

III. EVIDENCE COLLECTION

A. Sample Collection

1. Purpose and Goals

Investigative samples should be collected to:

- Provide physical evidence of the presence of pesticide(s). Samples may be taken to identify an unknown pesticide in the case of a serious exposure (contact your regional office for approval).
- Assess the nature and degree of exposure.
- Determine if violations of pesticide laws occurred,
- Guide mitigation strategies.

The goal of sampling is to prove or disprove an element of a violation or to establish the cause of a pesticide-related incident. Determine the goal of sampling and the appropriate sampling methods to use to meet that goal. If the goal of the sampling is to prove or disprove an element of a violation or to establish the cause of a pesticide-related incident, you must decide what evidence the samples will provide and make a sampling plan to establish that evidence. The CDFA Laboratory will not accept any shipment of investigative samples without prior approval from DPR. When the CAC decides to collect investigative samples, be prepared to explain how the information will meet DPR's sampling protocol.

2. Formulate an Investigative Sampling Plan

CACs are expected to formulate an investigative sampling plan. Upon request, DPR will provide guidance to the CAC. Samples must accurately represent the problem area to justify the analysis. Remember that showing the presence of a pesticide at the incident site is some of the evidence necessary to prosecute a violation or prove the pesticide caused a pesticide-related effect. The sample evidence should demonstrate how the pesticide got to the incident site and the source of the contamination. Additional sample evidence should also rule out any other possible sources of the contamination. Consider these items when formulating a sampling plan:

- Assess the situation and determine what kinds of samples will achieve your determined goal. The nature of the incident will largely determine the types of samples and method of collection.
- Identify the sample pattern and type of samples to collect.
- Type of sampling equipment required to collect the samples, and the equipment needed to store and ship the samples to a laboratory.
- Number of samples, sample type (foliage, swab, soil etc.) and location of the samples.
- Determine the elapsed time since the pesticide application, as pesticide degradation may limit the value of collecting samples.
- What is the half-life of the pesticide? Some active ingredients are undetectable in

24 hours.

- Has it rained or been irrigated since the application? What was the temperature? Was there wind? Was there an inversion layer?
- Review the Pesticide Use Report (PUR) or pesticide use records for the site.
- Obtain spray history from all adjacent fields.

Good sampling procedures and careful investigative techniques will enable you to report your findings with confidence.

3. Communication Protocol for Investigative Samples

This protocol will help avoid delays, unnecessary sampling, and improve tracking. Consult with your EBL or EB regional office manager before taking samples to obtain approval. Discuss the sampling strategy to be used, and to identify any possible laboratory requirements. If prior contact with the EBL or EB regional office is not possible, follow the protocols in this manual, noting any deviation from the protocol in the report. Include a diagram of the sample sites and discuss the sampling strategy with your EBL. A copy of the **Sample Analysis Reports** (DPR-ENF-030) must be sent to your EBL prior to shipment.

The EBL will consult with the CDFA laboratory staff or with WH&S staff (depending on which lab is performing the analysis) to determine the appropriate sampling, storage, and shipping procedures. This process also alerts the chemists to any special methods or reference standards that may be required. The CDFA Laboratory will not accept any shipment of investigative samples without prior approval from DPR.

Contact your EBL or the regional office manager prior to shipping the samples in order to verify which laboratory will perform the analyses and for tracking purposes. Be prepared to provide the following information:

- a) The number and type of samples.
- b) The pesticide active ingredient(s) for which analyses are being requested.
- c) The circumstances of the investigation such as illness, injury, or damage involved or alleged; any relevant factors; and the enforcement potential.

After receiving approval from your EBL, ship samples to the assigned laboratory (see section III (A) (10) (c), page 60 for shipping direction).

4. Sample Types, Sample Units, and Sampling Patterns

Collect samples as soon as possible in the investigation to provide the most meaningful results. Identify the sample type and sample pattern used, the sampling equipment required to collect the samples, and the equipment needed to store and ship the samples to a laboratory. Remember to consider safety precautions, quality assurance requirements, chain of custody, storage, and preservation requirements for the samples.

a. Sample Types

- Total Residue: Total Residue samples are used to determine the presence of pesticides and the amount detected. The analytical results are expressed as mass of the pesticide/total mass of the sample (ppm).
- Surface or swab: Swab samples are used to detect pesticide contamination or drift onto such surfaces as cars and windows. The analytical results are expressed as mass of the pesticide/sample area ($\mu\text{g}/\text{S}$).
- Dislodgeable Foliage: Dislodgeable foliage samples are collected to determine the amount residual pesticides on foliage surfaces. The samples help determine the potential for exposure of workers through contact with the foliage. The analytical results are expressed in amount per sample ($\mu\text{g}/\text{sample}$) and later converted to mass-to-surface area ratio ($\mu\text{g}/\text{cm}^2$) based on the surface area of the known number of leaf punches.
- Volume: Volume samples are used to test for pesticides in air and water. The analytical results are expressed as mass of the pesticide/volume ($\mu\text{g}/\text{m}^3$ or $\mu\text{g}/\text{l}$).

b. Sample Collection Units

There are four different kinds of sample units: single, duplicate, composite, and split.

- Single sample: A single sample provides separate results for an individual sample site.
- Duplicate samples: Duplicate samples are collected under identical conditions, when an affected party requests samples. Collect duplicate samples (two or more) in the same manner as a single or a composite sample from the same site.
- Composite samples: Composite samples are two or more subsamples of equal size that are combined to represent a field or site. Composite samples are taken to determine if a field or site is contaminated, if other samples should be analyzed, and to identify specific chemicals in the sample. Designate the sample as a composite on the *Sample Analysis Report*. The most common reason for taking a composite sample is to obtain fast laboratory analysis.

Another example of when to collect a composite sample is during an investigation of a reported illegal residue where the source tracked to a group of fields. In this case, take a composite sample from each of the suspected fields by collecting the commodity from each of the corners and from the center of each field. Once the contaminated field is identified and a cease and desist stop harvest order issued, determine the appropriate sample pattern to use in pursuit of a misuse investigation

- Split samples: Created by dividing one sample into two equal and identical portions for the purpose of repeating or verifying tests. Collect twice as much material for a sample that will be split as for a single sample.

c. Sampling Patterns

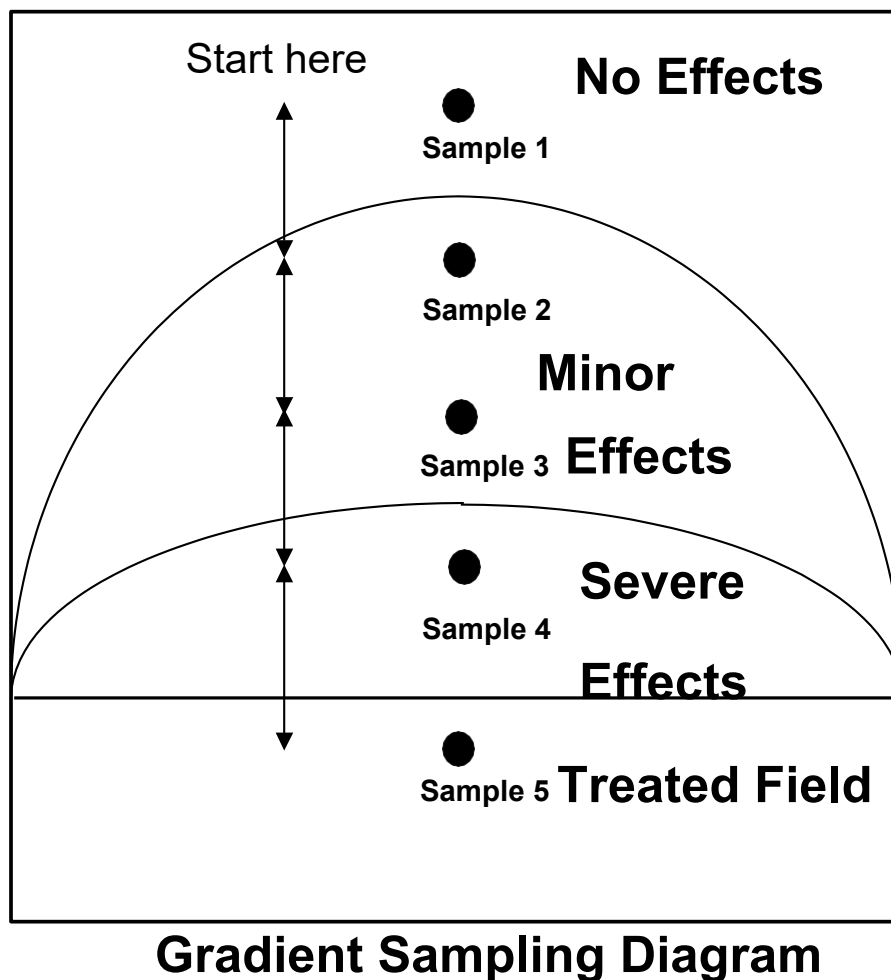
Collect investigative samples in 5-point gradient or 9-point grid patterns. Single point samples are generally inadequate for enforcement purposes and for assessing the nature and degree of exposure. Sampling plans, other than gradient or grid, must be discussed with the EBL prior to collection.

