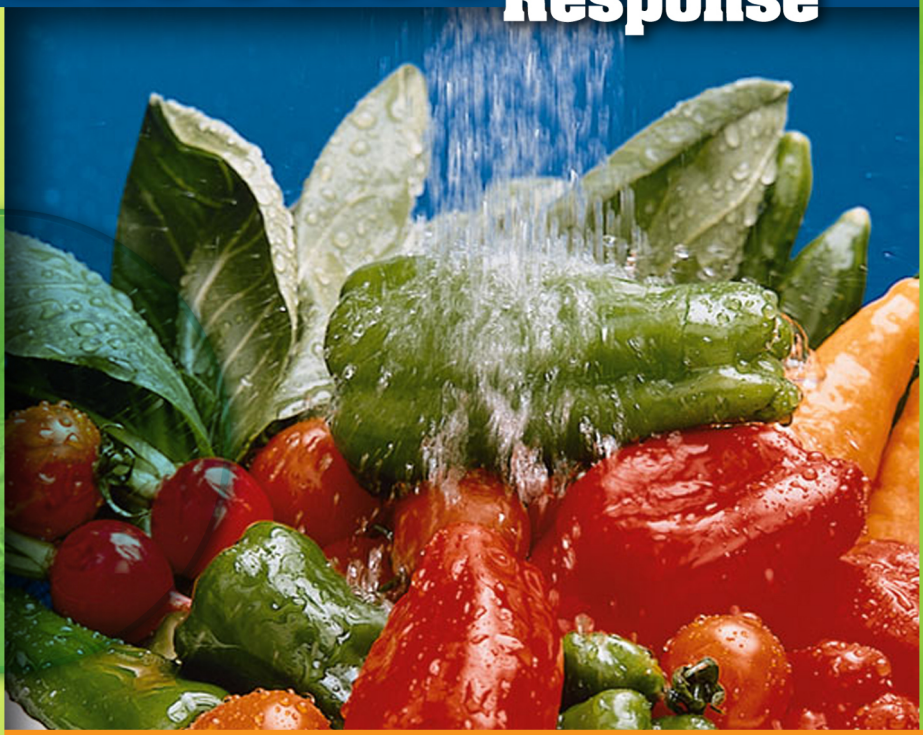
Layman's Guide to Food and Water-Borne Disease Outbreak Response



Prepared by
Antimicrobial Resistance Surveillance Reference Laboratory Staff
Research Institute for Tropical Medicine, Department of Health

With Contributions from
Department of Agriculture, Department of the Interior and Local Government
and Other agencies of the Department of Health

Supported by a grant from the World Health Organization & the
National Center for Disease Prevention and Control (Department of Health)

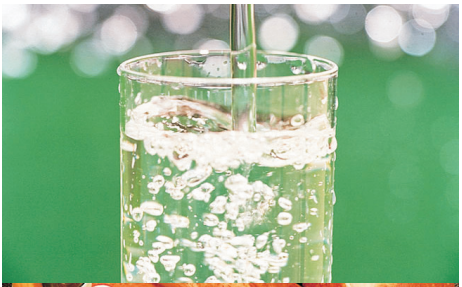
TABLE OF CONTENTS

INTRODUCTION

This guide is a simplified version of the "Manual of Procedures for the Surveillance and Outbreak Investigation of Food and Water-borne Disease" which focuses on outbreak response and is intended for use by lay persons. It describes the roles that lay persons may take in an outbreak investigation recognizing the fact that lay persons generally represent consumers who are usually the first to suspect the occurrence of a foodborne disease outbreak. Consumers are also one of the major stakeholders in food safety. In order to assist consumers, this guide lists the contact details of pertinent government agencies from which consumers can request assistance in cases of suspected outbreaks. It also provides guidelines on how to properly collect specimens from patients and suspected food or water vehicles to allow identification of microbial agents causing the outbreak. **Identification and subtyping of microbial causes of foodborne disease outbreaks is very important because while epidemiology can implicate vehicles and guide appropriate public health action, laboratory evidence can clinch the findings.** Identification of the same microorganism subtype from a suspected food or water source with the human specimen may incriminate the food as the responsible vehicle for the outbreak. For in-depth information on outbreak investigation, one may get in touch with the agencies referred to in the Manual.

This lay guide focuses on the microbial agents of food and water-borne diseases and does not cover other causes of food contamination such as chemicals and toxins.

Why is it important for lay persons to understand food and water-borne disease (FWBD) outbreaks?



It is important that lay persons understand food and water-borne disease outbreaks because outbreaks are important causes of morbidity and mortality in humans. Likewise, lay persons should also understand the role they may play in response to a food and water-borne disease outbreak because they can significantly contribute to a better investigation of such an occurrence.

Why is it important for lay persons to recognize their role in food and water-borne disease outbreak response?

Antimicrobial Resistance Surveillance Reference Laboratory

When a health authority in an area (usually the municipal health officer) is able to identify an outbreak, he initiates procedures to set up an outbreak response group known as Epidemic Investigation and Control Team (EICT). The EICT then coordinates all activities that are conducted during the outbreak investigation.

However, it is often the case that an increase in the occurrence of a disease above the expected or baseline level (suspected outbreak) comes to the attention of lay persons before it reaches the health authorities. It is likewise acknowledged that in the Philippines, it is a reality that quite a significant number of localities are not within immediate reach of health authorities. Thus, **lay persons** can significantly contribute in the **recognition** and **reporting** of a possible outbreak when properly educated about it. Further, their assistance may prove to be invaluable in the initial clinical management and **collection of appropriate specimens from patients and the suspected food or water source**.

Frisno Photostream, Flickr

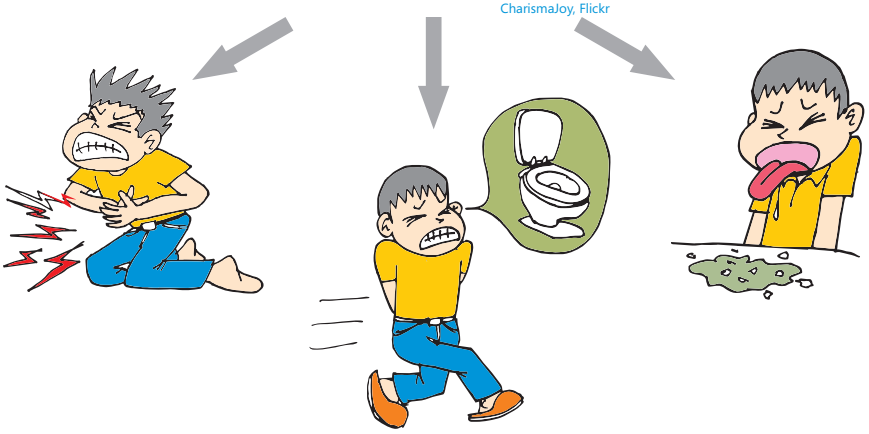
What is an Outbreak?

An outbreak is defined as "the occurrence of cases of a disease (illness) above the expected or baseline level, usually over a given period of time, in a geographic area or facility, or in a specific population group."

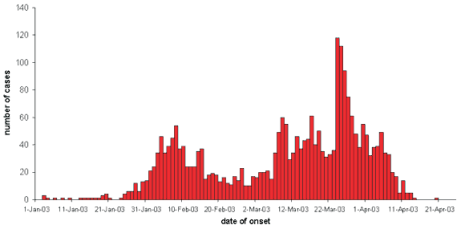
What is a food-borne or water-borne disease outbreak?

A food or water - borne disease outbreak is defined as an incident in which two or more persons experience a similar illness after ingestion of a common food or water in the past 4 weeks.

CharismaJoy, Flickr



How do you determine if an outbreak could be in progress?



You should verify that a suspected outbreak is indeed a real outbreak. Before you can decide whether an outbreak exists (i.e., whether the observed number of cases exceeds the expected number), you must first determine the expected number of cases for the area in the given time frame. You can compare the current number of cases with the number from the previous few weeks or months, or from a comparable period during the previous few years. The sources of these data vary:

- For a notifiable disease (one that, by law, must be reported), you can use health department surveillance records
- Local sources such as hospital discharge records, death (mortality) records, and cancer or birth defect registries

If local data are not available, you can make estimates using data from neighboring localities or national data, or you might consider conducting a telephone survey of physicians to determine whether they have seen more cases of the disease than usual. You could even conduct a survey of people in the community to establish the background level of disease.

An increase in the current number of reported cases may not necessarily indicate an outbreak. In areas with sudden changes in population size, such as resort areas, college towns, and migrant farming areas, changes in the number of reported cases may simply reflect changes in the size of the population.

Where do you report cases of possible food and water-borne disease outbreak?

esfr_ph's photostream, FLICKR

You can report cases of a possible food- and water-borne disease outbreak to the following authorities:

1. National Epidemiology Center (NEC)
2. Municipal Health Officer (MHO) who can activate an investigating team referred to as Epidemic Investigation and Control Team (EICT)
3. City Epidemiology Surveillance Units (CESU)
4. Provincial Epidemiology Surveillance Units (PESU)
5. Regional Epidemiology Surveillance Units (RESU)

The following are the contact details of NEC and the Centers for Health Development (CHD), where one can get information from RESUs, PESUs, and CESUs in the country

National Epidemiology Center San Lazaro Compound, Sta. Cruz, Manila	
Director	02-7438301 local 1900, 1903
Surveillance	02-7438301 loc 1906
Administrative Unit	02-7438301 loc 1900
FHSIS & NEC library	02-7438301 loc 1901
SRE	02-7438301 loc 1904
HIV Surveillance	02-7438301 loc 1907
Direct line	02-7431937
Telefax	02-7436076

Region	CHD Office Address	Contact Number/e-Mail
I	CHD- Ilocos, Parian, San Fernando, La Union	072-242-4592 chd_ilocos@yahoo.com
II	CHD-Cagayan Valley, Carig, Tuguegarao City	078-844-6523 dohreg@yahoo.com
	PHO-Isabela	078-622-2395 c_aumentado@yahoo.com
	PHO-Nueva Vizcaya	078-805-7955 jan_tugadi20042yahoo.com
CAR	CHD-CAR, GH Cmpd., Baguio City	074-444-5255 jalcalamd@yahoo.com
III	CHD-Central Luzon, Maimpis, San Fernando, Pampanga	045-861-3427 mo1kata@yahoo.com
	PHO-Tarlac	045-982-1872 cecille_0930@yahoo.com
	PHO-Nueva Ecija	044-463-8289
NCR	CHD-NCR, Welfareville Cmpd., Addition Hills, Mandaluyong City	02-535-4529 anthonysanjuan@yahoo.com
	MHO-Malabon	02-281-3429 drbillyg@ispx.com; billygoxxmd@yahoo.com
	CHO-Quezon City	02-926-4237 irenegrafil@yahoo.com
	CHO-Valenzuela City	02-445-2759 drmapue@yahoo.co.uk; valcesu@aol.com
	CHO-Makati City	02-899-8916; ofietolentino@yahoo.com
IV-A	CHD-CALABARZON, QMMC Cmpd., Project 4, Quezon City	02-912-9985 herminia_leyva@yahoo.com
	PHO-Cavite	046-419-0123 dugong_kabite@yahoo.com
	PHO-Quezon City	0917-850-5038 nimrodv_ph@yahoo.com
IV-B	CHD-MIMAROPA, QMMC Cmpd., Project 4, Quezon City	02-912-9951 drtetcastillo@yahoo.com

Region	CHD Office Address	Contact Number/e-Mail
V	CHD-Bicol, Legazpi City, Albay	052-824-0371 audaluro@yahoo.com
	MHO-Buhi Camarines Sur	0918-559-7533 docbatoy@yahoo.com
VI	CHD-Western Visayas, Manduriao, Iloilo City	033-321-2158 resu6_doh@yahoo.com
VII	CHD-Central Visayas, Osmeña Blvd., Cebu City	032-418-7629 rennancc@yahoo.com
	CHO-Cebu City	032-232-6848 ilya91663@yahoo.com
VIII	CHD-Eastern Visayas, Government Center, Cadahug, Palo, Leyte	053-323-5515 nbbautistajr@yahoo.com
	CHO-Calbayog City	055-209-3460
	MHO-Motiong, West Samar	055-325-7684 epidoc_sheila@yahoo.com
IX	CHD-Western Mindanao, Upper Calarian,Zamboanga City	062-983-0933 resunueve@yahoo.com
X	CHD-Northern Mindanao, Carmen, Cagayan de Oro City	088-350-4322 dmmd_459@yahoo.com
	CHO-Cagayan de Oro City	088-272-1189 ambuman_419@yahoo.com
XI	CHD-Southern Mindanao, J.P. Laurel Ave., Bajada, Davao City	082-305-1909 rpenera@yahoo.com
XII	CHD-Central Mindanao, Government Center, Cotabato City	064-421-4583 vingno_md@yahoo.com
	PHO-Sultan Kudarat	0927-352-5181 rantenor@itech.com
ARMM	CHD-ARMM, Government Center, Cotabato City	064-421-6842 resu_armm@yahoo.com
CARAGA	CHD-CARAGA, Pizarro St., cor. Narra Rd. Butuan City	085-342-5208 loc 102 gernamayas@yahoo.com
DOH Central	National Epidemiology Center, SLH Cmpd., Sta Cruz, Manila	743-8301,Local 1900–1907 nec_doh@yahoo.com

You can likewise report suspected outbreaks to the DOH - Regional Field Offices. Their contact details are listed below:

