

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 1 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

**1. Purpose:**

To ensure correct and consistent usage of the specific sampling terms associated with the USDA/AMS-Microbiological Data Program (MDP) and Pesticide Data Program (PDP).

**2. Scope:**

This Standard Operating Procedure (SOP) shall be followed by all State personnel involved in the management of sample collection for MDP and PDP.

**3. Outline of Procedure:**

- 5.1 Glossary of Sampling Terms

**4. References:**

- Sample Advisory Committee Meeting, December 2-4, 2008

**5. Specific Procedure:**

**5.1 Glossary of Sampling Terms**

**Alternate Site**—the back-up site from the State's list of active sites where the sample should be collected if it is not available at the Primary Site.

**Aseptic**—free of pathogenic microorganisms. (A pathogen is a microbe that is capable of causing disease.) If something is aseptic it does not imply that it is sterile.

**Chain of Custody**—documentation (e.g., worksheets or logbooks) that records sample movement from selection of the sample, to receipt at the laboratory, to final disposal of the extract(s). This documentation allows for traceability of movement of each sample.

**Cold-to-the-Touch**—the temperature of the surface of an object that "feels" colder than one's own body temperature

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 2 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

**Cross-Contamination**—the physical movement and transfer of chemical or illness-causing agents from one person, object, or place to another

**Delicate Commodity**—a commodity that may easily be damaged or spoiled if not properly packaged (to prevent movement) and kept cool (at a refrigerated temperature) during transport to its respective laboratory. Strawberries are an example of a delicate commodity.

**Distribution Center**—a warehouse facility that purchases and receives food products from multiple vendors, stores the food products on its premises, then distributes the products to multiple stores within its specific chain, e.g., a Safeway distribution center will receive, store, and distribute food for all the individual Safeway retail stores within its geographic proximity.

**Double/Triple Sampling**—extra sampling during a specified period of time to make up for times (most likely, seasons) when certain commodities are unavailable and therefore are unable to be collected. Double or Triple Sampling must be approved by MPO and the laboratory receiving the samples before it is initiated.

**Electronic Sample Information Form (e-SIF)**—digital version of the Sample Information Form that is entered and submitted using the RDE e-SIF software on handheld/laptop computers.

**Ethylene Gas (C<sub>2</sub>H<sub>4</sub>)**—a natural hormone that is produced by all plant tissue. It acts as a ripening agent that helps fruit become colorful and tasty by accelerating leaf and flower senescence (the wilting, fading, and general decay of plant tissue). Most plants produce ethylene gas even after they are harvested. When storing or transporting different types of produce in the same container, it is crucial to consider whether a certain commodity is an ethylene producer or is ethylene sensitive. For this reason, it is best to select produce that is not overly ripe.

**Ethylene Producing Commodity**—many fruits such as apples, bananas, and tomatoes show a strong increase in ethylene levels at the late green or breaker stage. As a consequence of high ethylene, chlorophyll is degraded and other pigments are produced. This results in the typical color of the mature fruit peel. When fruits are stored in an enclosed area, ethylene that is released from ripening and mature fruits accumulates and stimulates late-ripening fruits to premature ripening ("One rotten apple can ruin the whole basket"). Activity of many maturation-related enzymes thus increases. Ethylene producers should not be stored or packaged with ethylene sensitive products because they may cause premature ripening of some products and may ruin others.

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 3 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

**Ethylene Sensitive Commodity**—generally, unripe produce is sensitive to ethylene gas and will commence ripening if stored with ethylene-producing commodities. Fruit and vegetables vary in their degree of ethylene sensitivity.

**Extranet**—also known as AGNISX, MPO’s Extranet is a browser-based portal site that allows MPO employees and participating States to share, modify, and discuss information electronically with users within and outside of USDA. The public does not have access to MPO’s Extranet.

**Fact Sheet**—a one-page document prepared by the MPO Sampling Manager that summarizes sample collection and shipping criteria for a specific commodity. Information included in a Fact Sheet includes: acceptable and unacceptable products or varieties for collection, desired sample collection size or weight, packaging and shipping instructions, optimum storage/shipping temperatures, and a statement as to whether the commodity is ethylene sensitive or is an ethylene producer. Fact Sheets for current MDP and PDP commodities must be made available to all sample collectors and are posted on MPO’s Extranet site.

**FTE**—Acronym for Full Time Equivalent. One FTE is equal to 2080 man-hours per year.

**Hermetically Sealed**—a seal on a bag or container that makes its contents airtight. The means by which the bag is sealed is by fusion, gasketing, crimping, or equivalent means so that no gas or vapor can enter or escape.

**Internal SOPs**—Standard Operating Procedures (SOPs) created by each State Sampling Manager that provide specific details concerning how a procedure is to be implemented in his/her particular State. Internal SOPs are intended as a supplement to MPO SOPs, which represent minimum PDP and MDP requirements and are presented as a general guideline.