Take precautions to prevent cross contamination. Even walking through an area could contaminate footwear or clothing, so great care should be taken not to sample from areas that have been stepped on or brushed against. When sampling, always sample the area of suspected least contamination and work towards the treatment area. Wash or change tools and gloves between samples collection.

i. Gradient

Gradient samples establish drift of a pesticide. If more than one source of contamination is suspected, collect gradient samples towards each suspected source or use the 9-point grid pattern. Do not use composite samples.

Figure 3



When circumstances allow, collect five samples in a gradient pattern. Certain sampling situations do not allow for the collection of five samples (for example, a drift into a small residential yard, or lack of sufficient quantity of sample material). In such cases, collect a minimum of three samples: one from outside of the suspected contaminated area, one (or more) from the contaminated area, and one from the suspected source area of contamination. The gradient pattern should be in a straight line. Start collecting samples from the area that is suspected to contain the least amount of contaminant. Number the samples in the order they are taken. Document in your report the basis for any variation from the standard.

ii. Grid

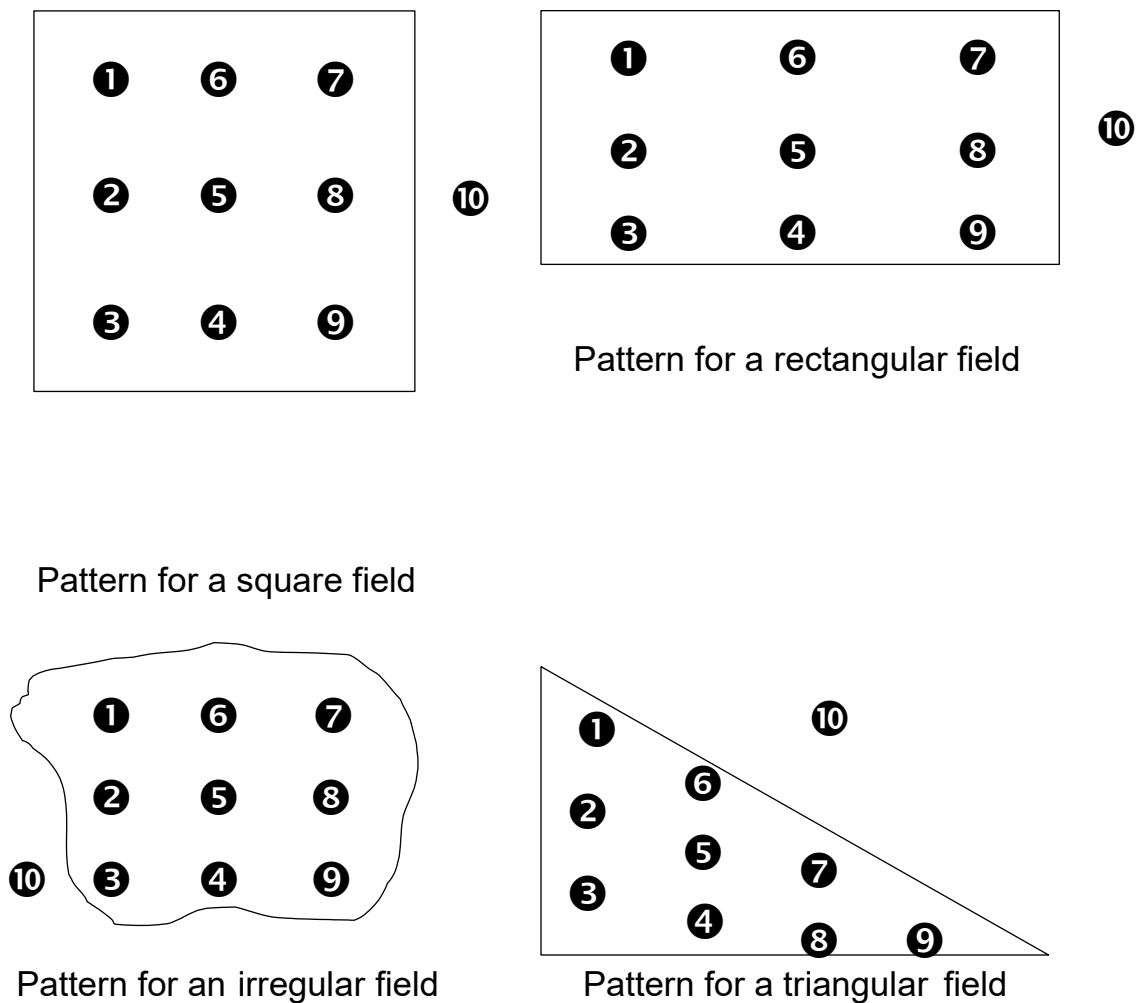
Grid samples establish the distribution of a pesticide residue at the incident site. The sampling pattern should represent the entire field or site. Each point on the grid represents a single sample that should be kept separate from other samples. An incident site may be partially contaminated when an applicator does not substantially

confine a pesticide to the treatment site. (If pesticide drift is suspected from adjacent fields, and the source or sources of contamination are unknown, a grid pattern may be used in place of the gradient pattern. This reduces the number of samples to be taken). If misapplication to part of a field is suspected (tank contamination or partial application), but the treated area is unknown, this type of sampling pattern should be used to isolate the area.

- The sampling grid pattern in the incident site should start approximately 100 feet from the edge of the field, depending on the field size.
- As a rule of thumb, the distance from the edges should represent approximately 10 percent of the width and length of the field or site. For example, a 46-acre site 1,000 feet wide and 2,000 feet long has a starting point 100 feet in from the length and 200 feet in from the width.
- If using the grid pattern to establish drift, collect one additional sample from each of the adjacent fields that are suspected of being the source of contamination.
- Samples should be in line with, and at an equal distance apart from, one another in the grid pattern.
- Record the sample locations in your investigative notes and diagram(s).

If the field or site is suspected of being partially contaminated, start collecting samples from the area that is suspected to contain the least amount of contaminant. Number the samples in the order they are taken.

Figure 4
Grid Sampling Patterns



5. Sampling Equipment

a. Suggested Equipment Checklist

Use this checklist to assemble the necessary sampling equipment.

