

# KIS Sampling Job Aid

**Instructions:** Review this Job Aid and policy documents, regulations, and inspection methodologies with a mentor.

## Acronyms/Definitions

- KIS – Kidney Inhibition Swab – A type of inspector-generated livestock antimicrobial residue sampling
- Inspector-generated sampling – Sampling of a carcass when IPP suspect that an animal presented for slaughter may contain a violative level or one or more chemical residues
- AM – Ante-mortem – Prior to death
- PM – Post-mortem – After death
- Residue Repeat Violator – A live animal producer or supplier that has had 2 or more FSIS laboratory-confirmed chemical residue violations in previous 12 months
- Supplier – Producer, broker, or livestock market
- Lot – A group of animals from a single source presented for slaughter
- Show animal – An animal that arrived for slaughter as part of a “lot” from a single fair or livestock show that is otherwise healthy and has equal chance of being selected for testing
- Bob veal – Calf up to 3 weeks of age or up to 150 lbs. with a non-functional rumen
- ADR – Animal Disposition Reporting
- PHIS – Public Health Information System
- PHV – Public Health Veterinarian

## Task Overview

- A KIS test is an inspector-generated sampling conducted on a livestock carcass that, based on herd history or AM or PM findings, may contain a violative drug residue.
  - KIS test does not detect non-antimicrobial drugs.
  - Not performed in poultry, exotic species, or Siluriformes fish.
- IPP retain all carcasses and parts selected for KIS testing with a U.S. Retained tag until all test results are obtained.
- IPP perform KIS testing under the direction of the PHV in livestock establishments.

## Basic Procedure

- Select animal or carcass for KIS testing based on herd history or AM/PM findings. Situations that warrant KIS testing include:
  - Animals from suppliers on [residue repeat violator list](#) (random selection)
  - Show animals (unhealthy-suspected)
  - Bob veal calves (healthy-random selection; unhealthy-suspected)
  - Specific pathologies/conditions (suspected or retained)
- Collect all animal identification devices (e.g., ear tags, tattoos, backtags, etc.).
- Collect supplier information.
  - If unknown, enter the establishment name and address into PHIS.
- Collect kidney, liver, and muscle tissues if there is reason to suspect violative levels of chemical residues.
  - If establishment chooses to voluntarily discard the carcass rather than hold it, collect all tissues at once.

- When carcass is retained pending test results, IPP may collect kidney(s) for sample collection and only collect liver and muscle if needed for confirmatory tissue testing by laboratory.
  - **Note:** Confirmatory tissue testing occurs when IPP collect and submit tissue samples to the FSIS lab, such as when a KIS test is positive.
- Retain the carcass and parts of carcasses selected for KIS testing using a U.S. Retained tag.
- Perform the KIS test in-plant on kidney per the [KIS Test Instructions](#).
- Read the results of the KIS test based on the color of the agar gel at bottom of the vial.

### KIS™ Test Instructions

#### Results



- ◆ Yellow or yellow/green colors are **negative**.



- ◆ Blue/purple colors are **positive**. Assure purple color throughout vial.



- ◆ Yellow or yellow/green in lower half of vial with blue/purple or brown in upper half of vial are **CAUTION**. These samples shall be interpreted as **negative** since there is not a consistent blue/purple color throughout the tube.

- [Record the KIS test results in the ADR section of PHIS](#) on the daily disposition record.
- If [positive, submit kidney, liver, and muscle to the Midwestern Laboratory](#) for confirmatory tissue residue testing. Submit:

**Table 1: Samples to Submit For Inspector-Generated Residue Testing**

Slaughter Class	Sample source and size
Cattle	Muscle – 1 lb. Liver - 1 lb.
Swine	Kidney – 1 lb.
Sheep	Muscle – 1 lb. Liver - 1 lb.
Goats	Kidney – both kidneys
Roaster pigs	Liver – 1 lb.

- Access confirmatory residue results from LIMS Direct.
  - The PHV makes the final disposition on the carcass and parts.
  - When violative drug residues are found, IPP verify the establishment takes corrective actions.
  - IPP are to discuss any developing trends in violative residue results at the weekly meeting.
  - Follow instructions in [FSIS Directive 10800.1](#) for when to document noncompliance.

### Discussion Points

- Procedures for sample collection
- Common pathological conditions that may warrant KIS testing by the PHV:
  - Injection site lesions
  - Recent surgery
  - Pyemia/Septicemia/Toxemia
  - Abscess
  - Metritis
  - Mastitis
  - Pneumonia

### Knowledge Check

- What is the purpose of KIS testing in livestock?
- How do IPP determine the result of the KIS test?

### Resources

- [FSIS Directive 10800.1](#) – *Residue Sampling, Testing and Other Verification Procedures under the National Residue Program for Meat and Poultry Products*
- [FSIS Directive 10800.2](#) – *Residue Sampling and Testing under the National Residue Program*
- [FSIS Directive 10800.3](#) – *Prioritizing Inspector-Generated Sampling under the National Residue Program*
- [KIS Test Instructions](#)