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Guidelines for Submission of Food Samples for Bacteriological Analysis of Food Borne Disease Outbreaks

General Guidelines:

1. For samples to be analyzed on Oahu, call the Biological Response Section (BRS), Laboratory Preparedness and Response Program (LPRP) Microbiologist IV (if not available, call LPRP Manager at 453-5993) at 453-5984 or 554-9992. For samples to be analyzed on the neighbor islands, call the respective District Health Laboratory Administrator¹. Prior to the submission of the samples, provide the laboratory with the following information:
 - a. Type of sample(s)
 - b. Number of samples to be submitted.
 - c. Type of analysis (target organism, Staphylococcal Enterotoxins)
 - d. If the sample is a “mixed plate”, indicate if the component foods are to be analyzed separately or if they may be commingled.
 - e. If the sample is an opened package, indicate if a parallel unopened package of the same lot will also be submitted.
 - f. If the sample is partially eaten, indicate if a parallel sampling of ingredients from the establishment will also be submitted. If so, indicate how many ingredients will also be collected.
 - g. Indicate date and time of *expected* arrival in the laboratory.

All District Health Laboratories have the capability to analyze for *Staphylococcus aureus*, *Bacillus cereus* and *Clostridium perfringens*. If necessary, the laboratory will remove the appropriate aliquot of the sample for analysis and forward the remainder to Maui or Oahu for additional analysis. The Maui District Health Laboratory, in addition to the three organisms listed above, can analyze for *Salmonella* and *Shigella*. *E. coli* O157:H7 will be added by the end of 2003. Until then, please call the Maui District Health Laboratory prior to submitting samples for *E. coli* O157:H7 analysis. All samples collected from Molokai and Lanai will be analyzed at the Maui District Health Laboratory for the organisms listed above. BRS will analyze all food samples collected on Oahu and perform analyses for analytes that are not available on the neighbor islands such as, *Salmonella* spp., Staphylococcal Enterotoxins (SET), *E.coli* O157:(H7), *Listeria monocytogenes*, and, *Shigella* spp.

2. Use sterile technique for collecting bacteriological samples. Avoid unnecessary handling.
3. Mix and shake liquid food before a representative sample is taken.
4. Submit food in their original containers, if feasible.

- a. Original containers will not be returned.
 - b. SLD can provide sterile sample containers (whirl pack bags or bottles) and collection utensils (spoons, forks, forceps, gauze swabs, disposable scoopers) upon request. Prior notice will be required.
5. Collect 200 – 500 grams (1/2 to 1 lb.) of solid sample or 200 – 500 ml (1/2 pint to 1 qt.) of liquid sample. A minimum of 25 grams is acceptable for food types implicated in an outbreak.
- a. Be sure a sample representative of the entire lot in question is collected.
 - b. If the total available sample is less than that specified above, *collect all of it*.
 - c. The sample amounts specified above are needed *per exam*. If more exams are requested, a proportionately larger quantity of sample will be needed.
 - d. If amount of sample is inadequate, call the LPRP/BRS Microbiologist IV at 453-5984 or 554-9992 (or neighbor island District Health Laboratory Administrator).
 - e. Samples recovered from the trash, or are otherwise obviously compromised (such as those infested with roaches, ants or other insects) will not be accepted by the laboratory for bacteriological analysis as the results may not accurately indicate the causative agent of the illness. The laboratory reserves the right to reject any samples deemed unfit for bacteriological analysis.
 - f. If possible, the investigator should collect or supervise the collection of samples to ensure that the samples collected are appropriate for the analysis requested, the proper amount is collected and that the sample is collected properly (aseptically). If DOH personnel are unavailable for sample collection, these procedures should be thoroughly explained to the collector. In addition, the investigator should explain proper packaging and transport procedures and how to properly fill out the required paperwork, including the chain of custody.
6. Record all pertinent information.
- a. If items in a sample are to be tested individually, each item should be identified individually.
 - b. Information on the condition of the food sample should be included (fresh, refrigerated (for how long?), frozen (for how long?) history of the food (refrigerated as soon as possible or left out at room temperature for several hours prior to refrigeration).
 - c. Information on the outbreak (how many people involved, incubation period, symptoms, etc.)
 - d. Whether or not clinical specimens will also be submitted to Medical Microbiology Branch.
7. Label each container, package, or tube appropriately.