1. Office supplies and forms

- a. Sample Analysis Report and Sample Analysis Report Custody Record. (PR-ENF-030)
- b. Stapler and staples
- c. Templates (20cm x 25cm) for swab samples - precut from heavy weight paper or card stock
- d. Pens, pencils, permanent markers, note pad
- e. Maps, grower's file, PCO's file
- f. Tape
- g. Release of clothing form (DPR-071)

2. Instruments and tools

- a. Shovel, trowel
- b. Soil probe, disposable core tube
- c. Pruning shears
- d. Leaf punch
- e. Measuring tape, land measuring wheel
- f. Surveyor markers or stakes
- g. Scale
- h. Pole with grasping attachment, ladder, net
- i. Siphon tubes
- j. Camera, film (or digital card), flash attachment, camera accessories, extra batteries

3. Personal Protective Equipment PPE

- a. Gloves - chemical resistant and disposable (shoulder high for water samples)
- b. Coveralls
- c. Respirator (If required per label and authorized and trained to wear)
- d. Goggles and /or ANSI Z87, approved safety glasses (with brow and temple protection).
- e. Hard hat
- f. Rubber boots (waders for water samples)
- g. Soap, water and single use disposable paper towels

4. Containers

- a. Bags - clean, unused paper (double-strength) and plastic of various sizes
- b. Jars - glass, new or clean, various sizes; Teflon® lined lids and/or aluminum foil to seal the lids
- c. Labels
- d. Ice chest

5. Collection supplies

- a. Isopropyl alcohol
- b. Distilled water
- c. “3-in-1 oil”
- d. Sterile pads, Sharkskin® paper
- e. Blue ice (frozen) or dry ice, as necessary
- f. Paper towels

b. Equipment Maintenance

To decontaminate the equipment (except leaf punches, see directions under section III (A) (7) (b) (i) (b), page 43 under dislodgeable foliage sampling), wash with soap and rinse with distilled water. The equipment should be stored in an office or car, in an uncontaminated location. For smaller equipment, an enclosed, airtight container is recommended. Larger equipment should be decontaminated after each use and prior to sampling. All tools that come into contact with vegetation should be washed, rinsed in distilled water, and rinsed with isopropyl alcohol prior to collecting each sample.

6. Sample Site

a. Evaluate the Site

Along with your review of interview notes and records, evaluate the incident site to provide a better picture of what happened. Get a complete view of the incident site. This will be the basis for the incident site diagram. Determine which pesticides were applied and remember to wear label required PPE if you need to enter the site during the Restricted Entry Interval REI. Do not contaminate yourself by walking through the treated area without the appropriate PPE.

b. Diagrams

It is recommended that you use computer software, electronic resources, or restricted material permits to generate a site diagram. Include the following on the incident diagram: incident site, treatment site, landmarks such as buildings and roads, crops and their acreages, location of witnesses, sample sites and numbers, and the site and direction of photographs. Diagrams should indicate dimensions and orientation. Other useful information is row orientation of the field, wind direction, application pattern and direction. Wind data can be collected from various resources such as the National Weather Service (https://www.weather.gov/lox/observations_historical). **Remember, the person reading your report may not be familiar with the situation. Diagrams and photographs are a great help in understanding local conditions.**

7. Sampling Procedures

a. General Information

Different types of sample analyses (such as soil to grass) are difficult to compare. Similar materials should be used for comparison samples, such as in cases where treated and untreated areas are to be compared. In drift cases, swab samples will yield a cleaner sample than foliage samples.

Before entering a treated area, you should determine which pesticides were applied, whether a restricted entry interval or other reentry restriction is in effect and which PPE should be used. Look for indicators of recent pesticide application(s) to the site and take appropriate steps to prevent contaminating yourself. Fresh tire marks inside the field are a good indicator a vehicle has entered the field

Always wear new disposable gloves, label required PPE and use uncontaminated tools for each sample. For multiple samples, wear new disposable gloves for each sample, and decontaminate the tools between sampling.

Collect samples in previously unused paper bags or clean glass jars. New jars do not need to be cleaned. Sample material should never come in contact with metal or plastic. Metal lids for glass jars should be lined with aluminum foil or Teflon®.

Collect a minimum of one pound of plant material per laboratory analysis as indicated below in section b. The laboratory maintains a list of active ingredients for their screening analyses.

If samples are underweight, they may not be analyzed or analyzed for fewer chemicals than requested. (Exceptions: swab and dislodgeable samples). Measure the sample area and record it in your investigative notes.

Samples must be identified immediately after they are taken. Write the identification number on the paper bag or label the glass jar using a permanent marker. Samples in paper bags should be placed in a plastic bag. This should prevent moisture from coming in contact with the paper bag or label and its contents. Sample bags/jars can also be pre-marked prior to entering the sample site for convenience. Chill the samples as soon as possible. Be prepared by taking an ice chest with blue ice or dry ice to the sampling site for this purpose.

b. Sampling Directions

i. Foliage Samples

Foliage samples can be collected in a grid or gradient pattern. Try to collect foliage of similar type such as grasses or broad leaves throughout the sampling area if possible. It will make it easier to extrapolate the data.

a. Whole Leaf Foliage Sampling

- Collect foliage from locations with a specific reference point at the site to identify the residue delineation between the sample areas, and to maintain sampling uniformity.
- Identify the location of each sampling site within the site, because it makes the evidence more credible in an enforcement action.
- Collect at least **one pound** of plant material per sample per analysis or screen. [For cannabis, collect at least a ½ pound sample of leaves (no buds) per analysis or screen]. Be sure to collect enough plant material to accommodate the chemistry laboratory if several analyses are requested. The size of the sample area will vary with the location. For example:

Location	Sample Area
Field and non-crop	25' by 25'
Orchards and vineyards	4 trees or vines in a rectangle
Small plants, seedlings, bud-leaf stage or other minimal foliage condition, or for multiple analysis	Sample a sufficient area to produce a 1 pound sample [For cannabis, a ½ pound sample, no buds].

- Select foliage from all sides of the plant/tree unless drift is suspected. In drift cases, collect the foliage from the side of the plants allegedly exposed to the drift. For most situations, collect the foliage from the outer leaves of the plant/tree.
- For suspected systemic pesticide absorption, it may be necessary to uproot the whole plant. Ask the lab if soil should be removed from the roots.
- **Do not** select foliage in contact with soil.
- New growth may not have been exposed to chemical applications so consider the impact new growth may have on the analytical results.

b. Dislodgeable Foliage Sampling.

Collect dislodgeable foliage samples to determine the potential for human dermal exposure to a pesticide(s). To properly evaluate the extent of exposure, WH&S requires data from dislodgeable foliar residue (DFR) samples, not total residue samples. Due to degradation, prompt collection of DFR samples is necessary.

If your investigation indicates that dislodgeable foliage samples may provide relevant data for determining how the worker(s) was exposed to a pesticide or evidence for an enforcement action, contact your EBL or EB regional office. Your EBL will contact WH&S and assist you in developing a sampling plan and in providing specialized equipment needed to collect dislodgeable foliage samples. WH&S has sampling patterns for row crops, orchards and vineyards. Conduct dislodgeable foliage sampling only on broadleaf trees and plants, not on grasses or other thin or small leaved trees and plants. **Do not collect whole leaves** for dislodgeable residue analysis. Place the DFR samples in an ice chest with ice or blue ice; **do not freeze or use dry ice.**

Samples must be shipped for overnight direct delivery to the laboratory. **Extraction of the samples should take place within 24 hours of collection.** [Note: Cannabis samples must be delivered in-person to the CDFA Sacramento Lab, see Sec. 9]

Dislodgeable foliar residue is reported in amount per sample ($\mu\text{g}/\text{sample}$) and later converted to mass-to-surface area ratio ($\mu\text{g}/\text{cm}^2$) based on the surface area of the known number of leaf punches. Dislodgeable samples are taken with a leaf punch device that deposits measured leaf punches in an attached clean jar. A sample should consist of 40 punches taken with a five-square centimeter punch or 80 punches taken with a 2.5 cm^2 punch, or 160 punches when using a punch size of 1.25 cm^2 . Clean the leaf punch equipment between each sample, using water and a paper towel, and then rinse clean with distilled water.

When punching the leaf, make sure the leaf surface covers the entire cylinder punch area. A partial leaf punch will give an inaccurate result because the total leaf area is less than calculated.