**Objective Selection/Judgment**—a selection process that will yield the same result no matter who conducts it; free of influence by emotions or personal preferences.

**Pallet**—a wooden, metal, or plastic framework designed to be picked up by mechanical devices such as forklift or pallet trucks for the storage and transport of boxed food commodities inside a warehouse or distribution center. The holding capacity of each pallet varies by commodity and by interior building design/space.

**PDA**—Acronym for Personal Digital Assistant. A handheld/palmtop computer also referred to as a Pocket PC. The RDE e-SIF software works on PDAs that are running the Windows Pocket PC or Windows Mobile 2003 operating system.

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 4 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

**Primary Site**—the scheduled, preferred site from the State's list of active sites where the sample should be collected.

**Probability Size Measurements**—a measure of size for a unit in a collection from which a sample is to be drawn. The probability of selecting a particular unit for the sample is proportional to this measure (consequently, it must be known for all units before the sample is drawn).

**Processed Commodity**—any food product that has undergone physical or chemical treatment resulting in a substantial change in the original state of the food. Frozen, canned, and dried foods are examples of processed commodities.

**Proxy Site**—a retail store that may be in close proximity to the Primary or Alternate Site and that receives the product directly from the Primary or Alternate Site (in the distribution chain). Proxy sites may be used for the collection of PDP commodities and only for MDP commodities that have been approved by MPO.

**Quality Assurance (QA)**—an integrated system of activities involving planning, quality control, quality assessment, reporting, and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence. The PDP and MDP QA programs encompass sampling, laboratory analysis, and data reporting/database activities. Quality control (QC) is defined as the activities that are conducted on a routine/daily basis to carry out quality assurance (i.e., to reduce error and ensure that data are generated and/or processed within known and acceptable limits).

**Quarterly Sampling Plan**—a document that is transmitted via a memo to Sampling Managers that outlines weekly and monthly schedules for the collection of commodities and provides a source of information vital to both sample collectors and laboratory personnel on upcoming new commodities. Timing of drafts and final Quarterly Sampling Plan is as follows:

- 45 days prior to beginning of new quarter: MPO draft sent to Sampling Managers for their review and comments
- 30 days prior to beginning of new quarter: MPO final plan sent to Sampling Managers
- 15 days prior to beginning of new quarter: each State final sampling schedule posted to MPO's Extranet site

**Quarterly Sampling Schedules (final)**—commodity collection schedules prepared by State Sampling Managers and approved by appropriate analyzing laboratory Technical Program

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 5 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

Managers that list specific sites and dates when PDP and MDP commodities will be collected for every month in each quarter. State Sampling Managers must post their final schedules to MPO's Extranet site two weeks prior to each new quarter.

**Quick Reference Guide**—a quarterly document created by the MPO Sampling Manager that serves as a quick reference for sample collectors by providing summaries of: (1) unacceptable products that cannot be collected and (2) specially requested e-SIF “Must-Have” information. Both PDP and MDP commodities are included in this document. Current Quick Reference Guides are posted on MPO's Extranet site.

**Random Selection Process/Procedure**—statistics of or characterizing a process of selection in which each item of a set has an equal probability of being chosen. A system for selecting a sample of units from a larger collection [statisticians prefer the word "population"] of units in which every member of the collection has a positive probability of selection.

**Refrigerated Temperature**—a cooled container that can maintain temperatures between 33-45°F (1-8°C) for a specified period of time during holding or shipment of commodities to their respective laboratory.

**Relative or Comparative Volume Information**—a method used to calculate and show the differences in the volumes of produce that different vendors or collection sites carry in each participating State. [not a technical term per se -- if unit A has volume a and unit B volume b, then if A has relative volume a', B has relative volume a'(b/a).] States are required to update volume information at least once a year; this information is used by MPO's NASS statistician to make monthly site selections for each State.

**Remote Data Entry (RDE)**—software system used to enter, review, and submit PDP/MDP data. The RDE system has two major components, a Windows-based system that allows sample collectors to enter and submit an electronic SIF and a Web-based system that allows laboratories to enter and submit completed data sets.

**Retail Market/Store**—a facility in which food is sold directly to the end-user customer. Sample Information Form-Standardized paper form used by sample collector to capture sample identity information, such as a unique Sample ID, sample origin, variety, lot number, and post-harvest fungicide labeling.

**Sample Information Form (SIF)**—a form that contains detailed information on a commodity collected for PDP or MDP that makes each sample (or group of samples-MDP) unique. SIFs

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 6 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

may be in an electronic or paper format and must be emailed or shipped, respectively, for/with each set of samples.