8. Pack each sample appropriately for transport to the laboratory. Transport in a cooler on blue ice. If shipment via commercial air carrier is required, ensure that the samples are properly packaged and labeled.
9. Enclose the original Sample Collection Report Form.
 - a. Form should be completely and correctly filled out by authorized DOH personnel.
 - b. For chain of custody purposes, all signatures must be made on the original form. Everyone gaining physical custody of the sample must sign, date and document the time on the chain of custody form upon sample receipt and upon relinquishment.
 - c. If additional forms are submitted to the laboratory to provide supplemental information related to the case, the form should be labeled as an addendum or amendment to the case reference (Epi Log) number to avoid any confusion.
 - d. If the sample is to be split between laboratories, the original chain of custody (Sample Submission Form) will accompany the sample. If a laboratory is to remove an aliquot of the sample and forward the remainder to another laboratory, the forwarding laboratory's final report will be submitted on a separate sheet referencing the Epi Log number.
10. Samples should be delivered directly to the BRS laboratory for samples analyzed on Oahu and be physically relinquished to laboratory personnel. Samples should not be left unattended and should not be left at the Medical Microbiology Branch receiving area.
11. All *Listeria*, *Staphylococcus* and Enteric isolates recovered from food borne outbreaks analyzed on Oahu will be submitted to the PFGE laboratory. Isolates from the neighbor island laboratories will be handled on a case by case basis and will be coordinated amongst the submitting laboratory, the PFGE laboratory and DOCD investigator. Requests for PFGE analysis to neighbor island laboratories must be made at the time of sample submission.
12. After analysis, all food samples will be kept by the laboratory for a maximum of one month subsequent to the submission of the final report, after which they will be discarded.

Some Comments:

In some instances, SLD has been requested to test a single sample (a single food type) during the initial call, but upon arrival at the laboratory, the sample contains multiple food items which the investigator later requests to be analyzed individually. Please determine whether a sample is to be tested individually or may be tested as a single unit prior to shipment to the laboratory, as the number of samples will determine the amount of media and reagents will be needed.

It is the policy of the SLD, LPRP/BRS to adhere to proper chain of custody protocol. This means that everyone gaining physical custody of the sample from initial collection to final delivery to the laboratory (BRS) must sign the sample into custody (with the date and time) and must sign upon relinquishment (with date and time). As a general rule, all signatures should be made on the original form. No original signatures should be made on a copy of the original form. A faxed copy of the "Specimen for Examination form" (which is also being used as the chain of custody form) does not constitute proper chain of custody.

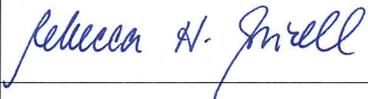
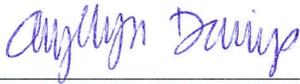
Oahu samples are NOT to be left unattended at the MMB receiving area or the SLD reception desk. All food samples must be delivered directly to BRS. If a courier service is to be used, the courier should be instructed to deliver the samples directly to BRS or should ask the SLD receptionist to call the BRS food laboratory to retrieve the sample. The courier should wait for laboratory personnel to receive the sample and sign it into custody. Occasionally, samples are just left at MMB (for who knows how long). When this occurs, the analysis is delayed. The chain of custody is also no longer valid. Chain of custody protocol requires that anyone gaining physical custody of the sample (including the courier) sign the sample into custody when receiving the sample and signs off when the sample is relinquished. The receiver must sign the sample into custody (someone must physically take possession of the sample).

The neighbor island District Health Laboratories will analyze samples for *Bacillus*, *Staphylococcus aureus* and *Clostridium perfringens* from their respective jurisdictions. **The appropriate aliquot will be removed for analysis by that laboratory before the sample is forwarded to Maui or Oahu, if necessary for other analyses.** The Maui District Health Laboratory will analyze food samples from all the neighbor islands for *Salmonella* and *Shigella* (*E. coli* O157:H7 will be added by the end of 2003). BRS will analyze all others. Staph Enterotoxin analysis will be performed at BRS; however, the Staph isolation and culture will be performed by the appropriate District Health Laboratory.

If necessary, Sanitation and Food and Drug Branches should be consulted for proper sample collection methods.

The laboratory results are only as good as the samples that are submitted. If there are any questions regarding sample submissions, please ask the laboratory.

REVIEW/REVISION LOG
Guidelines for Submission of Food Samples for
Bacteriological Analysis of Food Borne Disease Outbreaks

	SIGNATURE	PRINTED NAME	DATE
Revised / Adapted by:		Rebecca H. Sciulli, MS, MT LPRP Manager	5/25/2017
Validated by:		Cheryl-Lynn Daquip, M(ASCP) ^{CM} Microbiologist IV	5/25/17
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Retirement date:				
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Circle one	SIGNATURE	DATE	DESCRIPTION OF CHANGE*
Reviewed/Revised	Rebecca H. Sciulli, MS, MT LPRP Manager		
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*Indicate “annual review, no changes” if appropriate.