Select a site where people were working or were likely to come into contact with foliage, but where there has been no actual contact with people because the pesticide residues may have been dislodged. The punches should be equally divided between the north, south, east, and west sides of the plant to eliminate any effects from differential breakdown. Avoid taking punches from outside rows, as they may not represent the total area being sampled.

Punches should represent all areas of the foliage normally contacted and reachable. This could include the interior as well as the exterior of the plant. **Do not** sample from new growth or leaves contacting the soil unless you suspect they are the source of contamination. If they are the suspected source, be sure to keep soil-contaminated foliage separate from other foliage samples.

When collecting DFR samples, always collect two to four samples from each field or sample site. DFR can be quite variable throughout a field or sample site. Therefore, more than one sample from the site is required to get a good estimate of the residue. Collect the DFR samples from different areas of the sample site, noting the location of each sample on the **Sample Analysis Report**.

For multiple analyses, sampling should be repeated as described above for each analysis or screen requested. Because you cannot sample from the same area, collect duplicate samples adjacent to each other. The locations should always be the same size and of the same material. Use a separate jar for each duplicate sample per analysis and identify with consecutive numbers. The duplicate samples should represent one sample site. Contact your EBL to determine if duplicate samples are necessary.

ii. Surface (Swab) Samples

Conduct surface or swab sampling to determine drift, uniform or partial contamination, or the presence of a pesticide on a surface. Surface samples can be taken indoors or

outdoors and in patterns, such as a grid or gradient, or in groups to support other sample analyses. Surface sampling should not be used to determine whether or not a hazard exists.

At the Office

1. Prepare ahead of time several standard sized (20 cm x 25 cm) disposable templates from manila folders to delimit the area to be sampled. In situations where a template cannot be used, string, pins, or tape can be used for outlining the sample areas.
2. Isopropyl alcohol is typically used as the solvent; however, distilled water may be used when sampling for some water-soluble pesticides such as glyphosate or Paraquat. Do not contaminate the solvent by placing the gauze pad over the mouth of the solvent bottle. While wearing clean or disposable gloves, pour the solvent over the gauze/paper without touching the bottle.
3. **Take a control sample before leaving the office to collect investigative samples.** The purpose of the control sample is to ensure that no pesticide residue is present on collection media. A control sample must always accompany swab samples when sent for analysis. **To avoid any cross contamination, wash your hands prior to using gloves and taking the control sample. Do not obtain the control sample at the sampling site or from an area that contains pesticide residue.**
4. For the control sample, moisten two sterile gauze pads or Sharkskin® sheets as above with the same solvent to be used for the actual sample and place them in a glass jar with a Teflon® or foil-lined lid. Do not wipe or let the gauze pad touch anything before or after collecting the control sample.

At the Sampling Site

1. When selecting a sample site, try to avoid areas known to contain waxes, as these may interfere with the analysis. Smooth “inert” surfaces, such as a windshield, are the preferred area to sample. However, follow the same methods for sampling uneven surfaces such as rugs, furniture, walls, walkways, or counters. Wear a new pair of disposable rubber gloves for each sample collected to avoid cross contamination.
2. Tape the template to the surface area or carefully measure and outline the area to be sampled.
3. Record the surface area and sample location area on the **Sample Analysis Report**, on the incident diagram, and in your investigative notes.
4. Use a new disposable template for each sample area. If string, pins, or tape is used instead of a disposable template, they should be discarded before another use.

For multiple active ingredients, repeat the procedures described above from an adjacent sampling area for each analysis or screen requested. The locations should always be the same size and of the same surface material. Use a separate jar for each sample per analysis or screen and identify with consecutive numbers. These samples represent one

sample site.

1. **Use two sterile gauze pads** or sheets of Sharkskin® paper² moistened with a solvent for each surface area sampled. Use gauze pads that are no larger than two inches square. Pre-fold the sharkskin sheets into quarters to establish creases. To prevent contamination of the sharkskin sheets, store two sheets in each of several sealed sandwich bags or within folded aluminum foil in your sampling equipment.
2. Moisten one pad or sheet with solvent as described above.
3. Wipe lightly **horizontally** across the measured area with the first pad or sheet, folding the contaminated side, so that a clean surface of the pad or sheet is exposed to make another wipe of the area, and continuing until the whole area has been wiped horizontally.
4. Place that pad/sheet in a glass jar.
5. Moisten the second pad/sheet with solvent and wipe the entire area again **vertically** with a clean surface.
6. Place the second pad/sheet in the same jar as the first.

Store the samples in the refrigerator and ship them, including the control, on “blue ice.” Refer to the section on shipping procedures.

iii. Clothing Samples

Clothing samples can provide information about the pesticide exposure incident. Be selective when collecting clothing samples. Contact your EBL and WH&S for clothing samples to collect. Generally, clothing samples only tell you that a pesticide exposure occurred and possibly the extent of the exposure, not whether the exposure resulted in a health hazard. Generally, foliage or other samples are collected in conjunction with clothing samples.

When collecting clothing samples, these procedures should be followed:

Inform the people involved that the clothing will not be returned. To show consent, have them sign a **Release of Clothing** form (see form DPR-071 in the Associated Forms section).

Collect clothing only from people who were allegedly contaminated. Consideration must be given to the type of incident involved. Garments, such as shoes, could be collected if an applicator was allegedly exposed to a pesticide because of failure to wear protective equipment. Shirts, scarves, or jackets could be collected if they were exposed to pesticide drift.

- Collect clothing samples away from the incident site.

Collect unwashed clothing that was worn on the day of the incident or all unwashed clothing if they were at the same site for multiple days. Document what is known about the clothing. Contact the DPR Regional Office if unable to collect clothing samples on the day of the incident or requiring special circumstances. When collecting whole articles

of clothing, contact the DPR Regional Office who will coordinate with WH&S.

If the affected area of the clothing is known, you should note that on the **Sample Analysis Report**.

Place each sample in a clean, unused paper bag to prevent cross-contamination, and then put the bagged samples in a properly sealed plastic bag for shipment. Chill the samples on dry ice as they are collected. If the samples cannot be shipped immediately, store the samples in the freezer. See section page 60 for shipping directions.

iv. Soil Samples

Some pesticides are difficult to detect in the soil, and oftentimes other sample types yield more useful information. Contact your EBL regarding the appropriateness of taking soil samples. If soil samples are appropriate, usually one or two soil samples from the most affected area are sufficient, in conjunction with other sample types. Soil samples, however, may be taken in a grid or gradient pattern when other sample types are not possible or appropriate.

a. Surface Soil Sampling

Surface soil samples are best for investigating misapplication of herbicides and soil-applied insecticides and can be used to prove an area was contaminated. For pesticides incorporated or otherwise located below the soil surface, take subsurface samples, as described later.

- Use a clean spatula, trowel, or other tool to scrape the surface soil down to a depth of one-half inch.
- Each sample site should represent approximately a two to four- foot square (i.e., 4 to 16 ft.² area), depending on the size of the incident site, the concentration of the pesticide residues, and the number of analyses required.
- If the incident site is large, the suspected pesticide concentration is relatively low, or if several pesticide analyses are requested, you may want to enlarge the sample area.
- Collect soil samples from the top half inch of soil and place in a clean, labeled one-quart glass jar sealed with a Teflon® or foil-lined lid. For multiple active ingredients, collect approximately one pound of soil for each analysis or screen requested.
- Measure the sample area and depth and record it on the Sample Analysis Report.
- Fill out a Chain of Custody for each sample.
- Chill the sample(s) and ship on blue ice.