DOH - Regional Field Offices Telephone and Fax Numbers

REGION		TEL. NO.	FAX NO.
Region 1	Center for Health Development for Ilocos San Fernando City 2500 La Union (Northern Luzon)	(072)242-47-78 (072)242-47-78 (072)242-47-73	(072)242-53-15 (072)242-47-74
Region 2	Center for Health Dev't. for Cagayan Valley 3500 Tuguegarao, Cagayan	(078)844-17-48 (078)446-17-48 (078)844-37-89 (078)844-70-97 (BFAD)	(078)844-43-68 (078)846-72-40 (078)846-72-30
Region 3	Center for Health Dev't. for Central Luzon, Maimpis 2000 San Fernando, Pampanga	(045)961-38-02 (045)961-38-44 (045)961-20-99 BFAD	(045)961-38-60 (045)961-35-808
Region 4A	Center for Health Dev't. for Southern Tagalog Quirino Mem'l. Med'l. Ctr. J.P Rizal St. cor. P. Tuazon, 1109 Project 4, Quezon City	912-99-85 913-45-27 913-46-54 913-47-04 913-08-57	913-08-64 913-46-54 913-08-57
Region 4B	Center for Health Dev't. MIMAROPA	Licensing 631-93-55 631-17-15	(052)245-52-47 (052)483-03-72 (052)247-76-44
Region 5	Center for Health Dev't. for Bicol 4500 Legaspi City	(052)824-09-98 (052)483-06-92 (052)483-06-91 (052)483-08-40 loc.521(BFAD)	(033)321-10-36 (033)321-02-04
Region 6	Center for Health Dev't. for Western Visayas 5000 Iloilo City	(033)321-21-58 (033)335-03-67	(032)254-10-80 (032)253-63-55

REGION		TEL. NO.	FAX NO.
Region 7	Center for Health Dev't. for Central Visayas 6000 Cebu City	(032)418-76-34 BFAD (032)253-45-80 (032)254-01-08 (032)564-25-65 satellite lab.	(053)323-50-69
Region 8	Center for Health Dev't. for Eastern Visayas 6500 Tacloban City	(053)323-50-44 (053)323-50-69 (053)323-30-56 (053)323-61-96	(053)323-55-15 BFAD
Region 9	Center for Health Dev't. for Western Mindanao 7000 Zamboanga City	(062)991-19-95	(062)991-33-80
Region 10	Center for Health Dev't. for Northern Mindanao 9000 Carmen, Cagayan de Oro City P.o. Box 159	(062)991-13-13 (088) or (08822) (+) Tel.No 858-40-01 727-400	(+) Tel.No 858-71-30 854-40-02
Region 11	Center for Health Dev't. for Southern Mindanao 8000 Davao City	(082)227-39-76 (082)227-59-03 (082)226-24-93	(082)221-63-20 (082)224-30-11* (082)221-63-20
Region 12	Center for Health Dev't. for Central Mindanao 9600 Cotabato City	(082)305-19-02 telefax	(082)227-44-22
CAR	Center for Health Dev't. for Cordillera 2600 Baguio City	(062)421-45-83 (062)421-23-73 (062)421-74-36	(062)421-21-96 (062)421-45-83 (062)421-23-73
ARMM	Center for Health Dev't. for ARMM 9600 Cotabato City	(074)442-80-96 (074)442-80-97 (074)442-75-91 (074)442-80-98 (064)421-68-42 (064)421-12-27	(074)442-75-91 (074)442-48-58 telefax (064)421-39-88 (064)421-68-42
CARAGA	Center for Health Dev't. for CARAGA Pizarro St. cor. Narra Rd., 8600 Butuan City	(085)342-75-12	(085)342-76-34 (085)342-75-12 (085)342-52-08 trunk line BFAD#7 (085)225-29-70
NCR	Center for Health Dev't. for Metro Manila Welfareville Compound Addition Hills, 1501 Mandaluyong City	718-30-98 535-46-95 535-46-04	5354529

What can you do in case the MHO or CESU/PESU/RESU can not immediately arrive at the place of a possible FWBD outbreak?

When the MHO or CESU/PESU/RESU can not immediately arrive at the place of a possible FWBD outbreak, you can provide assistance in the initial management of a patient suspected to have FWBD and in the initial laboratory investigation.

Scientifix Laboratory Furniture and Equipment

A. How can you participate in the initial clinical management of patients suspected to have food and water-borne disease?

The mainstay of treatment for food and water-borne illness is fluid replacement. In the initial clinical management of patients suspected to have FWBD, you need to evaluate the state of hydration of the patients and can assist in their rehydration. You may use the tool below to evaluate dehydration and to know how rehydration may be done.

- Is the patient dehydrated?
- The patient is losing a lot of fluids because of diarrhea and vomiting.
- Does he have 2 or more of the following signs? The lack of water in his body results in:
  - sunken eyes
  - absence of tears
  - dry mouth and tongue
  - the patient is thirsty and drinks eagerly
  - the skin pinch goes back slowly

If NO

- **There is NO dehydration.**
- When there is NO sign of dehydration: give ORS solution after each stool
- Child less than 2 yrs old: 50-100ml (1/4-1/2 cup) ORS solution. Up to approximately ½ litre a day
- Child between 2 & 9 yrs old: 100-200ml. Up to approximately 1L a day
- Patient of 10 yrs of age or more as much as wanted, up to approximately 2L a day

If YES, check if the dehydration is very severe

Is the dehydration very severe?

When dehydration is very severe, in addition to the above mentioned signs:

- The patient is lethargic, unconscious or floppy.
- He is unable to drink
- His radial pulse is weak
- The skin pinch goes back very slowly

If NO

If YES

There is some dehydration:

Give Oral Rehydration salt in the amount recommended below:

Approximate amount of ORS solution to give in the first 4 hours						
Age	< 4 mos	4-11 mos	12-23 mos	2-4 yrs	5-14 yrs	15 yrs or older
Weight	< 5 kg	5-7.9 kg	8-10.9 kg	11-15.9 kg	16-29.9 kg	≥30 kg
ORS solution in ml	200-400	400-600	600-900	900-1200	1200-2200	2200-4000

Nasogastric tubes can be used for rehydration when ORS solution increases vomiting and nausea or when the patient cannot drink. Monitor the patient frequently.

There is severe dehydration:

Patient needs to receive intravenous fluid. Refer the patient to a health facility that is capable of giving intravenous fluids.

In case this is not possible, rehydrate with ORS.

Reference: WHO_CDS_CSR_NCS_2003.7_Rev.1_eng.pdf

Oral rehydration salt (ORS) sachets are commonly available from the local health centers. In case ORS sachets are not available locally, ORS solution may also be prepared using available salt and sugar at home. Below are the procedures in preparing home-made ORS

How to prepare home-made ORS solution:

If ORS sachets are available: dilute one sachet in one liter of safe water

Otherwise: Add to one liter of safe water:
Salt ½ small spoon (3.5 grams)
Sugar 4 big spoons (40 grams)

You should also advise patients to try to compensate for loss of potassium by eating bananas or drinking green coconut water. Until help arrives, you should monitor patient regularly as to the number and quantity of stools and vomit in order to compensate for the loss of body fluids.

Further, continuous provision of nutritious food is important for all patients. Thus, patients may be given small frequent meals as long as the patient is able to take it. It is very important to relay for pertinent patients that breastfeeding of infants and young children should continue.

What are the important things you need to remember as you take care of patients who are suspected to have FWBD?

Mugira Fredrick, AfricaNews

First, it is very important that you protect yourself from contamination. You can do this by religiously washing your hands with soap and water before and after taking care of the patient. It is worth mentioning that washing of hands in general is a very effective way to prevent transmission of diseases.

Secondly, stools, vomit and soiled clothes of patients who are ill from particular bacterial pathogens are highly infectious. Thus, contact from such should be avoided. It is also prudent to separate the patient from other persons until such time that health authorities have advised otherwise to minimize possible transmission of probable cause of the FWBD.

B. How can you participate in the initial laboratory investigation of patients suspected to have food and water-borne disease?

You can participate in the initial laboratory investigation of patients suspected to have food and water-borne disease by **guiding and prompting persons** who developed similar symptoms after ingestion of a common food or are sharing the same water source to submit their stool specimen for microbial analysis to the nearest government laboratory facility. Submitting stool specimens of patients for microbial analysis will significantly contribute to the investigation of a possible FWBD.

Stools may be submitted for microbial analysis to the following Antimicrobial Resistance Surveillance Program sentinel sites:

Hospital Name/Address	Contact Number
Baguio General Hospital Governor Pack Road, Baguio City, Benguet 2600	Tel: 074-442-6230 loc 358/ 074-442-4216 loc 358 Fax: 074-443-8342
Batangas Regional Hospital Kumintang Ibaba, Batangas City	Tel: 043-9801738 Fax: 043-723-0165

Hospital Name/Address	Contact Number
Bicol Regional Training and Teaching Hospital Rizal St., Legaspi City, Albay	Tel: 052-483-1089 loc 427 Fax: 052-483-0016
Cagayan Valley Medical Center Carig, Tuguegarao City	Tel: 078-844-0033 Fax: 078-844-3789
Celestino Gallares Memorial Hospital Tagbilaran City, Bohol	Tel: (038) 411-4869 loc 220 Fax: 038-411-3181
Corazon Locsin Montelibano Memorial Hospital, Bacolod City	Tel: (034) 707-0284 Fax: 034-433-2697
Cotabato Regional Hospital and Medical Center, Cotabato City	Tel: 064-421-2340 loc 116 Fax: 064-421-2192
Davao Medical Center J.P. Laurel Avenue, Davao City, Davao Del Sur 8000	Tel: 082-227-2731 Fax: 082-221-7029 Fax: 082-221-7029
Eastern Visayas Regional Medical Center Tacloban City, Leyte	Tel: 053-321-3136 Fax: 053-321-8724
Far Eastern University Hospital Regalado St., cor. Dahlia St. West Fairview, Quezon City 1118	Tel: (02) 427-0213 Fax: (02) 427-5755
Jose B. Lingad Memorial Regional Hospital Dolores, City of San Fernando, Pampanga	Tel: 045-9613544 (office) 045-9612808 (laboratory) Fax: 045-9613921
Lung Center of the Philippines Quezon Avenue, Diliman, Barangay Central, Quezon City	Tel: (02) 924-6101 loc 286 Fax: (02) 928-8125
Mariano Marcos Memorial Hospital and Medical Center San Juan, Batac, Ilocos Norte 2906	Tel: 077-792-3144 Fax: 077-792-3133
National Kidney and Transplant Institute East Avenue, Quezon City 1100	Tel: (02) 924-3601 loc1048 Fax: 924-3601 loc 1061
Northern Mindanao Medical Center Capitol compound, Cagayan de Oro City 9000	Tel: (08822)-772829 (office) (08822)-726362 (Trunk line) Fax:(08822)-721794
Philippine General Hospital Taft Avenue, Manila	Tel: (02) 521-8450 loc3206 Fax: (02) 526-1705 loc
Rizal Medical Center Shaw Boulevard Extension, Pasig City 1600	Tel: 02-671-9740 to 43 loc 103 Fax: 02-671-9617
Research Institute for Tropical Medicine Filinvest Corporate City, Alabang, Muntinlupa City 1781	Tel: 02-807-2628 loc 604
San Lazaro Hospital Bldg. 17 Quiricada St., Sta. Cruz, Manila	Tel: 02-309-9528 / 02-732-3776 loc 476 Fax: 711-4117
Sto. Tomas University Hospital Inc. España St., Manila 1008	Tel: 02-731-3001 loc 2426 Fax: 02-731-1985
Vicente Sotto Memorial Medical Center B. Rodriguez St., Cebu City, Cebu 6000	Tel: 032-253-9891 loc 123 (laboratory) 032-253-9891 loc 102 (Pathology Department) Fax: 032-254-0057
Zamboanga City Integrated Laboratory Veterans Ave., Sta. Catalina, Zamboanga 7000	Tel: 062-991-2934 loc 146 Fax: 062-991-0573

The stool sample for microbial analysis needs to be accompanied by a Request Form duly signed by a physician. You may ask your Municipal Health Officer (MHO) to issue said request. Government laboratories may ask a certain fee for the stool analysis.

Proper collection and transport of stools depends on suspected organism causing the illness. You may consult your MHO on what is the most likely pathogen so that you may be guided on what collection and transport method to follow. Below are the guidelines for specimen collection and transport based on the most likely microorganism causing the diarrhea.

BACTERIAL ETIOLOGIC AGENTS

Guidelines for specimen collection and transport to identify bacterial etiologic agents of foodborne diseases

CLINICAL SYNDROME	Etiologic Agents	Specimen	Quantity	Container/ Transport medium	Transit Time/ Temperature
I- DIARRHEA	Vibrio cholerae Other Vibrios	Fresh stool	2-5 ml/ pea-sized	Clean, wide-mouthed, screw-capped container	Within 1-2 hours (room temperature) 3-6 hours (4°C)
	Diarrheagenic E. coli Shigella spp Salmonella spp Yersinia Aeromonas Pleisiomonas Campylobacter spp	Rectal swab	2-swabs with visible fecal matter	Cary-blair transport medium in autoclavable container	Within a week (at room temperature or 4°C)
II-FOOD POISONING/ INTOXICATION	Vibrio parahemolyticus Other Vibrios Diarrheagenic E. coli Salmonella spp Yersinia Campylobacter Bacillus cereus Staphylococcus aureus Listeria	Fresh stool	2-5 ml/ pea-sized	Clean, wide-mouthed, screw-capped container	Within 1-2 hours (room temperature) 3-6 hours (4°C)
		Rectal swab	2-swabs with visible fecal matter	Cary-blair transport medium in autoclavable container	Within a week (at room temperature or 4°C)
		Vomitus (immediately refrigerate)	10-15 ml	Clean, wide-mouthed, screw-capped container	3-6 hours (4°C) if can not be transported immediately, freeze at -20°C until transport with packed ice Food and packed ice should not be mixed in one container
		Incriminated food (immediately refrigerate)	at least 50 grams	Clean, sealed plastic container (ziplock)	

CLINICAL SYNDROME	Etiologic Agents	Specimen	Quantity	Container/ Transport medium	Transit Time/ Temperature
III-TYPHOID SUSPECTS	Salmonella Typhi Other Salmonella	Fresh stool	2-5 ml/ pea-sized	Clean, wide-mouthed, screw-capped container	Within 1-2 hours (room temperature) 3-6 hours (4°C)
		Rectal swab	2-swabs with visible fecal matter	Cary-blair transport medium in autoclavable container	A week (at room temperature or 4°C)
		Blood	1:10 ratio of blood with BCB	Blood culture broth (BCB)	Within 3 days after collection at room temperature

Clinical specimens from suspected foodborne outbreaks should be submitted to the nearest ARSP sentinel site laboratory in the region or the National Reference Laboratory for Bacterial Enteric Diseases, Research Institute for Tropical Medicine.