**Semi Annual Program Plan**—a statement of work distributed in January and July each year by MPO for both PDP and MDP programs that contains the following information: (1) administrative updates; (2) a list of new and revised SOPs; (3) commodity additions, deletions, and continuations, including names of laboratories who will be testing the new commodities; (4) testing additions, deletions, changes, and continuations; and (5) any other future program directions. The program plans often include the Shipping Assignment Charts for the upcoming two quarters and an updated MPO Contact List.

**Shipping Assignment Chart**—a quarterly document created by the MPO Sampling Manager that contains pertinent collection and shipping information for all the sampling States: commodity names and codes that are scheduled for collection, State collection numbers, sample amounts/weights, collection changes from the previous quarter, sample start dates, analyzing laboratory names and locations, and special collection notes. Current Shipping Assignment Charts are available on MPO's Extranet site.

**Sample**—a group of produce items randomly collected by trained sample collectors from a box/crate at a specific collection site that has a unique site code and/or grower/packer/distributor assigned to it.

- For PDP, a specific weight or volume of the desired commodity is selected from a single box/crate, and is bagged and shipped to a specific laboratory. The single bag containing all the units of a particular commodity collected on a particular day at a particular facility is considered a PDP "site" sample. All units in the sample must represent the same lot number. Each site sample is reported as a separate result in MPO's database and the PDP Annual Summary Report.
- For MDP, a commodity sample is comprised of three sub-samples or three groups of individual units that are selected from a single box/crate. Each sub-sample is individually bagged, and all three sub-samples are shipped together to a specific laboratory. All sub-samples in a box/crate must represent the same lot number. Each sub-sample is reported as a separate result in MPO's database and the MDP Annual Summary Report.

**Size Measure**—comparative volume number to show the size differences in sampling sites. (See "Relative or Comparative Volume Information")

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 7 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

**State Sampling Manager**—a professional of appropriate education, training, experience, or combination thereof, who is responsible for the conduct of a State's sampling program and who assures that his/her sample collectors adhere to MPO Sampling Standard Operating Procedures.

**Sterile**—free of any living microorganisms, pathogenic or non-pathogenic.

**Stomacher Bag**—a high grade, high strength sterile polyethylene bag that holds food samples for processing and blending. The specialized bag allows for high impacts at room temperatures. A stomacher machine is a laboratory instrument that produces homogenized food samples through the use of mechanical paddles that crush and stir the stomacher bag's contents.

**Subjective Selection/Judgment**—a selection process that is influenced by emotions or personal preferences; not objective. (If something is free of subjective judgment, it is not influenced by emotions or personal preference.)

**Tamperproofing**—a method used to prevent accidental or intentional alteration of a closed or sealed package.

**Terminal Market**—an organized market in a city into which large quantities of agricultural produce are shipped for distribution and sale, generally to retailers, restaurants, and institutions. A collection of vendors/wholesalers doing business in the same place.

**Vendor**—an individual wholesaler (person or agency) who sells food in a terminal market.

**Volume Weighting**—a way of estimating an aggregate value for a collection of units (e.g., a total or a proportion) from a sample that counts each sampled unit differently depending on its relevant size ("volume"). Statistics: a coefficient assigned to elements of a frequency distribution in order to represent their relative importance. [See "Relative or Comparative Volume Information.]

**Voucher**—a method of payment for the purchase of fruit and/or vegetables from a food vendor. It is a document that acknowledges a liability or provides authorization to pay a debt.

**Whirl Pak®**—a leak-proof primary sample bag which has twistable tabs near the opening that can be manipulated to tie and seal the bag once the bag has been "whirled" around on itself several times.

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 8 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

**Wholesale Market**—a market in which food is sold to retailers, distributors, or other wholesalers who in turn sell to retail or end-use customers. The sale of goods in quantity to retailers or jobbers for resale (as opposed to a retail market).



**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 9 of 10       |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

*Jo Kraemer*

*4/29/09*

Prepared by: Jo Kraemer  
Sampling Manager, Monitoring Programs Office  
8609 Sudley Road, Suite 206  
Manassas, VA 20110  
(703) 330-2300

Date

*Diana Haynes*

*4/29/09*

Approved By: Diana Haynes  
Technical Director, Monitoring Programs Office  
8609 Sudley Road, Suite 206  
Manassas, VA 20110  
(703) 330-2300

Date

*Martha Lamont*

*4/29/09*

Approved By: Martha Lamont  
Program Administrative Director, Monitoring Programs Office  
8609 Sudley Road, Suite 206  
Manassas, VA 20110  
(703) 330-2300

Date

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

|                                   |               |                    |
|-----------------------------------|---------------|--------------------|
| SOP No: MDP/PDP SAMP GLOSSARY     |               | Page 10 of 10      |
| Title: Glossary of Sampling Terms |               |                    |
| Revision: Original                | Replaces: N/A | Effective: 4/29/09 |

Original

- Created descriptions of selected terms used in PDP and MDP Sampling Standard Operating Procedures.