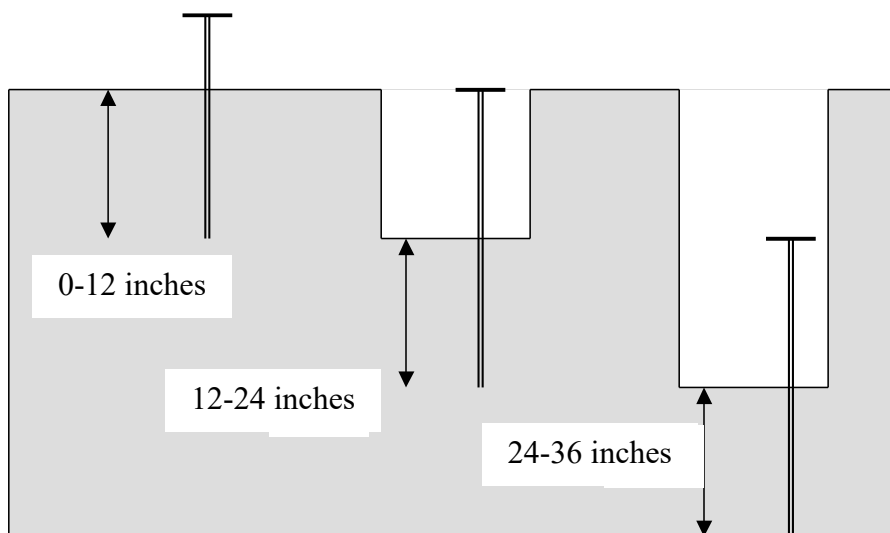
b. Soil Samples at a Known Depth

Collect soil samples at a known depth when it is suspected that the pesticide was incorporated, band or rod treated, shanked, trenched, or moved below the soil surface by leaching or rain. If the samples are not collected at the proper depth, the sample analyses will be misleading. This type of sampling will generally be collected in a grid

pattern within a field or site. Based on your knowledge of the application method, determine the appropriate depth to sample. For example, the sampling depth could be 0"-3", 3"-6", or 6"-12". Measure the sample area and record it on the **Sample Analysis Report**. Record the measurements of the sample area in your investigative notes.

- Select an individual sample location and measure an area of approximately one-square foot. The sample area can be changed depending on the specifics of the investigation.
- Prior to collecting the soil sample, use a spatula, trowel, or shovel, to remove the soil to the beginning depth you wish to sample. A soil probe (e.g., tube or auger), may be used in lieu of a spatula, trowel or shovel. Take several core samples to the desired depth using the probe or auger after reaching the desired depth. Contact your EBL if you need assistance or soil sampling equipment. NOTE: It is not recommended to use the probe when a band or side dress treatment was made, as it is difficult to determine where the band treatment is located and could lead to misleading results.
- From that point, use clean or decontaminated sampling equipment to collect one pound of soil and place in a clean, labeled, one-quart glass jar sealed with a Teflon® or foil-lined lid. For multiple active ingredients, collect approximately one pound of soil for each analysis or screen requested
- Collect approximately one pound of soil per analysis or screen from the sample area.
- Fill out a Chain of Custody for each sample. Chill samples and ship on blue ice.

Figure 5



Sampling Various Depths Using A Soil Sampling Tube

c. Soil Sampling (Known Depth, Furrowed Field)

Chemicals may have been applied in bands or side dressed in furrowed fields. In order to sample from the appropriate area, use a shovel to cut across sections perpendicular to the direction of furrow at each sample site. For single rows, start at the center of the furrow and sample across the bed to the center of the opposite furrow. For double row beds, sample from the center of the furrow to the center of the bed.

Collect soil from an area 3 to 6 inches wide, and 12 to 14 inches deep (or less if the application depth is known to be less), as measured from the top of the bed. Place the soil in a stainless-steel bucket and mix thoroughly. Collect approximately one pound of soil per analysis or screen from the mixed soil and place in a clean, labeled, one-quart glass jar sealed with a Teflon® or foil-lined lid. Clean the bucket with soapy water, rinse with distilled water, and give a final rinse with isopropyl alcohol. Fill out a Chain of Custody for each sample. Chill samples and ship on blue ice.

v. Water Samples

For collecting samples of surface water, use the following guidelines, which are designed to detect pesticide residues resulting from the misapplication of a pesticide to surface water. If you suspect pesticide contamination of ground water, contact your supervisor and EBL to determine the appropriate local, State, or federal agency for follow-up.

Wear shoulder-length gloves and clean chest-high waders whenever contact is made with potentially contaminated water. Use clean, one-gallon amber glass containers with an aluminum foil or Teflon® seal under lid. Rinse the bottles with the water (native rinse) that will be used to collect the sample. Fill bottles to the top, leaving no air space for pesticides to volatilize. Sample as close as possible to the apparent source of contamination. Avoid areas where water has been isolated from the main body of the stream, lake, or pond. In a flowing water body, sample facing upstream.

Wade out as far as possible into the body of water. Avoid sampling water that is disturbed by your movement. If the suspected pesticide is water soluble, then draw the sample from any depth below 18 inches. If the pesticide is oil-based, or if oil is a part of the tank mix and the alleged misapplication was made across the surface, then draw the sample from the surface layer. For samples below the surface of the water, lower the glass bottle to the desired depth before removing the cap. Allow the bottle to fill, replace the foil-lined cap, and lift the bottle out of the water. For surface samples, remove the cap and dip the bottle into the water surface. Allow it to fill completely and then put on the foil-lined cap. Take several samples distributed around ponds or lakes instead of only one sample. If only one sample is taken, draw several sub-samples from different locations around the body of water and combine in a clean, one-gallon container. If the water is too shallow to immerse a jar, use another clean jar to fill the sample jar.

Refrigerate or place the sample on blue ice immediately. In some cases, other

chemicals may be added to the water to aid in preserving the sample. Contact your EBL for instructions. Document the additives (i.e., preservatives) on the **Sample Analysis Report**.

vi. Sediment Samples

Pesticide residues can accumulate in the bottom sediment of lakes and streams, but generally sediment samples are of limited value and other sampling types are preferred. Check with your EBL prior to taking sediment samples to determine the appropriateness and to obtain additional equipment or assistance, if needed.

Wear shoulder-length gloves and clean chest-high waders whenever contact is made with potentially contaminated water or soil. In shallow water (< 2 feet), gently scoop the top 3 cm of sediment into a clean one-pint, wide-mouth clear glass jar using a trowel.

As equipment is lowered or retrieved through water exceeding a few feet in depth, sediment contents can be flushed or diluted. Disruption may cause mixing of surface layers with lower layers in the sample and may lead to dilution or concentration of the contaminants of concern. Therefore, a disposable tube is recommended for unconsolidated sediment. DPR's Environmental Monitoring Branch can provide disposable tubes (36 inches long by 2 inches in diameter Teflon® clear cylindrical tube). For firm bottom deposits, a commercial sediment-collection device is recommended; however, these devices often require extensive cleaning between sampling to prevent cross-contamination. Sample with the flow for shallow, flowing streams.

Carefully lower the disposable core tube, or other sampling device through the water and into the sediment. Minimize rolling the sediment. Retain the top 3 cm from each core and take care to minimize disturbance of the top sediment layer during the sampling process. Remove rocks, leaves, and other debris from the sediment before transferring it to a wide-mouth glass jar. Repeat this process several times within the same general area until one pint (or one pound) of sediment is collected. Seal the jar with an aluminum foil or Teflon® seal under lid; chill the sample and ship on blue ice.

vii. Honeybee, Animal, Bird and Fish Samples

Collect samples of dead honeybees, animals, birds, and fish immediately, before decomposition, if possible.

If wildlife is involved, prior to collecting dead animals, contact the local Department of Fish and Wildlife (DFW) warden and your EBL. The DFW can collect the wildlife samples in accordance with the Pesticide/Wildlife Incident Response Plan (manual) at: https://www.cdpr.ca.gov/wp-content/uploads/2025/07/2008_pesticide_wildlife_incident_response_plan.pdf. Use disposable gloves when handling animal samples because of the possibility of disease transmission. Small animals and fish (whole) are to be placed in plastic bags. Samples

should be chilled immediately to prevent degradation. If any decomposition is evident, it will be noted on the Sample Analysis Report. These should be frozen and shipped as quickly as possible.