VIRAL ETIOLOGIC AGENTS

The following are the Guidelines in Specimen Collection, Storage, and Handling of stool specimens suspected to be secondary to a viral etiology:

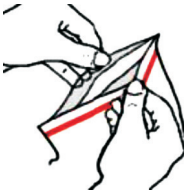
Collect stool within 2 days from date of onset. Stool specimen volume should be as big as the size of an adult's thumb; if diarrheic/ watery stool, fill up ¾ of the container.

Place specimen in a dry, clean, sealed and leak-proof container.

Label specimen properly with the name and date of collection. The information on the label must be legible and should match the information written on the Request Form.

While awaiting transport, store specimen in a refrigerator (4-8 °C).

Guidelines in Stool Specimen Transport



- Wrap stool sample with cotton. Place in a zip-locked plastic bag.
- Place the Request Form in a separate plastic bag to prevent it from being contaminated.
- Transport specimen using the provided carrier box with frozen ice packs inside to maintain cold temperature. Put laboratory request form and specimen in upright position in between the ice packs.

Ship the specimen carrier to Virology Department, Research Institute for Tropical Medicine.

It is recommended that specimens be collected during the first 3 days of illness and should arrive at RITM within 3 days from date of collection and that weekend arrival of specimens be avoided.

PARASITIC ETIOLOGIC AGENTS

Specimen Collection

- Collect the stool in a dry, clean, wide mouthed, leakproof container.
- Make sure no urine, water, soil or other material gets in the container.
- Fresh stool should be examined, processed, or preserved immediately.

Specimen collection may need to be repeated if the first examination is negative. If possible, three specimens passed at intervals of 2 days should be examined.

Amount of fecal material needed

Formed specimen -size of a large walnut (20 to 40 g)
Watery stools-5 to 6 table spoons (routine examination)

Time frame for submission of stool for examination

Watery-within 30 minutes from collection of stool
Formed-within the day

Stool preservation and transport

Preservation of specimens is necessary when stool specimens cannot be examined within the prescribed time interval. Preserve the specimen as soon as possible. If using a commercial collection kit, follow the kit's instructions. If kits are not available, the specimen should be divided and stored in two different preservatives, 10% formalin and PVA (polyvinyl-alcohol), using suitable containers. Add one volume of the stool specimen to three volumes of the preservative. Ensure that the specimen is mixed well with the preservative. Formed stool needs to be well broken up. Ensure that the specimen containers are sealed well. Reinforce with parafilm or other suitable material. Insert the container in a plastic bag.

Specimens kept under refrigeration when preservatives are not available are suitable for antigen testing only.

Various preservatives are available, with the two most commonly used being 10% aqueous formalin and PVA (polyvinyl-alcohol).

Because 10% formalin and PVA have complementary advantages, it is recommended that the specimen be divided and preserved in both types of preservatives (add one volume of stool to three volumes of the preservative). Preserved specimens can be stored for several months.

PVA fixative – component of commercial fecal parasite collection kit

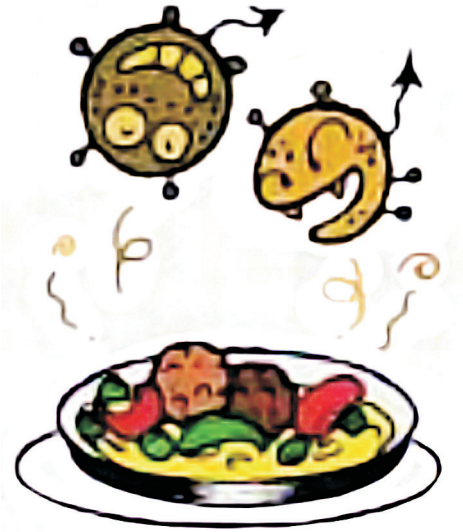
1) Isopropanol, 30%
2) Mercuric chloride, 4.5%
3) Glacial acetic acid, 5%
4) Glycerol, 2%

5) Polyvinyl alcohol, 5%
6) Purified water, 52.5%
7) If the PVA has gelled, heat in a 50ºC water bath until clear and fluid

- While the study of the disease, its distribution and the factors affecting its distribution can help identify vehicles of an outbreak and guide appropriate public health action, laboratory evidence can clinch the findings. Vehicles of an outbreak are inanimate intermediary (e.g. food) in the indirect transmission of an agent that carries the disease causing agent from a reservoir to a susceptible host.

Environmental and laboratory studies often help explain why an outbreak occurred and may be very important in some settings. For example, in an investigation of an outbreak of shigellosis among swimmers in the Mississippi River, a local sewage plant was identified as the cause of the outbreak.

(Please refer to the **Manual of Procedures for the Surveillance, Outbreak Investigation and Response to Microbial Agents of Food and Waterborne Disease** for detailed and technical procedures of outbreak investigation.) In case of uncertainty on the procedure of proper specimen collection, you may call up the pertinent government agency for additional information.





Food sampling

Food sampling for laboratory analysis is necessary to determine microbial or chemical contamination. Examples of food samples which may be appropriate for collection and testing include the following:

- ingredients used to prepare incriminated foods
- leftover foods from a suspect meal
- foods from a menu that has been incriminated epidemiologically
- foods known to be associated with the pathogen in question
- foods in an environment which may have permitted the survival or growth of microrganisms

If a packaged food item is suspected of being involved in an outbreak, it is particularly important to collect unopened packages of that food from the same lot, if available. This can help determine whether the food was contaminated prior to receipt at the site of preparation. If there are no foods left from a suspect meal, samples of items that were prepared subsequently but in a similar manner may be collected instead, although findings from these tests must be interpreted carefully. If ingredients and raw items are still available they should also be sampled. Storage areas should be checked for items that may have been overlooked. Even food retrieved from garbage containers may provide information useful in an investigation.

The general methods for Collection of Food Samples (processed and unprocessed) are shown in Table 1 below.

Table 1: General Methods for Collection of Specimens and Samples

Specimen or Sample	Quantity	Method of Collection	Transport and Shipment
Animal carcass or raw meat, poultry	200 grams	Aseptically cut portions of meat from different parts of the carcass. Put in sterile plastic bag or jar.	Label. Pack refrigerant around container (do not freeze or use dry ice). Insulate chilled foods with absorbent materials, pack in double containers. Enclose identifying information.
Food, solid	200 grams	With sterile implement, cut or pick up food and aseptically transfer it into sterile plastic bags or wide-mouth jars. Take sample from several sites if food cannot be mixed.	As above
Food, liquid	200	Mix or shake. With sterile implement, ladle or pipette, transfer food into sterile container.	As above
Food, frozen	200 grams	Small volumes of frozen foods are sent intact. For large volumes of food, such as 5 gallons of frozen eggs, drill from the top at one side of a container diagonally through center to the bottom of container, at opposite side, repeat from one side of container until sufficient materials is obtained. Use a sterile, large diameter bit for this type of sample. If the tools mentioned above are not available, the whole container may be submitted as specimen.	Keep frozen, ship in insulated boxes.
Food, dry	200 grams	As above, but use sterile hollow tubes instead of drills.	Ship in protected containers. Enclose identifying information.

The various kinds of foods (processed and unprocessed) suspected to be vehicles of infection may be submitted to the agency that has jurisdiction on the food involved (see Table 2 below) accompanied by a filled-up Foodborne Outbreak Template (Annex A).

Table 2. Food Agencies and their Jurisdiction Over Commercial Food Products.

Category	Laboratory
PROCESSED FOOD	Bureau of Food and Drugs
UNPROCESSED FOODS: Unslaughtered livestock, poultry, animal feeds and feed ingredients	Laboratory Services Division, Bureau of Animal Industry or its regional laboratories
Fresh, chilled, frozen, local and imported unprocessed meat and meat products	National Meat Inspection Service (NMIS) central & satellites
Unprocessed Plants/Vegetables	Bureau of Plant Industry
Unprocessed fish and other fish products	Bureau of Fisheries and Aquatic Resources
Raw milk, unprocessed dairy products	National Dairy Authority
Water	National Reference Laboratory for Water-East Avenue Medical Center and accredited water testing laboratories

A. PROCESSED FOODS

Processed foods suspected to be a source of a FWBI may be submitted to the Bureau of Food and Drugs (BFAD) laboratory and other DOH designated laboratories (please see list below) for testing. The person who submits the sample is requested to fill up the request for Microbiological Analysis (Collected & complaint sample forms)(Annex B & C). For Complaint samples, if person affected was examined by a physician, a Medical Certificate/Report is also required for submission to support/help the investigation. BFAD laboratory and other DOH designated laboratories shall perform microbiologic tests on the suspected sample submitted. Details of food sample collection for samples to be submitted to BFAD laboratories and DOH designated laboratories are described below.

Bureau of Food and Drugs	Office	Telephone Number
Civic Drive, Filinvest Corporate City, Alabang, Muntinlupa City 1781	Office of the Director	02-8094390 loc 2183, 2184 ; Fax No.-8070751
	Legal Information & Compliance Division	02-8094390 locals 1051&1052
	Laboratory Services Division	02-8424625; 02-8094390 loc 2232
	Policy Planning and Advocacy Division	02-8094390 loc 1101
	Product Services Division	02-8094390 loc 8104
	Public Assistance Information and Compliance Section	02-8094390 loc 1011
	Regulation Division I	02-8094390 loc 1311 & 1331
	Regulation Division II	02-8094390 locals 1281 & 1282
	BFAD Satelite Laboratory for Mindanao	Telefax: 084-2187020
	Energy Park, Apokor, Tagum City, Davao	Hotline: (+63) 2984700366

List of laboratories recognized by BFAD as per **BC 06 s. 2005** amended by **BC 09 s. 2006**

NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
BIOTECH – Central Analytical Services Laboratories (CASL)	UPLB College Los Baños, Laguna Telefax: (049) 536-0587	**FOOD** • Proximate • Carbohydrates • Minerals • Water • Fats and Oils • Amino Acid • GC & HPLC Analyses
BIOTECH – Philippine National Collection of Microorganisms (PNCM)	UPLB College Los Baños, Laguna Tel. No. (049) 536-2884 Fax No.: (049) 536-2721	**MICROBIOLOGICAL** • Food • Water • Wide range of analyses offered
First Analytical Services & Technical Cooperative (FAST)	62 20th Avenue Cubao, Quezon City Tel. No. 02-9130241 Fax No. 02-9138848	**FOOD** • Proximate • Fats and Oils • GC Analyses **MICROBIOLOGICAL** • Food • Water • Wide range of analyses offered

NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
Intertek Testing Services, Inc.	2nd Floor ITS Building 2310 Pasong Tamo Ext. Makati City Tel. No. 02-8195841 to 48 Fax No. 02-8172994	**FOOD** • Proximate • Iodine in Salt • Minerals • Food Additives (Nitrates/Nitrites, Benzoic/Sorbic Acid, Sulfates/Sulfites) • Fat/Water Soluble Vitamins (HPLC) • Heavy metals (AAS) **MICROBIOLOGICAL** • Food (except pathogenic) • Water
Lipa Quality Control Center	5th Floor, Sra Maria Bldg. P. Torres St. cor. CM Rector Avenue, Lipa City Tel. No. (043) 756-6220 to 22	**FOOD** • Proximate

NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
Philippine Institute of Pure and Applied Chemistry (PIPAC)	Ateneo de Manila University Campus Loyola Heights, QC Tel No. 02-4266072 Fax No. 02-4266073	**FOOD & PHARMACEUTICALS** • Spectroscopy (IR, NMR, MS, AA, UV-Vis) • Chromatography (GC, HPLC, TLC, IC) • Acid-base/Redox Titrimetry • Kjeldahl N-analysis • Fluorometry • Electrochemical techniques • Gas Chromatography/ • Mass Spectrometry

NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
Sentro sa Pagsusuri, Pagsasanay at Pangasiwang Pang-Agham at Teknolohiya Corp (SENTROTEK)	208-B Pilar St. Mandaluyong City Tel. No. 02-7216500 02-7219699 02-7183514 Fax No. (02) 721-0739	**FOOD** • Complete nutritional analysis and food labeling • Vitamins & Minerals • Fatty Acids • Heavy Metals & Residues Testing • Analysis of Drinking Water • Water Activity **MICROBIOLOGICAL** • Potability of Drinking Water **PHARMACEUTICALS** • Vitamins, Minerals & Antibiotics • Organic Volatile Impurities • Amino Acids • Identification Tests • Dissolution Testing/Profiles

NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
SGS Phils. Inc.	2nd Floor, Alegria Building 2229 Chino Roces Ave. Makati City Tel. No. 02-8176231; 02-8175656 Fax No. 02-8182971; 02-8150952	**FOOD** • Analysis of agri-food commodities, products and chemicals • Pesticide residues testing • Nutritional analysis and labelling **MICROBIOLOGICAL** • Bacteriological analysis of food and other consumer products • Water and Waste Analysis **PHARMACEUTICALS** • Antibiotic formulations and residue testing

GOVERNMENT COUNTERPART LABORATORIES

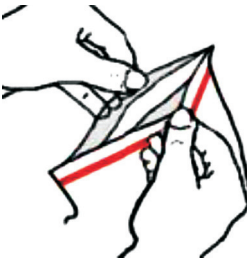
NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
Food and Nutrition Institute	DOST Compound Gen. A. Santos Avenue Bicutan, Taguig Tel. No. 02-8376149; 02-8378113 Fax. No. 02-8373164	**FOOD** • Proximate • Water Activity • Vitamin A & Betacarotene (HPLC) • Iron, Calcium, Zinc, Sodium, Potassium (AAS) • Iodine in Salt (Titration) • Fatty Acids, Cholesterol (GC) **MICROBIOLOGICAL** • Food • Plate Count • Coliform • Molds & Yeast • Salmonella • Staphylococcus aureus • Water • Plate Count • Coliform Count • E. coli count

