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Title: Sampling Plan		
Revision: Original	Replaces: N/A	Effective: 6/1/96

1. **Purpose**

To standardize the development of annual sampling plans for all USDA/Grain Inspection Packers and Stockyard Administration (GIPSA)/Federal Grain Inspection Service (FGIS) sampling facilities participating in the collection of grain samples for the USDA/AMS-Pesticide Data Program (PDP).

2. **Scope**

This Standard Operating Procedure (SOP) shall be followed by all USDA/GIPSA/FGIS personnel involved in the management of grain sample collection for PDP.

3. **Outline of Procedure**

- Sampling Frame
- Sampling Facilities
- Facility Sample Allocation
 - Sampling Intervals
 - Sampling Start Points

4. **References**

AMS/GIPSA Soybean Sampling Meeting, Discussion, April 30, 1996.
 Phil Kott, National Agricultural Statistics Service (NASS), FAX, The 1995 Pesticide Data Program Sample Design for Wheat, August 30, 1995.
 David Orr, Deputy Director, USDA/FGIS Field Management Division, Program Bulletin, National Wheat Sampling Plan for the 1995 Pesticide Residue Program, January 27, 1995.
 U.S. EPA, Standard operating procedures, 40 CFR part 160.81, August 17, 1989.
 U.S. EPA, Conduct of a study, 40 CFR part 160.130, August 17, 1989.

5. **Specific Procedures**

These sampling plan procedures provide minimum PDP requirements and are presented as general guidelines. Each participating sampling facility shall, as part of their internal sampling SOPs, have written procedures which detail the sampling plan. Both the USDA/AMS SOPs and the facility's internal SOPs shall be used as the measure of compliance in the event of a USDA/AMS sampling review.

5.1 Sampling Frame

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The annual sampling frame for PDP grain samples shall be based on the file samples of USDA/GIPSA/FGIS' Grain Inspection Monitoring System (GIMS). File samples are representative of the total volume of grain samples officially inspected in the permissive inspection system regulated by FGIS under the authority of the United States Grain Standards Act (USGSA). File samples exclude grain intended for export and constitute a scientifically drawn 5% of all grain shipped by water (i.e., those using a barge or ship for transportation) and a 1% sample of all other shipments. Approximately 600 PDP subsamples are selected from the file samples utilizing a statistically defensible system developed with the assistance of NASS.

5.2 Sampling Facilities

NASS shall choose participant sampling facilities per commodity from the Master Site List (see Appendix 1), which is comprised of all USDA/GIPSA/FGIS field offices. Selection is based on each field office's historical USDA/GIPSA/FGIS file sample quantities per commodity.

5.3 Facility Sample Allocation

Each sampling facility shall be in possession of that portion of the file samples under its jurisdiction. Samples that are in-scope (i.e., supervisory samples not for export) are ordered within a facility according to their respective inspection dates. USDA/GIPSA/FGIS shall instruct each facility to draw a systematic subsample from these ordered lists in the described manner.

a. Assignment of Sampling Intervals

Based on historical USDA/GIPSA/FGIS file sample quantities per commodity, the sampling interval necessary for each commodity to achieve a sampling distribution valid for inferential statistical purposes shall be calculated by NASS.

b. Assignment of Sampling Start Points

The sampling facilities shall be ordered by NASS in such a way that consecutive facilities are geographically distant. The sampling interval is equal to the number of potential start points. If the number of potential start points exceeds the number of sampling facilities, systematic sampling shall be used by NASS to remove potential start points so that there are an

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equal number of start points and facilities. If the number of potential start points is less than the number of sampling facilities, some facilities shall have the same start point. However, as these are geographically distant from one another, there shall not be any loss of statistical efficiency.

One start point is then randomly selected and assigned to the first sampling facility on the ordered list. The remaining start points are then sequentially assigned to the remaining facilities.

Each facility shall follow sample collection, packing, and shipping procedures as outlined in PDP-SAMP-GRAIN-PROC-2, "Sampling Procedures", PDP-SAMP-GRAIN-PROC-3, "Packing and Shipment of Samples", and PDP-SAMP-GRAIN-PROC-4, "Sample Information Documentation" for its designated start point file sample and subsequent file samples at the designated intervals.

