and 10 used gel packs as coolants
  - 17% of deliveries using dry ice had at least 1 item above 40°F
  - 93% of deliveries using gel packs had at least 1 item above 40°F
- 100% of deliveries containing 2kg or less of gel packets had at least 1 item above 40°F, yet 90% of deliveries containing 6kg or more of gel packets had at least 1 item above 40°F
- More analysis is needed to determine if there is a 'sweet' spot for weight, cost effectiveness, and amount of coolant.

Transit Times Also Make a Difference

- Deliveries with travel time of 20 hours or less had the lowest average box temperatures (16.2°F) and those with transit times of 40 hours or more had the highest average box temperatures (58.9°F)

KEY TAKE-AWAYS

Most deliveries in this study contained items above 40°F, but what is not known is how long each item was at a specific temperature. For example, a chicken cutlet registered at 41°F. How long was this cutlet at this temperature–for 10 minutes? For 60 minutes? The answer to this question is important for food safety. At present, consumers are left to trust the design, packaging, and shipping policies of the vendor and delivery companies and, given the high temperatures noted in this project, this seems like a risky practice. Box by box monitoring of temperatures–including times at specific temperatures–would provide more accurate information related to food safety and increase consumer confidence in the direct-to-consumer delivery process of food items.