NAME OF LABORATORY	ADDRESS/ CONTACT NO.	TYPE OF ANALYSIS
Industrial Technology Development Institute (ITDI) - Standards & Testing Division Microbiology Laboratory	Compound, Gen. Santos Ave. Bicutan, Taguig, MM Tel. No. 02-8372071 ext. 2197 Fax No. 02-8370032	**MICROBIOLOGICAL** • Food • Water *wide range of analyses offered (except sterility tests for pharmaceuticals)
Food Development Center (FDC)	FTI Complex Taguig, Metro Manila Tel. No.: 02-8384561: 02-8384715	**FOOD MICROBIOLOGICAL**
Natural Science Research Institute (NSRI)	UP Campus, Diliman Quezon City Tel. No. 02-9207730 (MRSL) 02-9207731 (RASL)	**FOOD MICROBIOLOGICAL**
National Dairy Authority (NDA)	NDA Bldg., BAI Compound, Visayas Ave. 1100 Diliman, Quezon City Tel. No. 02-9260733 to 36 Telefax. 02-9268847	**MICROBIOLOGICAL and FAT TESTING OF MILK PRODUCTS**

Food Sample Collection

1. Sampling Equipments:

1. Sterile sample containers:
   Plastic bags, Whirlpack or Zip-lock (500 mL container)
   Plastic jars with screw caps (250 mL container)



2. Sterile and wrapped sample collection implements:
   Spoons, ladles, scoops, spatulas, tongs

3. Supporting equipment:
   Waterproof marker, sample forms, thermometer

4. Sterilizing and Sanitizing Agents:
   Alcohol wipes

5. Refrigerants:
   Ice packs, insulated containers

6. Clothing:
   Laboratory coat, head caps, disposable plastic gloves

2. Samples for microbiological analysis are to be collected following aseptic techniques.

- Wash hands before and after collecting sample(s)
- Wear sterile gloves during sample collection. Do not handle specimens with bare hands
- Use sterile containers. (Sterile sample containers includes: Plastic bags, Whirlpack or Zip- lock [500 mL container] and Plastic jars with screw caps [250 mL container])
- Make sure container covers are tight to prevent leakage.
- Use sterile utensils, tongs, spatula, spoons, etc.
- Do not handle or touch the inside of the container.
- Try not to use Whirlpack bags or zip- lock type bags for liquids which can leak and spill easily.
- Whirlpack bags or zip- lock type bags may be used for solid foods, such as dry milk, meat, etc
- Collect a sufficient amount of sample, at 200g or 200 mL, for bottled water, at least 250 mL (about one glassful in amount).
- Do not fill sample containers more than three quarters full.
- Packaged foods should be taken to the laboratory in original containers.

3. Labels

- Write clearly with waterproof marker or ballpoint pen.
- Clearly write on the label the name of the product, date, time, and name of the person who collected the sample.
- Place the sample label on the container or plastic bag.

4. Transportation

- Use dry ice, if available from the laboratory, for ice cream or frozen food samples. If dry ice is not available, prompt delivery is key to not compromising frozen samples or use plain ice but ensure that package of food does not get mixed with melting ice.
- Place the sample with pre- frozen ice packs in an insulated cooler.

5. Delivery

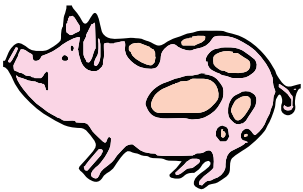
- Notify the DOH designated laboratory prior to obtaining samples related to foodborne illness complaints (see laboratory contact numbers).
- Transport foodborne illness complaint samples to the lab immediately.
- Upon arrival at the laboratory, bring samples to the receiving area where they will be assigned a lab number.
- Laboratory personnel will take the temperature of the sample(s), upon their receipt by the laboratory.
- Samples will be placed immediately into the lab refrigerator once removed from the insulated cooler.
- Samples must be clearly labeled, identified, and numbered before being placed in the refrigerator.
- If samples are not delivered in the laboratory immediately, it should be kept in an appropriate storage condition.

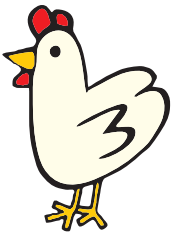
B. UNPROCESSED FOODS

The various kinds of unprocessed foods suspected to be vehicles of infection may be submitted to the agency that has jurisdiction on the food involved (see Table 2 in page 22) accompanied by a filled-up Foodborne Outbreak Template (Annex A).

1. Unslaughtered livestock, poultry, animal feeds and feed ingredients

Unslaughtered livestock, poultry, animal feeds and feed ingredients suspected to be a source of a FWBD outbreak may be submitted to the Bureau of Animal Industry (BAI) laboratory and to BAI Regional Laboratories also referred to as Regional Animal Disease Diagnostic Laboratories (RADDL). BAI central office and laboratory may be reached at the following contact numbers:





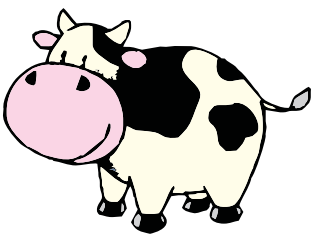
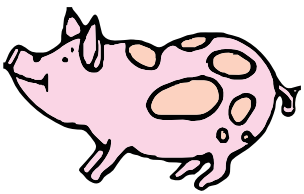
Bureau of Animal Industry Visayas Avenue, QC	Consumer Assistance	02-9203906
	Head, Bacteriology Lab	02-9282177
	Assistant Head	02-9200429
	Chief, Animal Health Division	02-9282743 02-9282836

The contact details of RADDL are shown below:

Region	Brgy.	Address	Office Tel.No.	Office Fax No.
I	Tebag	Tebag, Sta. Barbara, Pangasinan	(075) 523-3928	(075) 523 - 3928
II	San Gabriel	Nursery Comp. San Gabriel Tuguegarao, Cagayan	(078) 844 -3101	(078) 846 – 4834
III	St. Niño	Capitol Compound San Fernando, Pampanga	(045) 961-2934	(045) 961 - 2934
IV	Marauoy	Marauoy, Lipa City, Batangas	(043) 312 -0411	
V	Cabangan	Cabangan, Camalig Albay	(052) 826-0147	(052) 826 – 0147
VI	Parola St.	Fort San Pedro, Iloilo City	(033) 336-9737	(033) 337 – 0939
VII	Guadalupe	M.Velez St., Cebu City	(032) 254-4005	(032) 254 – 4005
VIII	Diit	Brgy. Diit, Tacloban City	(053) 325-7805	(053) 325 – 7805
IX	Tumaga	RADDL, Tumaga, Zamboanga City	(062) 992-4165	(062) 992 – 4165
X	Brgy. 27	A. Luna St., Cagayan de Oro City	(088) 856-2753 to 55	(088) 856 – 2753
XI	San Gabriel	San Gabriel, Mintal Davao City		
XII		Sinsuat Ave., Cotabato City	(064) 421-5402	(064) 421 – 3789
CARAGA	Taguibo	Capitol Site, Butuan City	(085) 342-0457	(085) 342 – 7445
CAR	Guisad	BDF Compound, Sto. Tomas Rd., Baguio City	(074) 445-4973	(074) 444 – 9872
ARMM	Simuay	Brgy. Simuay, Sultan Kudarat, Maguindanao	(064) 421 -1234	(064) 421 – 1234
PAHC	Vasra	Visayas Avenue, Diliman Quezon	(02) 928 - 2177	(02) 920 – 0429

1.1. Specimen collection procedures for laboratory usage

- Specimen should be taken from living or recently dead animals by a qualified and authorized person.
- Samples should be taken from the affected site as early as possible following the onset of clinical signs.
- Collect samples from clinical cases and in contact animals. It should be obtained from the edge of lesions and include some macroscopically normal tissues.
- Samples are collected as aseptically as possible and before any antibiotic treatment has commenced.
- In case of housed poultry flocks, environmental samples, specimens such as litter and dust or drag or boot swabs from floor surfaces can be collected.
- For smaller animal species, it may be preferable to submit a representative number of sick or recently sick animal to the laboratory.
- In case of feedstuffs, collect duplicate samples not less than 250-500grams from random-sampled unopened bags. Each sample must be properly labeled according to the tag attached to the feed containers where it was taken.
- Sample must be submitted individually in separate containers or screw-capped jars that are clearly marked indicating the tissue enclosed, animal identification and the date of collection.
- 1 liter of water sample from water source used for animal drink should be aseptically collected and tested on the day of submission.


1.2 A copy of BAI complaint sheet is found in Annex D. This form may be used in submitting specimens to the BAI central office and regional offices.

1.3 Specimen transport procedures

- Packages should be kept cool and accompanied by adequate information.
- If transportation to the laboratory is delayed, samples should be refrigerated at 4°C and not frozen.

1.4 Designated laboratory to perform tests

- Philippine Animal Health Center
- Regional Animal Disease Diagnostic Laboratories (RADDL) Regions 2,3,4,7,8,9,10,11,12

1.5 Types of test to perform

- Conventional culture method
- Conventional biochemical screening and identification method
- Biochemical screening and identification using Analytical Profile Index (API)
- Planned Future Tests (Serology, Elisa, FA, PCR)

1.6 Turnaround time for test results

- 1 week upon the receipt of samples

1.7 Recording of test results

- Log book
- Soft and hard copies

1.8 Reporting of test results

- Issuance of laboratory results shall be within 1 week upon the receipt of samples
- Laboratory results will not be issued by phone
- Results can be obtained in the Laboratory Diagnostic Investigation and Evaluation Section (LaDIES)

1.9 Procedures for unused specimens disposal

- Holding time of samples for legal purposes is 3 months.
- Unused specimens are disinfected by autoclaving.
- Unused specimen may also be incinerated.

2. Meat and Meat Products

Meat and meat products suspected to be a source of a FWBD outbreak may be submitted to the National Meat Inspection Section (NMIS) laboratory and NMIS Satellite Meat Laboratories. The NMIS is located at the Visayas Ave., Quezon City. Its Chief, Laboratory Services Division may be reached at telephone number 02-9243119 loc 28 and 02-9243119 loc 28,29,30; consumers' assistance desk 02-9243119 loc 14 or 02-9214473 loc 14; Manager - 02-9256138; and Assistant Port Manager - 02-2831181. The contact details of the NMIS Satellite Meat Laboratories are shown below.

National Meat Inspection Service-Laboratory Service Division

Region	Address	Contact Numbers
I	Brgy Anonas, Urdaneta City, Pangasinan	(075) 5686233
II	Regional Center, Carig Tuguegarao	(078) 8445343
III	Regional Government Center Bo. Maimpis, San Fernando, Pampanga	(045) 2505073
IV-A	Brgy Maraouy, Lipa City, Batangas	(043) 7272320
IV-B	3rd Flr. ATI Bldg. Diliman, Quezon City	(02) 9274877
V	Regional V. Satellite Market Brgy. Bitano, Legaspi City	(052) 8206491
VI	Doña Pepita Aquino Ave., Fort San Pedro, Iloilo	(033) 3370956
VII	Department of Agriculture M. Velez St., Cebu City	(032) 2544565
VIII	Department of Agriculture Candahug, Palo, Leyte	(053) 3238503
IX	F.S. Parajas San Jose District, Pagadian City	(062) 2144721
X	Zone II, Cugman SH Complex, Cagayan De Oro City	(088)2733497 (088)8533472
XI	Department of Agriculture Father Seiga St., Davao City	(082)2283662 (082)2242737
XII	Department of Agriculture 1st Block, Osita Compound, Koronadal City	(083) 2283662
CARAGA	City Slaughterhouse Compound, Obrero, Butuan City	(085) 8153448
CAR	Marcos Hi-way, Baguio City	(074) 4449848
NCR	Department of Agriculture 3rd Flr ATI Bldg. Diliman, Quezon City	(02) 9274050 (02) 9272658
CENTRAL OFFICE	National Meat Inspection Service, Visayas Avenue, Diliman, Quezon City	(02) 9247980 (02) 9277971

NMIS Meat Satellite Laboratories

Region	Location	Contact No.
I	Brgy Anonas, Urdaneta City, Pangasinan	(075)568-6233
II	Cagayan	(078)844-5343
III	Regional Government Center, Bo Maimpis, San Fernando, Pampanga	(045)860-5073
IV-A	Brgy Maraouy, Lipa City, Batangas	(043)757-3181
VII	Dept. of Agriculture, M Velez St, Cebu City	(032)254-4565
IX	Sevilla Apartment, FS Pajares San Jose District, Pagadian City	(062)214-4731
X	Zone II, Cugman SH Complex, Cagayan De Oro City	(088)273-3498
XI	Dept. of Agriculture, Father Selga St, Davao City 8000	(082)224-2737
NCR	3rd Flr, ATI Bldg, Elliptical Rd, Diliman, Quezon City	(02)927-4050 (02)927-2658

Sampling Procedures

2.1 Labeling requirements

The immediate container shall be marked with the following minimum mandatory information:

- Name of the product
- Net quantity
- Name and address of the manufacturer, packer/distributor and country of origin
- Establishment accreditation number
- Date of preparation or production
- Consume before date
- Lot identification
- Inspection Stamp

- Safe handling instruction
- Other information, as needed, should also be marked on the box.

2.2. Collection

In order to obtain the required representative sample from meat and meat products the following procedures shall be applied:

1. Check the production date or product code;
2. Randomly collect samples.
3. Cut Five Hundred (500) grams of meat samples. The cutting implement should be **sterilized** with the use of 70% alcohol before and after cutting each sample;
4. For packed or canned meat products, one small pack or can shall represent one sample unit;
5. Each cut sample should be placed in **sterile** plastic bag, sealed and properly labeled.
6. All samples collected should be properly identified as to the name of the owner/dealer and source or origin for traceability purposes.

2.3. Packaging

a. Samples should be individually placed in **sterile** plastic bags or bottles and sealed with complete label for identification.
b. Packaging material shall be hygienic and strong to protect the product from any physical damage.

