

Laboratory Requirements and Learning Objectives

Outbreak Investigation (2-5 class periods)

Laboratory Requirements:

None

Learning Objectives:

- Understand what constitutes an outbreak
- Recognize the value of an epidemic curve and learn how to interpret one
- Understand the role of bacteria in foodborne illness
- Calculate and understand relative risk
- Analyze DNA fingerprints
- Form and test hypothesis

Food Irradiation (2 class periods)

Laboratory Requirements (for each group):

- 5 petri dishes containing nutrient agar
- sterile cotton swabs
- Bacterial cultures such as *Serratia marcescens* or *Bacillus subtilis*
- ultraviolet light
- incubator

Learning Objectives:

- Understand basic concept of food irradiation
- Practice evaluating consequences
- Form and test hypothesis
- Explore issues related to food irradiation

Processor's concerns (1 class period)

Laboratory Requirements (for each group):

- 10 small containers
- Cheerio-type cereal
- Fruit loop – type cereal

Learning Objectives:

- Understand role of processor in food safety
- Recognize microbiological challenges facing processors
- Determine and evaluate testing protocols