Prior to collecting dead honey bees, the EBL or DPR RO Manager must be consulted to discuss the circumstances of the incident, devise a sampling plan, and obtain permission to have samples analyzed by the CDFA Laboratory. Collect a minimum of **100 grams (about ¼ lb.)** of dead bees for the multi residue screen or the specific active ingredient(s) analysis. Immediately chill samples and ship them to the lab as soon as possible. If it is necessary to freeze the samples, ensure they are maintained in a frozen state to the lab.

viii. Commodity Samples

Collect crop/commodity samples to determine if pesticide residues are in excess of the EPA food tolerance. This information is sometimes used to prohibit the harvest of a field or seize a packed commodity. The EBL or the DPR Regional Office manager shall be consulted prior to collecting produce crop/commodity samples for analysis by the CDFA Laboratory.

Be careful to select individual fruits and vegetables that are without decay. If the commodity is not cut, refrigerate the sample using blue ice before shipping. Avoid freezing because of problems dealing with thawed and partially thawed commodities and estimating the water mass in the samples. If the commodity is cut, freezing may be necessary to preserve the sample during a lengthy storage period.

a. Field Sampling

Collect field samples that are representative of the whole commodity. Do not remove wrapper leaves, hulls, shells, pods, etc. Do not wash or clean the commodity.

If the entire field is suspected of carrying pesticide residues in excess of the tolerance, collect samples in a grid pattern in the same manner as foliage samples.

Collect at least one pound of commodity per sample, per analysis, or screen. Place the sample in a clean, unused double-strength paper bag.

b. Packed Sampling

If pesticide contamination of a packed or processed commodity is suspected, contact your EBL because DPR is the lead agency for illegal residues on produce in the channels of trade. However, there are some basic points to consider when collecting this kind of sample.

Samples collected at packing sheds should be representative of the produce as shipped in the channels of trade.

Sample size is determined by the number of containers in the lot. Use the following table as a guideline for determining a “representative” sample size:

Total Number of Containers in the Lot, “N”	Number of Containers to Sample From
1 - 5	All
6 or more	$(\sqrt{N}) + 1$
10	$\sqrt{10} + 1 = 5$
20	$\sqrt{20} + 1 = 6$
50	$\sqrt{50} + 1 = 9$
100	$\sqrt{100} + 1 = 11$
200	$\sqrt{200} + 1 = 16$

Generally, packed samples are analyzed by the laboratory using a multiscreen. To obtain a representative sample and enable the laboratory to conduct a multiscreen analysis, the minimum sample size should be two pounds.

Do not strip outer leaves before sampling commodity from bulk lots at a packing shed, unless removal of the outer leaves is the practice at the packing shed prior to shipping. Place the sample in a clean, unused double-strength paper bag.

ix. Tank Mix Samples

Prior to taking a sample

Check with your supervisor and follow your department’s policies (e.g., Illness Injury Prevention Program) before taking any tank mix samples. If any other samples are to be collected at the site, collect the tank mix sample last, after all other work has been completed. Whenever possible, ask the trained handler to collect the tank mix sample in your presence following the sampling procedures outlined in this manual.

Refer to the pesticide labels for precautionary statements and Personal Protective Equipment (PPE) requirements. If the tank mix ingredients are unknown, assume they are highly toxic and take appropriate precautionary steps to ensure your safety. Be careful when working around machinery and at busy mixing/loading sites. Be aware of hoses and fittings that may be under pressure or show signs of leakage.

The Formulations Laboratory analysis of tank mix samples,

- Identifies only the active ingredient and any possible contaminants in the tank mixture but not the inert materials.
- Cannot be analyzed for biological pesticides, such as *Bacillus Thuringiensis*, and petroleum distillates.

Collecting a sample

Ask the applicator or mix/loader for the best location to collect the tank mix sample.

If the solution is adequately mixed, collect a sample from the drain system,

- Use a catch basin to avoid spills onto the soil,
- Samples can sometimes be taken from a drain near the spray nozzles,
- Drain the pesticide mix into a glass sample jar.

If the tank mix cannot be agitated,

- Use a siphon tube and syringe to collect a composite sample from three depths: near the tank bottom, middle of the liquid level, and near the top of the liquid level.

Do not allow tank mix solutions to contact rubber or plastic, as these materials may affect the analytical results. If the pesticide reacts with metal, use glass jars capped with Teflon® lids, not foil-lined lids. Do not fill the jar above the bottom of the thread line to avoid spills when the sample is opened. Any contamination of the sample container should be rinsed off onto the application site. After collecting the samples, wash your hands thoroughly with soap and water.

Include a copy of the pesticide label with the sample. If the label cannot be obtained, include the ingredient statement and other pertinent label information on the **Sample Analysis Report**. The Sample Analysis Report should also include dilution and mixing directions. Write “**Formulations Laboratory only**” on the Sample Analysis Report.

Chill all tank mix samples to prevent degradation. An ice chest with blue ice will maintain the samples below 40°F. Placing each tank mix sample inside an empty container (e.g. empty paint can) will provide added protection while shipping. Tank mix samples are considered hazardous materials, and the shipping company (UPS or FedEx) must be certified as a hazardous material shipper. Therefore, Department of Transportation (DOT) regulations must be followed. Ship by the fastest means available, taking into consideration Department of Transportation (DOT) regulations. To avoid cross-contamination, **do not** store or ship tank mix samples with or near other sample types (foliage, soil, etc.).

8. Outsourced Sampling Techniques

a. Air Samples

Due to the knowledge and experience needed to operate air sampling equipment, contact your

EBL for assistance in contacting an environmental or occupational health agency or DPR's Environmental Monitoring staff to conduct the sampling.

Two types of air samplers are used. High Volume samplers for measuring low concentrations of pesticides over long periods of time; and Low Volume samplers for measuring higher concentrations of pesticides over shorter periods of time. Either high or low volume samplers can be used indoors or outdoors.

1. Indoor Air Sampling: Hi-Vol samplers must be vented out of the dwelling to ensure that air will not be recycled through the machine. Rooms with cigarette smoke or gas appliances must be avoided; any gases or suspended smoke particles in the area will contaminate the sample.
2. Outdoor Air Sampling: Position sampling equipment to avoid exposure to engine exhausts, running motors, cigarette smoke, or any other nontarget air contaminants. Protect sampling equipment from rain and direct sprays from application machinery. Use shelter hoods to protect the equipment in such situations.

b. Feed, Milk & Dairy Foods and Egg Samples

For suspected pesticide contamination of a feed, milk or dairy product, or egg commodity, contact your EBL to determine which appropriate State or federal agency to contact for follow-up. If samples are requested by an external agency, use the sampling protocol of the **United States Food and Drug Administration's Investigations Operations Manual** (see website <https://www.fda.gov/inspections-compliance-enforcement-and-criminal-investigations/inspection-references/investigations-operations-manual>) for proper sample collection of these commodities for compliance (investigational) purposes.

c. Pesticide Formulation Samples

Sampling pesticide formulations for investigative purposes is sometimes necessary to provide evidence of pesticide misuse, misformulation, product composition, cross-contamination, or other problem. In order for the analytical results of these samples to substantiate a finding that a violation exists, the samples must be representative of the total amount of the material sampled. Discuss with your EBL the appropriate protocol to use for the particular situation prior to taking formulation samples. Typically, DPR staff takes these types of samples.

9. Sample Preservation, Storage, and Shipping

The proper collection, storage, and shipping of samples are critical elements of the sampling process and can affect the analytical results. Take the necessary steps early in the sampling process to avoid anything that could compromise the integrity of the sample, such as loss, deterioration, contamination, or tampering. Any mishandling of the sample can have a negative impact on the admissibility of the sample as evidence. Ideally, a laboratory should analyze the samples as soon as possible after they are

collected. However, in many situations, this may not be possible and consideration must then be given to assure the integrity of the sample by utilizing proper storage, preservation, and shipping methods.