2.4. Transport

a. The samples shall be transported in an insulated box and maintained at temperature of less than 5°C.

b. Samples shall be brought to the NMIS laboratory within the following period:

1. Six (6) hours for samples transported in cooler box with ice refrigerant
2. 24 hours for frozen samples transported in a freezer van

2.5. Laboratory Procedures

A. Submission and Receiving

1. The person who collected the sample should fill in the appropriate DA NMIS Laboratory Request Form (Annex E-G) in duplicate copies depending on the type of sample to be tested.
2. The said request shall be recommended for laboratory analyses by the Head of DA NMIS Laboratory Services Division.

B. Storage

1. One-half of the sample collected shall be used for the analysis.
2. The other half shall be stored as legal sample for a period of 6 months. Where there are legal questions involved, the legal sample shall be stored for a period of one year.

3. Fruits and vegetables

Fruits and vegetables suspected to be a source of a FWBD outbreak may be submitted to the Bureau of Plant Industries (BPI) laboratory. BPI is located at 692 San Andres St., Malate, Manila with telephone number 02-9260733; 02-9260733 to 35 loc 213 (Administrator's Office); 02-9260733 loc 204 (laboratory).

3.1 Fill out Request Order Form (see Annex H)

3.2 Types of specimen to be collected

- Fresh and Minimally Processed Fruits and Vegetables

Examples of food samples which may be appropriate for collection and testing:

- Ingredients used to prepare the suspect meal
- Leftover foods from a suspect meal
- Suspected food from the menu
- Foods known to be associated with pathogen
- Food in an environment which may have permitted the growth of the microorganism
- Unopened packages if available

3.3 Raw Material Requirement:

- One (1) kilogram

3.4 Transport of Sample

Samples will be packed in polyethylene bags and stored in the freezer of the vehicle from the sampling site to the laboratory.

4. Fresh, chilled, & frozen fish and aquaculture products

Fresh, chilled, & frozen fish and aquaculture products suspected to be a source of a FWBD outbreak may be submitted to the Bureau of Fisheries and Aquatic Resources (BFAR) designated laboratories (see list below). BFAR Central Office is located at PCA Bldg., Elliptical Road corner M. Marcos Avenue, Q.C. with telephone number 02-9299597 (Director's Office) and 02-9295847 (laboratory division).

Bureau of Fisheries and Aquatic Resources-designated laboratories

Region	Address	Telephone Number	Fax Number	Services offered by the laboratory
NCR	Fisheries Product Testing Laboratory Section 860 Arcadia Bldg Quezon Ave, Q.C.	(02) 4099055	(02) 926- 8616	Microbiological Analysis, Freshness Test, Formalin, Heavy Metals (lead, mercury, cadmium)
4 A	Regional Director's Office 2nd Floor, ICC Bldg., NIA Complex EDSA, Diliman, Q.C.	(02) 527-0718	(02) 925 -7235	Microbiological analysis, Fish Health
4A	Laboratory Fisheries Quarantine Cmpd, South Harbor, Port Area Manila	(02)5270718	(02)5270718	Microbiological analysis, Fish Health
6	MH del Pilar St., Molo, Iloilo City	(033) 336-9878	(033) 336-9432	Freshness test; Formalin; Red tide; Microbiological

Region	Address	Telephone Number	Fax Number	Services offered by the laboratory
7	Arellano Blvd., Cebu City	(032) 256-2775	(032) 256-2776 (032) 256-2773	Histamine; Microbiological analysis Freshness test; Formalin, Red Tide, Cyanide; fish health, heavy metals (lead, cadmium, mercury)
9	RT Lim Kawa-Kawa, Zamboanga City	(062) 991-8192	(062) 993-2046	Histamine, Cyanide, Fish Health, Freshness Test, Microbiological Analysis
11	Uyanguren St., Davao City	(082) 224-5085	(082)225-1727	Fish Health, Heavy metals (lead, mercury, cadmium) Histamine, Freshness test, Microbiological Analysis
12	General Santos City	(083) 421-9367	(083)552-9332 (083)552-1328	Histamine, Freshness test, Microbiological analysis, Fish Health

4.1 Type of Specimen to Collect

The sample should be representative of the lot. Contamination during collection and before examination shall be avoided.
The product types that can be submitted include the following:

1) Fresh Chilled Fishery Products
   a) Tuna & tuna-like fishes (Scombroid species)
   b) lapu-lapu; grouper, snapper, parrot fish, barracuda, etc.

2) Frozen Fishery Products
   a) Tuna and tuna loins
   b) Octopus
   c) Aquaculture products (milkfish, shrimps, tilapia)

3) Canned Tuna & Sardines

4) Bottled Fish Paste Products (Anchovy Paste)

5) Pasteurized/ bottled salted shrimp paste

6) Other processed fishery / aquaculture products (eg. smoked, dried, marinated, etc.)

4.2 Raw Material Requirement: 1.0 to 1.5 Kg of specimen for testing.

4.3 Handling of samples from site to the laboratory

1. Fish and aquaculture products will be taken from site to be submitted to the BFAR designated laboratory accompanied by BFAR sample collection form (Annex I).
2. Newly harvested fish and aquaculture products should be packed in polyethylene bags and placed in styropore boxes with ice, and maintained at 0 to 4 degrees Celsius during transport.

5. Raw Milk

Raw milk suspected to be a source of a FWBD outbreak may be submitted to the National Dairy Authority (NDA) laboratory and all BFAD accredited laboratories (Please see list under the Section on Processed Foods). The NDA is located at the NDA Bldg., BAI Compd., Visayas Ave., Diliman, Quezon City with telephone number (02)926-0733 to 35 loc 205 (Administrator's Office) or loc 207 (Laboratory).

Specimen collection procedure

One hundred mL samples of raw milk are to be collected **aseptically** according to the following procedures:

1. **Aseptic** Sampling Techniques

Particular care should be taken when collecting samples for microbiological analysis to avoid contamination of bacteria. The technique of collecting samples without introducing contaminant bacteria and keeping sterile surfaces free of bacteria is called "aseptic" technique.

2. Equipment and media

   a. Stainless steel dipper - long enough to adequately and thoroughly agitate the milk inside its container

   b. 70% alcohol - ethanol or methylated spirits

   c. Clean, disposable tissues or wipes

   d. **Sterile** sample container (Sterile sample containers includes: Plastic bags, Whirlpack or Zip- lock [500 mL container] and Plastic jars with screw caps [250 mL container])

   e. Cooler - maintained at 5 ± 2°C

3. Method

   a. Label the sample container with the supplier's number or code, date of collection, and any other required information.

   b. Stir the milk thoroughly with the stainless steel dipper, which has first been sanitized by wiping with a tissue soaked in 70% alcohol and allowed to air dry.

   c. Prior to taking the sample, remove the lid of the sterile sample container, taking care not to touch the lip of the container or the inside of the container lid. Do not leave the sample container open for longer than necessary when adding the sample.

   d. Remove a small amount of milk and gently pour it into the sample container without touching or contaminating the inner surface of the sample container or lid.

e. Replace the lid tightly and immediately place the sample container into a container with ice/water mixture or place it in the refrigerator.

f. Dispatch the samples to the designated laboratory on the same day of sampling in an ice-box or other thermal container filled with an ice/water mixture.

- Please see Annex J for request form to be used

4. Specimen transport procedures

Guidelines on the collection, transport and storage of samples prior to testing in the laboratory:

Instructions

a. Label all samples clearly and indelibly.

b. Collect all samples aseptically, unless it is stated specifically that samples are required for chemical testing only.

c. If it is permitted to add a preservative to samples, this will be specified in the description of the analytical method by which the samples are to be tested.



d. Particular attention should be given to maintaining the temperatures specified for transport and storage of samples.

e. If an insulated box or other container is used to transport or store samples, freeze-bricks, crushed ice or a mixture of ice and water will be required to maintain samples at 5 ± 2°C

f. Protect samples from contamination with ice or water by choice of suitable sample bottles and good design of sample containers.

g. Deliver all samples to the testing laboratory promptly, and test all samples within 24 hours of sampling (unless samples have been added with preservative).

6. Water source

Water from water sources suspected to be a source of a FWBD outbreak may be submitted to the National Reference Laboratory For Environmental And Occupational Health Toxicology And Micronutrient Assay (East Avenue Medical Center). NRL-EAMC is located at the East Ave., Diliman, Quezon City with the following contact numbers:

- Bacteriology Department – (02)433-06-73;
- Head, NRL-EAMC

  East Avenue Medical Center, East Avenue, Diliman, Quezon City

  Tel. Nos.: (02)435-71-36 / (02)928-06-11 loc. 601;
- Chemist In-Charge

  East Avenue Medical Center, East Avenue, Diliman, Quezon City

  Tel. Nos.: (02)435-71-36 / (02)928-06-11 loc. 601

6.1 Methods Of Water Sample Collection Including Preparation Of Sampling Bottle

A. PREPARATION OF SAMPLING BOTTLES:

For bacteriological samples, the use of 120 ml capacity sterilized bottles, preferably wide-mouthed and of resistant glass is recommended. Before sterilization, cover tops and necks of sample bottles with aluminum foil or heavy Kraft paper.

Sterilization procedure for sampling bottles for ground water:

1. Equipments
   - Stove
   - Sterilizer / Kettle for boiling
2. Glassware:

   Specimen bottles with cover
   - must be glass, wide-mouth bottles
   - must have a capacity of 100 ml
   - must be heat resistant.
   - must be clear/transparent
3. Procedure:
   - Wash the specimen bottles thoroughly with suitable detergents.
   - Rinse well with tap water to remove traces of residual washing compounds.
   - Arrange the specimen bottles in the sterilizer with water and boil (approximately 100°C) and continue boiling until 10 minutes.
   - Drain to remove all the water inside the bottles.
   - Cover the specimen bottles immediately to avoid contamination.

   - Remove the cover when ready for water sample collection.

B. Collection of water sample

1. The tap should be cleaned and free from attachments and fully opened with water allowed to run to waste for a sufficient time to permit the flushing/clearing of the service lines. Flaming is not necessary. Taps with a history of previous contamination may be disinfected with hypochlorite solution (Na0Cl 100 mg/l). No samples shall be taken from leaking taps.

2. Sterilized glass bottles, provided with either ground glass stoppers or plastic screw caps, should be used for collection of samples. A paper or thin aluminum foil cover should protect both the stopper and neck of the bottle. For waters that have been chlorinated, bottles containing 0.1 ml of a 3% solution of sodium thiosulfate for every 100 ml of water sample should be used.

The bottles should be kept unopened until it is ready for filling. It should be filled without rinsing and ample space (at least 2.5 cm) must be left for mixing samples. The stopper or cap should be replaced with a protective cover for additional protection.

Sampling methods for bacteriological testing

An appropriate collection form should accompany all samples (Annex K). When water samples are collected for analysis, care should be taken to ensure that there is no external contamination of the samples. Unless valid samples are collected, the results of the subsequent analysis may be misleading.

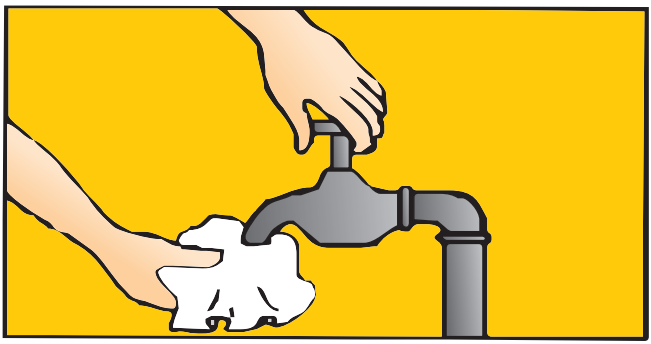
Water can be divided into three basic types for the purpose of sampling:

1. Water from a tap in a distribution system or from a fixed pump outlet, etc.
2. Water from a watercourse (river, lake, etc.) or a tank
3. Water from a dug well, etc., where sampling is more difficult than from an open watercourse.

1. Sampling from a tap or pump outlet

A. Clean the tap

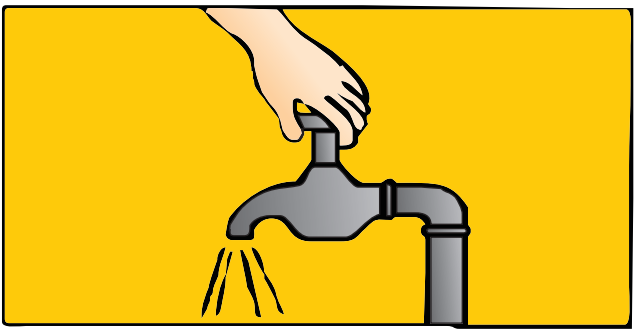
Remove from the tap any attachments that may cause splashing. Using a clean cloth, wipe the outlet to remove any dirt.



B. Open the tap

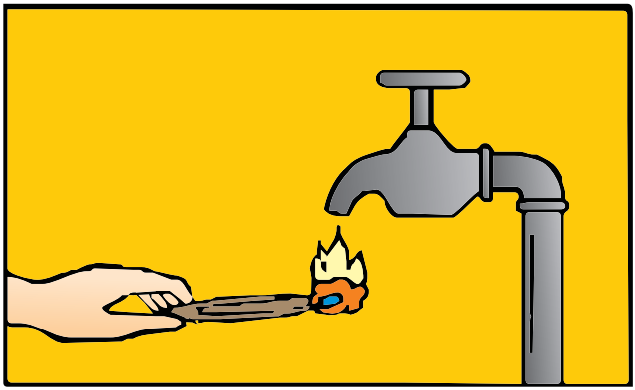
Turn on the tap at maximum flow and let the water run for 1–2 minutes.

Note: Some investigators do not continue to stages C and D but take the sample at this stage; in this case, the tap should not be adjusted or turned off, but left to run at maximum flow. The results obtained in this way will provide information on the quality of the water as consumed. If the procedure is continued to stages C and D, however, the results represent the quality of the water excluding contamination by the tap.



