STANDARD OPERATING PROCEDURE		
SOP NO.: GLP-DA-07		Page No.: 1 of 6
Title: **AUDITING NATURE AND MAGNITUDE OF THE RESIDUE IN LIVESTOCK STUDIES - BIOLOGY PORTIONS**		
Revision: 1	Replaces: Original	Effective: 06/07/99

1. PURPOSE

To provide guidance and a standard procedure for auditing records comprising the biology portions of studies to determine the nature and magnitude of the residue in livestock. Such studies were submitted to the Agency in support of applications for research or marketing permits for pesticide products regulated by EPA [Sections 3, 4, 5, 8, 18, and 24(c)) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended].

2. SCOPE

This standard operating procedure (SOP) will be used in auditing records comprising the biology portions of studies conducted to determine the nature and magnitude of residues of pesticides and their metabolites and degradation products in livestock. This includes nature of the residue in livestock; magnitude of the residue in: meat, milk, poultry, and egg feeding studies (residues in feed items, direct animal treatment and agricultural premise use studies).

3. OUTLINE OF PROCEDURE

3.1 Test System
3.2 Characterization of the Test Substance
3.3 Test Substance Shipping and Receipt Records
3.4 Test Substance Application
- Application of test substance
- Calibration of equipment
- Test substance sampling

3.5 Other Agrochemical Application and Field Maintenance
3.6 Test System Sampling and Sample Shipment
3.7 Sample Receipt and Storage

3.8 Environmental Conditions
3.9 Protocol
3.10 Standard Operating Procedures

4. REFERENCES

4.1 EPA OPPTS Test Guidelines Series 860: Residue Chemistry, U.S. Environmental Protection Agency, Office of Prevention, Pesticides and Toxic Substances (OPPTS), Washington, D.C.

5. SPECIFIC PROCEDURES

The following outline should be used as a guide to ensure that all applicable records relating to a study are reviewed during the data audit. This is intended to provide guidance and cannot anticipate every potential problem area. The professional experience and knowledge of the auditor should serve as a primary resource in conducting an adequate data review. This SOP should be used in conjunction with SOP GLP-C-02 to determine that all studies conducted after October 16, 1989 were in compliance with the GLP standards regulations.

The study audit should include a review of the following records comprising the study

5.1 TEST SYSTEM

Records should be available, as appropriate, which address the following issues relating to test system (livestock or poultry) description and characteristics:

- Species, strain, and substrain
- Source of the test system, including date of birth, if known, and receipt
- Procedure for, and documentation of, identification of test system
- Records for isolation of newly received test systems
- Medical history of the livestock and poultry, including pesticide use and medical treatment
- Acclimation records of test system prior to start of study
- Evaluation of health status or appropriateness for the study

- In the case of a disease contracted by the test system, diagnosis, authorization of treatment, and each date of treatment
- Description and/or identification of the diet used, batch or lot number of feed
- Feed consumption
- Periodic drinking water and feed analyses for contaminants
- Housekeeping and other maintenance records of test system
- Cleaning and pest control materials used
- Daily observation records, as required in the protocol
- Description of grazing sites, including location, agrochemical use, and application history for the previous 3 years, at a minimum.
- Documentation of sufficient test system areas to provide proper separation of test systems, isolation of projects and test systems, and specialized areas, as required
- Records of how, and the environment in which, the test system is maintained
- Disposal of test system waste, refuse, and other contaminated and spent material

5.2 CHARACTERIZATION OF THE TEST SUBSTANCE

Records should be available which address the issues relating to the characterization of the test substance prior to its use in the study. Audit of these records is covered in SOP No GLP-C-02.

5.3 TEST SUBSTANCE SHIPPING AND RECEIPT RECORDS

Records should be available which address the issues relating to the shipment of test substance by the test sponsor and receipt by the field personnel. Audit of these records is covered in SOP No. GLP-C-02.