Note: Cannabis samples cannot be shipped through the postal service or private carriers and must only be delivered in person to the Sacramento CDFA Lab location. Staff are permitted to transport cannabis samples as part of their professional job duties, as indicated by Business and Professions Code (BPC) section 26054(d) and previous California case law.

a. Storage

Ensure that each container is clearly labeled to identify the sample number. All samples, except those in glass jars, should be placed in paper bags within a plastic bag. Glass jars should be placed directly into a plastic bag. Do not store or submit samples in direct contact with plastic bags. Do not use tags for labeling purposes. Protect stored samples from tampering and maintain a chain of custody record.

b. Preservation

If samples must be stored temporarily, immediately refrigerate them to prevent deterioration of the sample and degradation of the chemical. For improved preservation, some samples may be frozen. However, if you choose to freeze samples, keep in mind they must be maintained in a frozen state during shipping. This means using dry ice. The preferred method of preservation is to ship the samples to the laboratory as soon as possible, to avoid the need to freeze samples. However, if needed, the following samples may be frozen:

- Whole leaf foliage
- Surface (swab)
- Clothing
- Soil
- Sediment
- Animals, Fish, Honeybees
- Air

The following samples, however, **must not be frozen**:

- Dislodgeable foliage residue (DFR)
- Water
- Commodity
- Tank-mix
- Formulations

Refer to the “Sampling Directions” section for additional information on the storage of a particular kind of sample.

c. Shipping

Packaging and shipping samples must be done properly to ensure they remain **intact** when they arrive at the analytical laboratory, and to ensure the safety of persons by preventing loss through spills, or leaks.

- 1) Place properly bagged (plastic over paper) and labeled samples in a shipping container and immobilize the samples with suitable packing material such as crumpled newspaper or Styrofoam.
- 2) Keep all liquid sample containers separated and carefully padded to guard against breakage. Pack liquid samples in sufficient absorbent material to absorb and retain any leakage that might occur.
- 3) Samples to be analyzed for pesticide residue (i.e., those other than tank-mix and formulation) are required to be cold or frozen during shipping to prevent deterioration.
 - Cold samples should be packed in an insulated container using sufficient “blue ice” to maintain the temperature throughout the shipping time.
 - Frozen samples should be placed in dry ice, wrapped in newspaper and placed in an insulated container such as a cooler. The insulated container is then placed inside a suitable shipping carton with adequate ventilation provided.
- 4) Mark your cooler and “blue ice” with your address in indelible ink and they will be returned to the appropriate regional office by mail or via DPR staff.
- 5) Record the chain of custody and include the **Sample Analysis Reports** (one per sample) in a separate plastic bag. When multiple samples are sent, include a sample site diagram, whenever possible, to assist the laboratory staff in determining the order in which to analyze the samples. Do not staple the **Sample Analysis Report** to the bag.
- 6) Comply with all applicable packaging and shipping requirements of the Department of Transportation.
- 7) Clearly mark shipping container with handling instructions, such as “Handle with Care,” “Glass,” “This Side Up,” or other appropriate wording.
- 8) Seal the shipping container and ship or deliver the samples to the laboratory as soon as possible. Consult your EBL about the shipping method, but generally ship by the fastest method available, preferably overnight. Do not ship samples when they are likely to sit in transit over the weekend or other holiday periods. Only use direct delivery courier services.

Address the shipping container labels to: Department of Food and Agriculture
Center for Analytical Chemistry
3292 Meadowview Road

Sacramento, CA 95832

The label should also direct the shipping container to the appropriate section of the laboratory. The labels should state either:

- 1) ATTN: RESIDUE;
- 2) ATTN: FORMULATION (Only for a tank mix or formulation samples); or
- 3) ATTN: WORKER SAFETY (ONLY for DFR or WH&S approved clothing samples)

All shipping containers must identify the county of origin and have the following statement to ensure compliance with CDFA regulations on shipping plant materials:

“Contains plant materials”

“Contact CDFA prior to opening investigative samples”

All hand-delivered samples should arrive at the laboratory between 8:00 a.m. and 4:00 p.m. on regular workdays. The laboratory often closes for lunch during the noon hour. If the delivery person anticipates arriving between 12:00 and 1:00 p.m., please call the laboratory ahead of time to ensure someone will be available to receive the samples. The laboratory's phone number is (916) 262-1434. The delivery person should check in at the receiving office, which is located at the south end of the main Chemistry Laboratory (3292 Meadowview Road). After the appropriate laboratory section has been notified, the delivery person will be given further instructions.

Exceptions to the 8:00 a.m. - 4:00 p.m. delivery times are when pre-arrangements have been made with the appropriate laboratory section(s) and during emergencies.

Cannabis Delivery to CDFA Sacramento Lab

Cannabis samples cannot be shipped through the postal service or private carriers and must be delivered in person to the Sacramento CDFA Lab location.

The laboratory must be notified in advance of the arrival of samples, as they cannot delay preparation of the samples for analysis. If needed, coordinate with your DPR Enforcement Branch Liaison for delivery options.

The chain of custody (signed) must be maintained and documented.

10. Completing the Investigative Sample Analysis Report/Custody Record Form (DPR-ENF-030 Rev. 3/16)

Form Instructions

Any official sample may become evidence in an administrative or judicial action. For this reason, accurately and completely fill out the Investigative Sample Analysis Report/ Custody Record form DPR-ENF-030. Failure to complete the form may result in a delay at the laboratory. **Always use a separate form for each sample submitted (investigative, duplicate, control, or subsample). Identify each sample as accurately as possible and**

include a unique sample identification number. You must obtain approval from your DPR Enforcement Branch Liaison or Regional Office prior to submitting a sample for lab analysis.

a. Investigative Sample Analysis Report

The CDFA laboratory (Anaheim or Sacramento) analyzing the sample, fills out the top portion of the form (above Section A). This includes entering the sample's laboratory number.

Section A. Sample Analysis Requester

1. **Agency Name.** Enter the name, telephone, and fax number of the agency submitting the sample. The form with the analysis results will be faxed to the number given. Enter an e-mail address if you prefer to receive the analysis results by email.
2. **Address.** Enter the number and street, city, state, and zip code of the agency submitting the sample.

Section B. Sample Source

1. Enter the property operator or complainant name, Operator Identification (I.D.) number or Restricted Materials (R.M.) Permit number, telephone number, and complete address.
2. Enter the section, township, and range (or GPS coordinates) if they are available.
3. Enter the site identification number from the R.M. Permit or Operator I.D. form.
4. Enter the sample location. A brief description of where the sample was taken should be entered here. Distances from landmarks and field borders can be used. For example, "1/4 mile north of Wall Road and 1/2 mile south of Almond Street."
5. Enter the name of the county where the sample was collected.

Section C. Sample Information

Important: Submit a separate form for each sample or subsample. The sample identification number on the sample container must match the sample identification number on the Investigative Sample Analysis Report. The laboratory will assign its own "laboratory number" to each sample when it is received.

1. **Sample consists of:** Be specific about the type and amount of the sample. If the sample is a commodity, give the specific name. For example: "1 pound of tomato foliage;" or "1 pound of strawberry fruit;" or "1 pound of soil taken between 2" and 6" deep." **Tank mixes:** As much information as possible should be given for tank mix samples. Include the name and approximate percentages of any fertilizers, stickers, spreaders, buffers, and active ingredients in the mix.
2. **Commodity/Acres (if applicable):** Enter the name and variety of the commodity (e.g. Peach (Red Baron). If samples are taken from the field, include the total acres of the commodity being sampled.
3. **Sample identification number:** Make these numbers logical and consecutive, especially for samples associated with the same case. One suggested numbering system is: your initials-date (month-day-year)-sample sequence number. For example: you (JW) collect a first sample on November 9, 2014. The sample number would be JW-110914-1. The identification marks on the sample container must **match** the identification marks on the Investigative Sample Analysis Report.