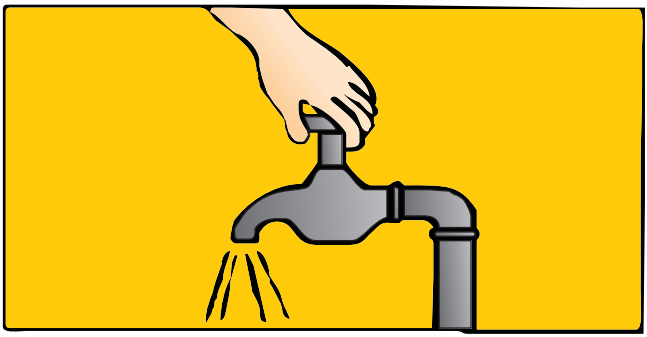
C. Sterilize the tap

Sterilize the tap for a minute with the flame from a gas burner, cigarette lighter, or an ignited alcohol-soaked cotton-wool swab. For plastic tap, sterilize with cotton swab soaked in Chlorox or 100 mg/L sodium hypochlorite solutions



D. Open the tap before Sampling

Carefully turn on the tap and allow the water to flow for 1–2 minutes at a medium flow rate. Do not adjust the flow after it has been set.

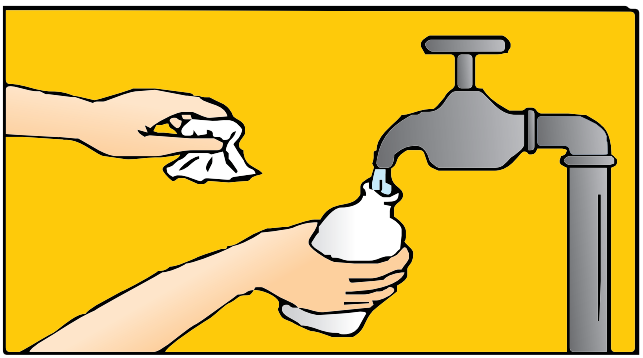


E. Open the sterilized bottle

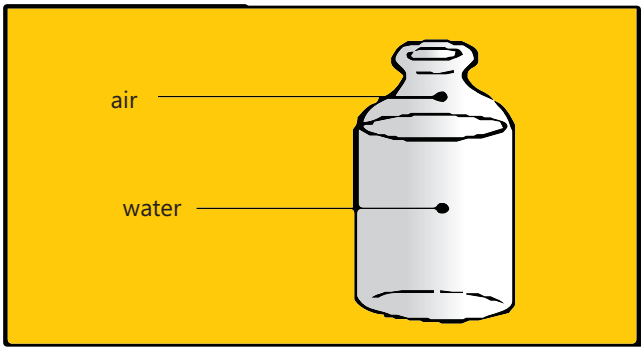
Take out a bottle and carefully unscrew the cap or pull out the stopper.

F. Fill the bottle

While holding the cap and with the protective cover facing downwards (to prevent entry of dust, which may contaminate the sample), immediately hold the bottle under the water jet, and fill.



A small air space should be left to make shaking before analysis easier.



G. Stopper or cap the bottle

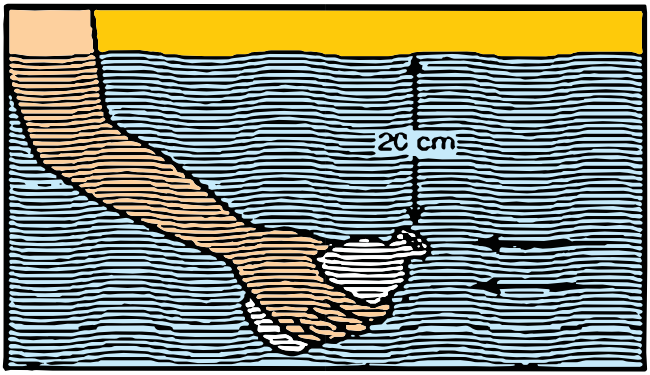
Place the stopper in the bottle or screw on the cap and fix the brown paper protective cover in place with the string. A small air space should be left to make shaking before analysis easier.

2. Sampling from a watercourse or reservoir

A. Open the sterilized bottle as described in section 1.

B. Fill the bottle

Holding the bottle by the lower part, submerge it to a depth of about 20cm, with the mouth facing slightly upwards. If there is a current, the bottle mouth should face towards the current. The bottle should then be capped or stoppered as described previously.



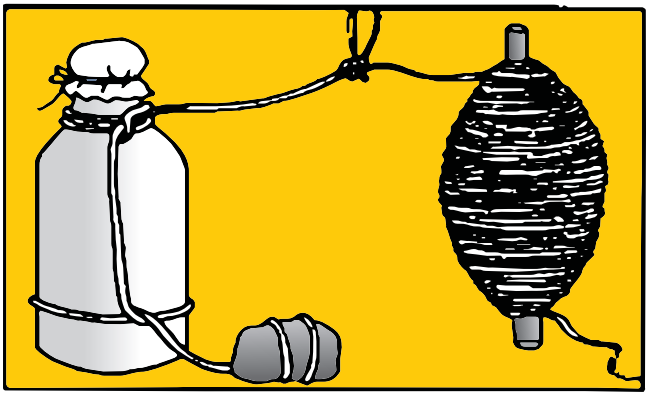
3. Sampling from dug wells and similar sources

A. Prepare the bottle

With a piece of string, attach a clean weight to the sampling bottle.

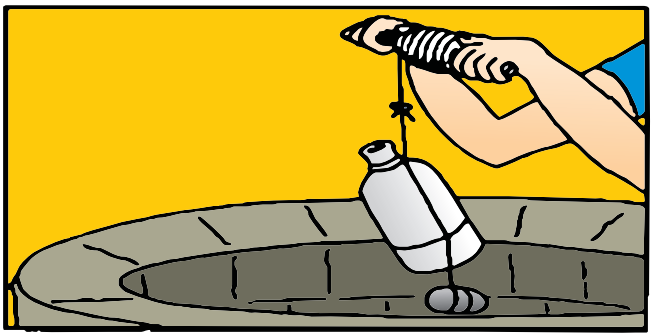
B. Attach the bottle to the String

Take a 20-m length of clean string rolled around a stick and tie it to the bottle string. Open the bottle as described in section 1.



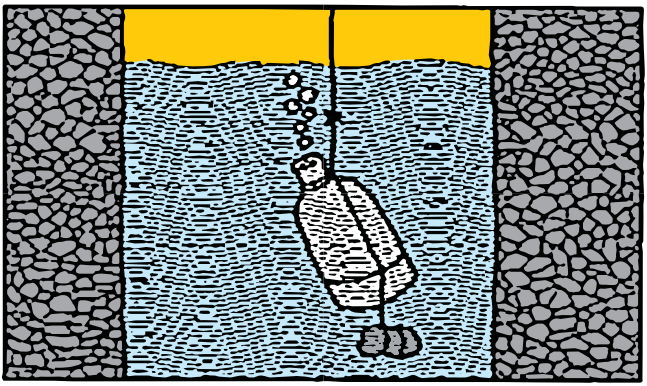
C. Lower the bottle

Lower the bottle, weighed down by the weight, into the well, unwinding the string slowly. Do not allow the bottle to touch the sides of the well.



D. Fill the bottle

Immerse the bottle completely in the water and lower it well below the surface without hitting the bottom or disturbing any sediment.



E. Raise the bottle

C. Forms to Fill Up:
Refer to Annex K (Request Form)

D. Specimen/Sample Handling, Transport and Storage

The bacteriological analysis of water samples collected should be initiated promptly after collection to avoid unpredictable changes.

If samples cannot be processed within six (6) hours after collection, the use of ice coolers for storage of water samples during transport to the laboratory is recommended. The time elapsed between collection and processing should in no case exceed 24 hours. The time and temperature of storage of all samples should be considered in the interpretation of data.

E. Designated Laboratory to Perform the Tests:

- National Reference Laboratory-EAMC

Below is the list of accredited Water Laboratories Nationwide (List of Accredited Water Laboratories by BHFS-DOH) as of December 31, 2007. It is also advised that you get in touch with local CHD for any updated list and contact details of accredited water testing laboratories.

NAME OF WATER TESTING LAB.	ADDRESS/ CONTACT NUMBERS	OWNER/ HEAD	CLASS.	ACCR. NO.
REGION I				
ILOCOS NORTE				
CDCB WATER ANALYSIS LABORATORY	Brgy. 40, Buyon, Bacarra (077) 762-1007 / 776-0556	Crystal Dew Bottling Corporation	FS	209
PANGASINAN				
REGION I MEDICAL CENTER WATER LABORATORY	Arellano St., Dagupan City	Region I Medical Center	HB	063
DAGUPAN CITY WATER DISTRICT LABORATORY	New Administrative Bldg., Tambac Dist. Dagupan City (075)-5158220	Engr. Alex Fernandez	FS	233
REGION III				
BATAAN				
BATAAN PROVINCIAL WATER LABORATORY	PHO compound, Balanga City (047)2373270; Fax: (047)2372711	Ms. Marciana T. dela Cruz	IB	064
BULACAN				
AMEER LABORATORY	Mabini St., Mojon, Malolos, Bulacan (044)-6626448	Dr. Susan P. Quialoit	IB	234
PAMPANGA				
ANGELES CITY WATER DISTRICT LABORATORY	Friendship Hi-way, Angeles City (045) 887-0232 / 887-7222 fax	Angeles City Water District	FS	189
ZAMBALES				
SUBIC WATER FREEPORT WATER ANALYSIS LABORATORY	Bldg. 1855 Binictican, Subic Bay, Freeport Zone, Olongapo City (047) 252-2960 to 65 (047) 252-2966 fax	Subic Water and Sewerage Co., Inc.	FS	128

FS - free standing HS - hospital-based IB - Institution based

NAME OF WATER TESTING LAB.	ADDRESS/ CONTACT NUMBERS	OWNER/ HEAD	CLASS.	ACCR. NO.
JAMES L. GORDON MEMORIAL HOSPITAL	Rizal Ave., Brgy. Asinan, Olongapo City			
REGION IV				
BATANGAS				
LIPA QUALITY CONTROL CENTER WATER LABORATORY	5/F Señora Maria Bldg., P.Torres St. cor C.M. Recto Ave., Lipa City (043) 7566220	Ms. Rinnah L. Agad	FS	121
OPTIMAL LABORATORIES	2ND Floor T&E Bldg., Pres. Laurel Highway, Balintawak, Lipa City (043) 756-1292	Optimal Laboratories, Inc.	FS	144
CAVITE				
REGIONAL WATER LABORATORY	JM Loyola St., Carmona (046) 430-3072 (046) 430-1001 fax	Municipality of Carmona	FS	082
DASMARIÑAS WATER DISTRICT LABORATORY	Camerino Ave., Dasmariñas (046) 416-3998	Dasmariñas Water Dist.	FS	208
LAGUNA				
AQUA LAB CENTER – CALAMBA	Doña Raymonda Bldg., J.P. Rizal Calamba City, Laguna (049) 545-9982	MHA Enterprises Corp.	FS	161
REGIONAL STANDARDS & TESTING WATER LABORATORY	Jamboree Rd., Timugan, Los Baños Laguna (049) 536-5013	DOST IV	FS	109
COCA-COLA BEVERAGE GROUP CENTRAL LABORATORY	Coca-cola Bottlers Phils,, Inc., Sta. Rosa Plant I, Sta. Rosa (048) 688-5713 / (048) 688-5820	San Miguel Corporation	FS	203
QUEZON				
QUEZON METROPOLITAN WATER DISTRICT LABORATORY	Maharlika Highway, Brgy. Ibabang Dupay Red V, Lucena City (042)7103352 / (042)7102855	Engr. Rodlofo D. Faller	FS	180
REGION V				
CAMARINES SUR				
METROPOLITAN NAGA WATER DISTRICT LABORATORY	#40 J. Miranda Ave., Naga City (054) 473-8438/473 (054) 811-1899 fax	Mr. Eduardo A. Almenor	FS	178

FS - free standing HS - hospital-based IB - Institution based

NAME OF WATER TESTING LAB.	ADDRESS/ CONTACT NUMBERS	OWNER/ HEAD	CLASS.	ACCR. NO.
CAMARINES NORTE				
CAMARINES NORTE WATER DISTRICT	Daet, Camarines Norte (054) 4403500 Fax: (054)7212237	Mr. Ryan J. Ramones	FS	232
CATANDUANES				
EASTERN BICOL MEDICAL CENTER	San Isidro Village, Virac, Catanduanes (052) 8111384 / (052) 8110219	Dr. Rene B. Tupue	IB	120
REGION VIII				
LEYTE				
EASTERN VISAYAS MEDICAL CENTER	Magsaysay Bldg., Tacloban City (53) 3213136 / (053) 3218724	Dr. Flora A. dela Peña	IB	26
REGION X				
BUKIDNON PHILLIPS MEMORIAL HOSPITAL	Camp Phillips, Manolo Fortich, Bukidnon (08822) 714531	Dr. Mary Jean L. Amit	IB	235
REGION XI				
DAVAO DEL SUR				
DAVAO CITY WATER DISTRICT LABORATORY	DCWD Regional Training Center Madapo Hills, Davao City (082) 221-5132 / 221-5529 226-4885 fax	Davao City Water District	FS	011
REGIONAL PUBLIC HEALTH LABORATORY-DAVAO REGION	Bajada, Davao City	Dr. Leoncio Ong	IB	047
DAVAO DEL NORTE				
DAVAO DEL NORTE PROVINCIAL HEALTH OFFICE WATER LABORATORY	Carmen, Davao del Norte 217-3340 loc. 120	Provincial Government of Davao del Norte	IB	159
TAGUM WATER DISTRICT LABORATORY	National Highway, Brgy. North Tagum City (084) 2173159 / (084) 4001137	Mr. Joaquin Q. Cadorna, Jr.	FS	237
REGION XII				
SULTAN KUDARAT				
NOTRE DAME OF TACURONG COLLEGE WATER LABORATORY	Tacurong City	Dr. Edwin C. Alconcel	IB	236