5.4 TEST SUBSTANCE APPLICATION

Records should be available which address the following issues relating to application of the test substance to the test system animals:

- Maintenance and calibration of equipment including balances for weighing, other equipment for the preparation of the test substance, and application equipment,

- Batch, lot number for solvents, emulsifiers and/or other material used to solubilize or suspend the test and control substance prior to mixing with the carrier,
- Stability of the test substance under storage conditions at the test site,
- The preparation, sampling, and analysis of mixtures of test substance with diluent/carrier, as addressed in SOP Number GLP-C-02,
- Method of application of test substance to the test system,
- Dates of application and subsequent sampling events,
- Method of cleaning of equipment used for the preparation of test substance mixtures, and the disposal of contaminated and/or excess material.

5.5 OTHER AGROCHEMICAL APPLICATIONS AND FIELD MAINTENANCE

- Descriptions of other agrochemical applications during the course of the study including fertilizer or other pesticides. Were such applications approved by the study director prior to their application?
- Descriptions of other field maintenance practices including tilling, weeding prior to and after plot was used as grazing ground for livestock
- Adequate separation of grazing plots and housing for control and test animals

5.6 TEST SYSTEM SPECIMEN SAMPLING AND SAMPLE TRANSFER

Records should be available, where applicable, which address the following issues relating to the test system specimen sampling and specimen sample transfer by the field personnel:

- Full description of the sampling device and procedure,
- Method of euthanasia,
- Procedures for the collection and sampling of eggs, milk, tissues, body fluids, and/or excreta,
- Decontamination of equipment between sampling events,
- Observations at post-mortem examination, including weight of tissues and eggs, volume of milk and urine,
- Sample chain-of-custody (COC) for each specimen transfer to analytical laboratory, including animal number, sample description and code number, date of sampling, name of

individual doing sampling, signature(s) of individual(s) involved in sampling. Was a copy of the sample COC sent to the study director?

- Storage of samples prior to transfer and condition of shipment in accordance with protocol and relevant SOPs.

Procedures for auditing the sample shipments and sample COC records is covered in SOP Number GLP-DA-01.

5.7 SAMPLE RECEIPT AND STORAGE

Audit of these issues is covered in SOP Number GLP-DA-01.

5.8 ENVIRONMENTAL CONDITIONS

Records should be available which address the following issues relating to reporting and compiling the environmental conditions during the conduct of the study (as specified in the study protocol):

- Regulation of environmental conditions (e.g., temperature, humidity, photoperiod), as specified in the protocol,
- Outside air temperature and relative humidity, including maximum and minimum, in the event of outdoor housing of the test system,
- Source of drinking water.

5.9 PROTOCOL

The study protocol should be reviewed, as described in SOP Number GLP-C-02, to ensure that all required protocol elements were present. The auditor should ensure that any protocol amendments and/or deviations were properly documented and approved by the study director, as required by the GLP Standards, using the above SOP for guidance.

5.10 STANDARD OPERATING PROCEDURES (SOPS)

The auditor should verify that SOPs were in effect at the time of the study, which described routine procedures. Examples of critical SOPs include, but are not limited to, the following (as applicable):

- Shipping and Receiving Study Specimens,

- Shipping and Receiving Test, Control, and Reference Substances,
- Maintenance and Calibration of Application and Other Equipment,
- Operation of Key Equipment,
- Environmental Equipment and Measurements,
- Preparation of Test Substance and administration,
- Cleaning of Application Equipment,
- Test System Area Preparation,
- Test System Observations,
- Housing, Feeding, Handling, and Care of Test System,
- Maintenance of Test System, including Routine Agriculture Practices,
- Transfer, Proper Placement, and Identification of Test System,
- Euthanasia and Post-Mortem Examination of Test System,
- Handling of Test System Fount Moribund or Dead during Study,
- Collection and Identification of Specimens and Storage Prior to Shipment,
- Laboratory or Other Tests,
- Data Handling, Storage, and Retrieval.

/s/_____ 06/01/99
Reviewed by: Robert Cypher Date
Compliance Officer/Toxicologist

/s/_____ 06/01/99
Approved by: Francisca E. Liem Date
Chief, Laboratory Data Integrity Branch

/s/_____ 06/07/99
Approved by: Rick Colbert Date
Director, Agriculture and Ecosystems Division
U.S. Environmental Protection Agency
Office of Enforcement and Compliance Assurance
Office of Compliance