4. **Structural-Related:** Check the box if it is a structural pest control-related sample.
5. **Sample Priority:** Contact the EBL to determine the sample priority. Review the criteria for priority on the reverse side of the Investigative Sample Analysis Report, consult with your DPR EBL or regional office to assign the sample priority, and check the appropriate box. Routine samples are analyzed on a first-come, first-served basis, in order of priority.
6. **Basis for sample:** Check one box only, based on information available.
7. **Is the sample a control?** Check the appropriate box.
8. **Is the sample a composite?** Check the appropriate box.
9. **Is the sample a surface swab?** Check the appropriate box. If yes, indicate surface area and solvent used. Since swab samples of spilled tank mixes or concentrates require special handling, make a note of this on the sample analysis report. The laboratory uses different analytical methods for swabs. **Always list the type of solvent used when taking a swab sample.**
10. **Is the sample a dislodgeable sample?** If yes, indicate punch size. Dislodgeable samples should be given “Priority 1” and marked “Human Health Hazard.” Include the leaf punch size (diameter) and the exact number of leaf punches in the sample.
11. **Description of problem/DPR Tracking number:** Note here the nature of the complaint or investigation. For example: “Resident complaint of illness from application of Propiconazole to almonds.” If the sample has been assigned a tracking or case number, record it in this area.
12. **Sample collector (Print Name):** Print name here.
13. **Signature:** Sample collector signs name here.
14. **Date Sampled:** Enter date sample was collected (month/day/year).

Section D1. Sample Discard Instructions

1. **Discard date, if different:** Unless instructed otherwise, the laboratory will discard the sample 3 months after completion of the analyses. If you need the sample retained longer than 3 months, enter a discard date. Otherwise, enter N/A (not applicable).

Section D2. Sample Condition Upon Receipt (Laboratory Use Only)

1. **Sample condition acceptability:** Sample condition will be evaluated and reasons given if the condition of a sample is found unacceptable.

Section E. Laboratory Determination Results

1. **Analysis Requested:** Under “Analysis Requested” there are two boxes: “Specific Pesticide(s)” and “Pesticide Screens.” If the investigation requires the analysis of a sample for specific pesticides, check the “Specific Pesticide(s)” box and specify the pesticides in the spaces below. There is space for up to six pesticides. Alternatively, if the investigation requires the sample to be analyzed using the multi-residue screens, which detect more than 300 pesticide compounds, check the “Pesticide Screens” box.
2. **Results:** The laboratory will report the amount and detection limit of a pesticide in parts per million (ppm), micrograms per sample (µg/sample), or percentage, depending on the type of sample.
 - a. Results for foliage, soil, and water samples are reported in ppm.
 - b. Results for surface/swab, dislodgeable, or clothing samples are reported in µg.

- c. Results for tank mixes or concentrates are given in percentages.

You will receive data from the laboratory including the amount detected, unit, detection limit (minimum amount detected), laboratory extraction and detection codes, and the analyst's initials. The extraction and detection code abbreviations are defined on the reverse side of the investigative sample analysis report.

The last row of Section E is completed by the laboratory and includes the lab analyst's signature, date of analysis completion, and signature of the reviewer (lab supervisor). The laboratory will use the section at the bottom of page 1 of the form when emailing or faxing the laboratory results to the submitter.

b. Investigative Sample Analysis Report- Custody Record

Section F. Sample Information

1. Print the sample collector's name and the sample identification number; the laboratory will complete the laboratory number.

Section G. Preservation Method During Transport

1. Check appropriate box for method of keeping the sample from deteriorating.

Section H. Primary Sample Container Description

1. Check the appropriate box for the primary sample container (e.g., paper bag), not the secondary container or the shipping container

Section I. Transport Information

1. **Name and Location of Common Carrier (if used):** If a commercial carrier is used, complete information regarding shipping company and company location, invoice number, DOT Number/Classification (if necessary), with date and time shipped in the appropriate boxes.
2. **Regional Office Contacted:** Contact the appropriate Environmental Branch Liaison (EBL) or Regional Office to confirm sample will be collected, analyzed, and sent to the correct laboratory. Check the appropriate box.
3. **Destination:** Indicate the sample destination laboratory (Sacramento or Anaheim).
4. **Sample Collector:** Print Name.
5. **Signature:** Sample Collector Signature.
6. **Date:** Date Sample Collector completes form, prior to transport.

Section J. Chain of Custody

1. The sample deliverer and receiver must sign the appropriate boxes in the presence of each other every time the sample changes hands unless the sample is being delivered to or received from CAC storage (i.e., freezer, refrigerator) or the sample is being shipped by a common carrier. The person that packages, seals, and delivers a set of investigative samples to a common carrier must sign the next available received-from box and write the name of the common carrier in the corresponding delivered-to box.

2. Record the date, time, and purpose (for shipping, for storage, or for analysis) of the change in custody.
3. If sample is stored, note the storage location.
4. If the Chain of Custody is incomplete, the laboratory cannot legally verify the resulting analysis because of the unknown history of the sample.

When samples are shipped to the CDFA Center for Analytical Chemistry (the Lab) by common carrier (e.g., FedEx, UPS), the laboratory personnel will inspect the sealed package containing the samples and certify there is no sign the package has been opened or tampered with prior to its delivery to or in the laboratory receiving room by signing and dating the DPR-ENF-030 directly below Section J.

If shipping the sample by UPS, FedEx, or USPS, indicate that the sample was delivered to the specific carrier location on the date shipped. At a hearing, you may have to testify more specifically that you properly packaged and addressed it to the lab with appropriate shipping charges or postage, and how you delivered it to the carrier.

The foundation for this procedure as a routine business practice can be presented at a hearing. The carrier can then be portrayed as a neutral third party who is in this business and who professionally transported the evidence. The lab can testify (perhaps by document) they received the evidence from the carrier as a routine business practice and the package did not appear to have been tampered with.

B. Documentary Evidence Collection

1. Diagrams

Diagrams (computer generated or hand drawn) can provide graphic images of the incident location. Add your information to a copy of existing field maps as diagrams whenever possible as they can provide an accurate layout of the location and already include some of the necessary information. Record all pertinent information on the diagram. The diagrams should also provide an indication of dimensions and orientation (north is usually up).

Information to consider adding to the diagram are:

- the incident site;
- the pesticide application site;
- application pattern and direction;
- wind direction;
- landmarks such as buildings and roads;
- crops and their acreages;
- the location of witnesses;
- sample sites and numbers;
- site and direction of photographs

2. Photographs

Photographs provide visual documentation of a situation or object. Photographs showing drift, crop damage, tarp tears, or damaged application equipment (e.g., ruptured hose) are important documentation that an incident occurred. Photographs of product labels provide evidence of the product involved when a detachable label cannot be obtained. Photographs should be labeled with:

- the date and
- photographer's ID
- a brief description describing the photograph

For photographs showing small-scale exhibits, place a scale reference such as a ruler next to the exhibit. DPR has an electronic photo mount posted in the DPR website for use by CAC staff. Consult with your EBL for assistance locating the photo mount.

<https://www.cdpr.ca.gov/wp-content/uploads/2024/08/prenf130.pdf>

3. Field Notes

Field notes have great value because they were made at the time of the inquiry. They are the basis for the investigative report. The investigative report is only as good as the field notes taken during the investigation of the incident. It is best to structure your notes in chronological order. Entries should begin by identifying the subject matter, date, time, and location of the activity. Other vital information may include the names and title of the injured person, witnesses and employer or employer representative; a description of the incident site; weather conditions; and location and type of samples collected, including the chain of custody. Organized field notes will facilitate the composition of your narrative report.

Include all information found in your field notes in the narrative report. After you complete your investigative report, compare it to your field notes. Once the agricultural commissioner accepts the final report, you may destroy your field notes if:

- 1) You incorporate them in your final report,
- 2) It is consistent with county policy

Field notes retained in the normal course of business may be considered public records. Interview questionnaires are not considered field notes as it is generally impractical to include all the information from the questionnaires in the written report. Attach the interview questionnaires to the investigative report.