FS - free standing HS - hospital-based IB - Institution based

NAME OF WATER TESTING LAB.	ADDRESS/ CONTACT NUMBERS	OWNER/ HEAD	CLASS.	ACCR. NO.
NCR				
MANILA				
DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH	CPH, UP Manila, 625 Pedro Gil St. Ermita, Manila (02) 5247102 / (02) 5237745	Engr. Romeo R. Quizon	FS	224
EMILIO AGUINALDO COLLEGE MICROBIOLOGY LABORATORY	1113-1114 San Marcelino St., Paco, Manila (02) 521-2710 loc. 5391	YLFI-Emilio Aguinaldo College	FS	156
QUEZON CITY				
FIRST ANALYTICAL SERVICES & TECHNICAL COOP. LABORATORY	#65 20TH Ave., Cubao, Quezon City (02) 913-0241 / (02) 912-6319 (02) 913-8848 fax	FAST Cooperative	FS	091
ENVIRONMENTAL HEALTH LABORATORY SERVICE COOP	50 Holy Spirit Drive, Don Antonio Heights, Quezon City	Environmental Health Laboratory Services Coop.	FS	024
HOPE LOVE FAITH MEDICAL CLINIC AND LABORATORY	35-C Quezon Ave., cor. Cordillera St., Quezon City (02) 749-9589	Dr. Exaltacion Caringal	FS	172
NATIONAL REFERENCE LABORATORY EAST AVENUE MEDICAL CENTER	East Avenue, Diliman, Quezon City (02) 435-7136	DOH	HB	205
MAYNILAD WATER CENTRAL LABORATORY	La Mesa Treatment Plant I, La Mesa Dam Compound, Fairview, Quezon City (02) 430-2928 / (02) 430-2923	Maynilad Water Services, Inc.	FS	126
MICROBIOLOGY LABORATORY	SEC, Ateneo de Manila University, Katipunan Rd., Loyola Heights, Quezon City	Ateneo de Manila University	FS	146
AQUA LAB CENTER	Unit 10, #262 Del Monte Ave., cor. Mayon St., Maharlika, Quezon City (02) 742-4743 (02) 742-4745 / (02) 711-0917	Ms. Lita L. Luciano	FS	162

FS - free standing HS - hospital-based IB - Institution based

NAME OF WATER TESTING LAB.	ADDRESS/ CONTACT NUMBERS	OWNER/ HEAD	CLASS.	ACCR. NO.
AERONICS INC. ENVIRONMENTAL LABORATORY DIVISION	No. 19 Ashley St., North Fairview, Quezon City (02) 9354349 / (02) 9354861 (02) 4171614	Ms. Jonah L. Bondoc	FS	184
MANILA WATER COMPANY LABORATORY SERVICES	MWSS Complex, Katipunan Rd., Balara, Diliman, Quezon City (02) 9267999 loc 4000, 4001, 4002 Fax: (02) 9818146	Ms. Elizabeth P. Sevileno	FS	116
KIM BLAZE BIOCHEM LABORATORIES	148 N. Domingo St., Bgry. Kaunlaran Quezon City (02) 7250455 / (02) 7276474	Mr. Christian T. Basug Ms. Cynthia R. Cadag	FS	192
A. DAMIAN LABORATORIES	400 Mayon St., Brgy Lourdes, Quezon City (02) 7317770 / (02) 7410988	Ms. Maria Lia Barbara S. Inocencio	FS	164
QUALIBET TESTING & SERVICES CORP.	121 Dangay St., Proj 7, Quezon City (02) 3748003 / (02) 3727993 Fax: (02) 4106048	Ms. Genevieve Leonardo	FS	231
CJK AIR & WATER TESTING LABORATORY	#99-C Judge Juan Luna St., Bgry. San Antono, Quezon City (02) 4112057	Ms. Onelia V. Cayabyab	FS	239
MAKATI CITY SGS PHILIPPINES, INC	2/F Alegria Bldg., 2229 Chino Roces Makati City (02) 8175656 / (02) 8176261	Ms. Jocelyn S. Babaan	FS	016
INTERTEK TESTING SERVICES OHILS., INC	ITS Bldg., 2310 Pasong Tamo Ext. Makati City (02) 8195847 to 47 (02) 8873220 to 23 (02) 8172994 / (02) 8195848	Ms. Mina Mercado	FS	032
SPECTRA MULTI TESTING SOLUTIONS, INC.	2216 Don Chino Roces Ave., Brgy. Pio del Pilar, Makati City (02) 3391205 loc 81	Mr. Louie James Otilano	FS	241
MANDALUYONG CITY SENTRO TEK	208 Pilar St., Mandaluyong City (02) 7216500 / (02) 7210739	Ms. Priscila P. Tongco	FS	141

FS - free standing HS - hospital-based IB - Institution based

NAME OF WATER TESTING LAB.	ADDRESS/ CONTACT NUMBERS	OWNER/ HEAD	CLASS.	ACCR. NO.
LABSERV, INC.	Suite 607 Jovan Condo, #600 Shaw Blvd cor Samat St, Mandaluyong City (02) 5316324 / (02) 5316039	Ms. Daisy R. Casuayan	FS	157
KIMIKO RESEARCH LABORATORY COMPANY	Unit 2C, 648 Boni Ave., Plainview, Mandaluyong City (02) 5330847	Mr. Christian Jay B. Cambiador	FS	238
PASIG CITY				
CHEMPRO ANALYTICAL SERVICES LABORATORIES, INC.	6th Floor, AF Bldg., 182 Shaw Blvd. Ext., Pasig City (02) 671-7366 / (02) 671-7329	Liwanag C. Cruz	FS	068
LAS PIÑAS CITY				
MACH UNION, INC. WATER LAB	Unit 22, URCI Commercial Bldg., 21 C-5 Real St., Las Piñas City (02) 873-6303 / (02) 871-2707	Aladino M. Abulencia	FS	122
MACH UNION, INC. WATER LAB	12C-C Horseshoe drive, Monarck Subd. Pamplona, Las Piñas City (02) 8736303 / (02) 8712707	Mr. Dennis SA. Tuyogon	FS	122
TAGUIG CITY				
TAGUIG WATER TESTING LABORATORY	6-A Gen. Luna St., Tuktukan, Taguig City 09189278075	Dr. Demetrio L. Valle, Jr.	FS	240

FS - free standing HS - hospital-based IB - Institution based

What should lay persons remember about food and water-borne disease outbreaks and the role that they may play in response to such an occurrence?

Since food and water-borne disease outbreaks may affect or can involve all of us at anytime, it is important that lay persons should remember the following:

- A food or water-borne disease outbreak is defined as an incident in which two or more persons experience a similar illness after ingestion of a common food or water in the past 4 weeks.
- Lay persons can significantly contribute in the recognition and reporting of a possible food and water-borne disease outbreak.
- Lay persons' assistance may prove to be invaluable in the recognition and reporting of suspected outbreaks, submission of human specimens and collection of appropriate specimens from the suspected source of a food and water-borne disease outbreak.

Community health may be attained with the cooperation and participation of everyone. We must all recognize the role we can play and actively participate in opportune times so we can safeguard our community's health.

Annex A

Foodborne/Waterborne Outbreak Early Alert Fax/Email Template

To: _____ **Fax:**_____
From:_____ **Phone:** _____
CC: _____ **Date:** _____

This is an early alert/heads up on an investigation we are conducting. The information contained in this fax should be considered preliminary and confidential. This information should not be shared or distributed without permission from the sender. If you have similar cases, please notify the appropriate agency or agencies in your jurisdiction.

The Department of Health is currently investigating an outbreak that is suspected to be

foodborne _____
waterborne_____
of unknown source/vehicle _____

Number of cases _____ **Number of clusters**_____

Earliest onset date_____ **Latest onset date**_____

Pathogen/Agent _____ **(suspected/confirmed)**

Food/Water Product _____ **(suspected/implicated/lab confirmed)**
Place(s) of Exposure _____

Details:

Our agency's lead contact is:

Name:
Phone Number:
Fax Number:

Confidential

Annex B

TO BE FILLED UP BY MICROBIOLOGY LAB

MC-RCS No. _____
Date received _____
By_____

BFAD-LSD-FORM
MC-RCS

_____
Routine Slip No.

REQUEST FOR MICROBIOLOGICAL ANALYSIS
OF COLLECTED SAMPLES
(Please print legibly)

_____
Date

A. Product Identity and Description

1. Brand & Product Name_____
2. Manufacturer/Distributor Name & Address _____
_____
3. Package Type ☑

☐ Can/Retortable Pouch ☐ Rigid Plastic Container
☐ Bottle ☐ Flexible Plastic Container/Bag
☐ Tetra Pack ☐ Other, *please specify*_____
☐ Doy Pack _____

4. Appropriate storage condition ☑

☐ ambient/room temperature ☐ requires refrigeration ☐ frozen

5. Lot Identification Code _____
6. Date Marking

Production Date_____

Expiry/Best Before/Consume Before Date_____
(underline type of date marked on label/container)

7. Container Condition
☐ Original Container Unopened without Seal
☐ Original Container Unopened with Seal Intact
☐ Original Container Opened/ Seal Broken or Tampered
☐ Not in Original Container, *please describe container*_____
_____

B. Amount of Samples Submitted (*number x vol/wt*) _____

C. Source of Sample (☑ Check appropriate source of sample)
☐ Purchased from _____
Name and Address of Retail Outlet
_____

Annex B

Collected from:

☐ Manufacturer's Processing Plant: ☐ Production line ☐ Warehouse

☐ Manufacturer's Warehouse (not within premises of processing plant)

_____
(Warehouse name & address)

☐ Manufacturer's Authorized Distributor _____

_____
(Distributor name & address)

☐ Other Manufacturer's Processing Plant using the product _____

_____
(processing plant name & address)

☐ Other (*please specify*) _____

_____

D. Purpose of Collection: _____

_____

_____

E. Examination Desired: ☑

☐ Standard /Aerobic Plate Count (SPC / APC)
☐ Coliform Plate Count
☐ Molds & Yeasts Count
☐ E. coli
☐ Salmonella
☐ Staphylococcus aureus
☐ Listeria
☐ Commercial sterility

☐ Others, *please specify*
_____
_____
_____
_____
_____
_____

F. Specific Instructions: _____

_____

_____

_____

Submitted by: _____
Name

_____
Position/Designation

_____
Division/Field Office

NOTE: Use one request form per sample to be submitted for analysis.

Annex C

TO BE FILLED UP BY MICROBIOLOGY LAB

MC-RCM No. _____
Date received _____
By _____

BFAD-LSD-FORM
MC-RCM

_____
Routing Slip No.

REQUEST FOR MICROBIOLOGICAL ANALYSIS OF COMPLAINT SAMPLES
(Please print legibly)

_____
Date

A. Product Identity and Description
1. Brand & Product Name_____
2. Manufacturer/Distributor Name & Address _____
_____
3. Package Type ☑
☐ Can/Retortable Pouch ☐ Rigid Plastic Container
☐ Bottle ☐ Flexible Plastic Container/Bag
☐ Tetra Pack ☐ Other, *please specify*_____
☐ Doy Pack _____
4. Appropriate storage condition ☑
☐ ambient/room temperature ☐ requires refrigeration ☐ frozen
5. Lot Identification Code _____
6. Date Marking
Production Date_____
Expiry/Best Before/Consume Before Date_____
(underline type of date marked on label/container)
7. Container Condition
☐ Original Container Unopened without Seal
☐ Original Container Unopened with Seal Intact
☐ Original Container Opened/ Seal Broken or Tampered
☐ Not in Original Container, *please describe container*_____
_____

B. Amount of Samples Submitted (*number x vol/wt*) _____

Is sample submitted part of consumed food suspected to have caused alleged illness/injury suffered by complaint(s)? ☑
☐ Yes
☐ No, but from same lot code
☐ No, purchased from same outlet/received from same person/entity
☐ Other, please specify _____
_____
_____

C. Source of Sample (☑ Check appropriate source of sample)

Annex C

☐ Purchased from _____
Name and Address of Retail Outlet

_____

Date of Purchase _____

☐ Received from _____
Name and Address of Person/Entity as Source of Complained Sample

D. Nature of Complaint

[Brief description of circumstances leading to complaint, including but not limited to those indicated below, is important to determine the appropriate laboratory examination.]

1) date of consumption of complained product_____
2) no. of days/hours between consumption and purchase/acquisition of complained product _____
3) no. of persons who consumed product_____
4) description of symptoms manifested (*vomiting, diarrhea, etc.*)_____
_____
_____
5) date/time of onset of symptoms_____
6) no. of persons affected with similar symptoms_____
7) age of person affected_____.

Additional Information: (Use separate sheet, if necessary)

_____
_____
_____
_____

NOTE: If person/s affected was/were examined by a physician, please attach medical report/certificate.

E. Requesting Party/Complainant

Postal Address:

_____ _____
Printed Name and Signature _____
_____ _____
Telephone / Fax No

– – – – – –

TO BE FILLED BY THE LABORATORY SERVICES DIVISION

Product / Sample submitted to LSD:

Date & Time received:_____by _____

If product requires refrigeration/frozen storage, describe condition upon receipt & how transported to BFAD.

_____
_____

Annex D

BUREAU OF ANIMAL INDUSTRY CONSUMER HELP DESK
Department of Agriculture - Bureau of Animal Industry
Visayas Avenue, Diliman, Quezon City
Tel. Nos. (02)926-6866/ 9203906

COMPLAINT SHEET

Date Filed_____

Name/ Name of Respondent/s:_____

_____

Name of Complainant:_____

Address/ Tel. No. of Complainant:_____

Nature of Complaint:_____

_____

Evidence Presented:_____

_____

Demands/ Request:_____

_____

Details of Complaint:_____

_____

Findings/ Suggestion/ Action Taken:_____

_____

_____

_____

Name and Signature of Interviewer

Annex E

National Meat Inspection Service (NMIS)

LSD Form No. 1A (ARBITRARY)
LSD Control No. _____

_____
Date

LABORATORY REQUEST FORM
(for local and walk-in clients)

Requested by:

Owner: _____
Representative: _____
Establishments: _____
Address: _____
Tel. No.: _____

Sample submitted: _____

Type of sample: ( ) Fresh ( ) Frozen ( ) Canned ( ) Others _____

Sampling date: _____
Date of slaughter: _____
Time of slaughter: _____
Date Processed: _____
Sampler Name: _____
Source: _____

No. of samples: _____ Weight (approximate) per sample: _____

Examination Desired:

( ) Organolepic Test
( ) Bacteriological Test
( ) Pathological Test
( ) Molecular-Based Test

- ○ Salmonella
- ○ Yersinia
- ○ Listeria Monocytogenes
- ○ Campylobacter
- ○ E. coli (0157:H7)
- ○ Meat species identification

( ) Veterinary Drug Residue Test

- ○ Elisa Test
  - ○ Chloramphenicol
  - ○ Nitrofuran
  - ○ Beta Agonist
  - ○ Hormones
  - ○ Corticosteroids
- ○ Microbial Inhibition Test
  - ○ Penicillin
  - ○ Sulfa drugs
  - ○ Tetracycline
  - ○ Streptomycin
  - ○ Erythromycin
  - ○ Quinolone

( ) Others, please specify: _____

Remarks: _____

Received by: _____
Date Received: _____
OR No. _____

Approved by:

_____
Head, DA-NMIS LSD

Annex F

National Meat Inspection Service (NMIS)

LCD Form No. 1B
LSD Control No. _____

_____
Date

LABORATORY REQUEST FORM
(for Examination of Imported Meat and Meat Products)

Name of Storage: _____

Consignee: _____

Sampling date: _____

A. Packaging:

Place of Origin: _____
Establishment No.: _____
Vet. Control No.: _____
Container No.: _____
Net. Weight: _____
External Packaging Appearance: *(Please check whichever is applicable)*

( ) Carton with/without polyfoil ( ) Polysack w/ or w/out polyfoil
( ) Stockinet w/ or w/out polyfoil ( ) Styropor receptacle
( ) Jute sack w/ or w/out polyfoil ( ) Others _____

Date of Packaging: _____
Expiration Date: _____

B. Examination of the Samples:

No. of samples in carton: _____
Block product? ( ) Yes ( ) No
Inside Packaging: *(Please check whichever is applicable)*

( ) Polyfoil bag
( ) Polythylene bag
( ) Alu, Poly, Tray Packing
( ) Polyfoil w/ Multivac/Cyrovac
( ) Others _____

Condition: ( ) Chilled ( ) Frozen Internal Temperature of Meat: _____°C

C. Meat Identification: _____

	Normal	**Abnormal**	**Remarks *(please specify)***
Color	○	○	_____
Odor	○	○	_____
Texture	○	○	_____

Total Weight *(approximate)* of samples submitted: _____

D. Examination Desired: _____
_____

_____
Signature over printed name of Plant Officer/Veterinarian

Received by: _____
Date Received: _____

APPROVED BY: _____
Date: _____

Annex G

National Meat Inspection Service (NMIS)

LSD Form No. 1C
LSD Control No. _____

LABORATORY REQUEST FORM
(for Examination of Canned Meat Products)

_____
Date

CLIENT : _____
ADDRESS : _____
TEL/FAX : _____

Description of Samples:
( ) Export ( ) Import ( ) Local ( ) Others _____

Please accomplish the following information per product to be examined.

Product Name	Brand/Manufacturer	Weight	Product Code	Mfg. Date	Expiry Date	# of samples

TOTAL # of CANS: _____

REMARKS *(Please accomplish /product if appropriate)*

_____

_____

Examination Desired:

( ) Organoleptic Test
( ) Chemical Test
( ) Parasitological Test
( ) Bacteriological Test
( ) Pathological Test
( ) Others, please specify: _____

Requested by:

Name: _____
(Signature over printed name)
Address: _____
Tel No. _____

Approved by: _____
LSD Head

Date: _____

Annex H

BUREAU OF PLANT INDUSTRY
LABORATORY SERVICES DIVISION

REQUEST ORDER FORM

Date _____

Name: _____
Address: _____

Items/ Materials	Types of Analysis	Cost
_____	_____	P _____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total P _____

REMARKS: _____
_____

O.R. No. _____
Date: _____
Received by: _____

Requested by:

_____

Approved:

_____

Annex I

Republic of the Philippines
Department of Agriculture
Bureau of Fisheries and Aquatic Resources
860 Arcadia Building, Quezon Ave., Quezon City 3008
Tel. Nos. 632- 372-50-57 * 373-74-52
Fax Nos. 632 - 372-50-48

SAMPLE COLLECTION FORM

Date Collected : _____
Date Received : _____
Job Order No. (Lab internal use)_____

Purpose of Sampling : ☐ monitoring / verification ☐ certification

Reference Code : (PLANT LOCATION / COMPANY NAME / PRODUCTION DATE - _____
(for BFAR use only) Year/Month/Date)_____

Official Code : Inspection Unit-Region-year-unique sample code) Ex. IU3-06-0020_____

Name of Establishment : _____

Address : _____
_____

Approval Number : _____

Name of Product : _____

Origin of raw material : _____

Source of raw material : ☐ Wild-caught ☐ Aquacultured

State/Condition of Sample Received:

☐ Fresh ☐ Chilled ☐ Frozen ☐ Dried ☐ Canned ☐ Others: _____

Product Temperature : _____

Storage Container (upon submission to the laboratory) : _____
Sampling Point :

☐ Production Line ☐ Post Production ☐ Post Incubation Period ☐ Van Loading ☐ Others

English & Scientific Name of Raw Material _____
Batch Number : _____
Production Code : _____
Production Date : _____
"Best Before" Date : _____
Country of Destination : _____
Type of Analysis Requested _____:

_____
Net Weight of Sample : _____

Collected by (BFAR Inspector/Analyst or Company Representative):

BFAR: _____ Exporter: _____
(Name and Signature) (Name and Signature)

Received from (BFAR Inspector Analyst or Company Representative):

BFAR: _____ Date Received: _____
(Name and Signature)

Analysis Conducted by (BFAR or 3rd Party Lab):

BFAR: _____ 3rd Party Lab: _____
(Lab Analyst)) (Lab Analyst)

_____
(Laboratory Name)

Annex J

Republic of the Philippines
NATIONAL DAIRY AUTHORITY
BAI Compound, Visayas Avenue, Diliman, Quezon City

REQUEST FOR LABORATORY SERVICE (RLS) FORM

Client: _____ Date: _____
Address: _____ RLS No. _____
Tel. No.: _____
Fax No.: _____

1. LABORATORY ANALYSIS

Sample	Description, Package and Code	Type of Analysis	Unit Cost	Total Cost

2. Other Services

_____
_____

Description of Service: (use of extra page if needed)

3. Client's Instruction/s

_____
_____

4. Remarks

_____
_____

Approved by: Information Checked and Verified by: Conforme:Client/Authorized Representative
Printed Name:
Signature Signature: Signature
This form will serve as basis for the issuance of NDA Report/s to client.

_____

Annex K

Republic of the Philippines
Department of Health
East Avenue Medical Center
NATIONAL REFERENCE LABORATORY
East Avenue, Diliman, Quezon City
Tel. No./Fax No.: 435-71-36; Website: www.doh.gov.ph/nrl

REQUEST FOR ANALYSIS OF WATER

1. Sample Collected by: _____
2. Sampling : _____ _____
(Date) (Time)

3. Sampling Point
- ❒ Pump
- ❒ Tank
- ❒ House Faucet
- ❒ Fire Hydrant
- ❒ Flowing Pipe
- ❒ River

4. Specify address of sampling point
_____
_____

5. Source of water supply
- ❒ Deep well
- ❒ Shallow well
- ❒ MWSS
- ❒ Local Waterworks
- ❒ Rain Water
- ❒ River
- ❒ Lake
- ❒ Developed Spring
- ❒ Undeveloped Spring

6. Type of Ownership
- ❒ Private
- ❒ Public
- ❒ Commercial

7. Type of Well
- ❒ Dug
- ❒ Bored
- ❒ Drilled
- ❒ Sanitary

8. Well Usage
- ❒ New (not yet in use)
- ❒ Recent (use of less than 3 months)
- ❒ Old (in use over 3 months)

9. Pump requires priming
- ❒ Yes
- ❒ No

10. Repairs done within two (2) months
- ❒ None
- ❒ Pump
- ❒ Rod
- ❒ Cleaned well

11. Water Treated Specify
- ❒ Yes
- ❒ No

12. Distance of the following from the well in meter

Privy	_____ meter(s)
Septic Tank	_____ meter(s)
Cesspool	_____ meter(s)
Stagnant Water	_____ meter(s)
Sea and Others (Specify) _____	_____ meter(s)
Piggery, poultry or Animal house	_____ meter(s)
Hospital Effluent	_____ meter(s)
Cemetery	_____ meter(s)
Canal	_____ meter(s)
Garbage/Dumpsite	_____ meter(s)

13. Analysis requested
- ❒ Bacteriological
- ❒ Physical & Chemical

Parameters to be examined:
_____

14. **Send report to:**
Name: _____
Designation: _____
Address: _____
_____

_____
Signature of person or representative
Requesting examination

For the Laboratory Only

Lab. Accession No. : _____
Received by : _____
Date and Time : _____
Laboratory No. : _____
Amount Paid & O.R # _____

Date & Time Received (Reception Area) : _____
(For Water Bacteriology/Water Chemistry)
Date and Time Received : _____
Time Result Done : _____
Time Result Received (Reception Area) : _____
Date and Time of Releasing : _____
Signature : _____

NRL-WRTFRM1

CUT HERE

Name of Requesting Party:	**Type of Sample & Service(s) Done:**
O.R. # and Amount Paid:	❒ ***Water Sample*** ❒ Routine ❒ Refilling ❒ Device ❒ Bacteriology ❒ Physical/Chemical
Date of Issuance:	❒ ***Drug Testing Kit*** ❒ Performance Evaluation ❒ For Bidding Purposes
Received by: (Printed Name and Signature)	❒ ***Drugs of Abuse*** ❒ Screening ❒ Confirmatory ❒ Standard Preparation

Client's Copy (Please present this and official receipt when claiming your result)

Annex K

NRL-WRTFRM1

DIRECTION FOR COLLECTING AND SENDING WATER SAMPLES
BACTERIOLOGICAL EXEMINATION

1. **Sterilized bottles sent out from the laboratory should be kept unopened and away from contamination until it is required for filling.**

2. **To collect a sample from the tap or pump outlet:**

    a. Clean the tap. Remove from the tap any attachments that may cause splashing and using a clean cloth, wipe the outlet in order to remove dirt.
    b. Turn on the tap or let at maximum flow rate and let the water flow for 1-2 mins.To clean the service lines.
    c. Restrict flow to avoid splashing.
    d. Untie the string around the paper coverings of the bottle.
    e. Unscrew the cap completely without removing the paper cover.
    f. Lift the cover without exposing the inside to dust and wind.
    g. Fill the bottle without rising, allowing air space.
    h. Stopper immediately and fix the paper covering in place with the string.

3. **When collecting from lake, stream, river or shallow well:**
    a. Remove the cover by the technique described in 2d, e, f.
    b. Hold the water near its base and submerge it to a depth one foot below the surface.
    c. Collect sample by sweep of arm with the mouth of the bottle facing slightly upwards or towards the current.
    d. Stopper immediately and fix the paper covering in place the string.

4. **If samples are to be taken from dug wells and similar sources:**
    a. With piece of string, attach a stone of suitable size the sampling bottle.
    b. Take a 20 cm length of clean string rolled around a stick and tie on bottle to string. Open the bottle as described in 2d, e, f.
    c. Lower the bottle weighed by the stone, into the well, unwinding the string slowly. Do not allow the bottle to touch the sides of the well.
    d. Once the bottle is is judged to be filled, rewind the string around the stick to bring up the bottle.
    e. Stopper immediately and fix the paper in place with the string.

5. Fill up completely the attached information blank and submit it with the sample.

6. **Bottles shall be identified properly. Attach a label to the body of the sample bottle (s), indicating the name of collector and requesting person. Source of sampling, date and time of collection.**
7. Water sample shall be sent at once so as to reach the laboratory preferably within 6 hours from the time of collection. If samples cannot reach the laboratory within the period, the use of ice cooler during transport to the laboratory is recommended. The time lapsing between the collection and processing in no case exceed 24 hours.

8. Submission of Samples:

Deep Wells/ Non-MWSS	Mondays & Tuesdays	8:00 am – 2:00 pm
MWSS	Wednesdays	8:00 am- 2:00 pm

9. **Results are ready for release after one week.**

PROJECT PROPONENTS AND EDITORS

CELIA C. CARLOS, MD
SONIA B. SIA, MD

CONTRIBUTORS

DEPARTMENT OF HEALTH

MA. SONABEL ANARNA, MSc.
GERALDINE M. BICOL, MD
CELIA C. CARLOS, MD
ALMUEDA C. DAVID, RMT
MA. CECILIA DELA CRUZ, RMT, MSc.
VIKKI CARR DE LOS REYES, MD
DONATO ESPARAR, RMT
HAZEL GALANG, RMT
JOSEFINA GERONIMO, RMT
MARITESS GO, RMT
MANUEL JAMORALIN, RMT
MARIETTA LAGRADA, RMT
NENITA MARAYAG, RMT
VITO ROQUE, MD
SONIA B. SIA, MD

DEPARTMENT OF AGRICULTURE

RAYNE BIGAY, RMT
LAARNI CABANTAC, DVM
JULIA GARCIA, DVM
SUSANA GONZALO
JUDITH PLATERO
BELINDA RAYMUNDO
LILIA RETES, DVM
MARVIN B. VICENTE, DVM, MSAH, MPM

DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT

MANUEL M. GOTIS
EDWARD T. TEMPLONUEVO

TECHNICAL STAFF

JUNE M. GAYETA

Printed by: FCA Printhouse / Design and Layout by: Marvin Torres

NOTES