

market hogs under traditional inspection, establishment personnel sort animals before they are presented to FSIS ante-mortem inspectors under HIMP. Establishment personnel sort animals that appear to be healthy into "Normal" pens and animals that appear to have condemnable diseases or conditions into "Subject" pens. Establishment personnel remove and dispose of dead and moribund animals and animals suspected of having central nervous system disorders (CNS) or pyrexia. Under HIMP, FSIS inspectors examine all animals found by the establishment to be normal at rest, and five to ten percent of those animals in motion. If any animals exhibit signs of condemnable conditions, FSIS inspectors direct establishment employees to move the animals to the "U.S. Suspect" pens for final disposition by the FSIS PHV. FSIS PHVs examine all animals in the establishment's "Subject" pens, and direct establishment employees to move animals to "U.S. Suspect" pens for final disposition by the FSIS PHV. The FSIS PHV determines if any animals must be identified as "U.S. Condemned" and disposed of in accordance with 9 CFR 309.13 (9 CFR 309.2). While establishment personnel sort and remove animals unfit for slaughter, only FSIS inspectors have the authority to condemn an animal. FSIS inspectors observe establishment employees performing sorting procedures at least twice per shift under HIMP compared to at least once per month under the voluntary segregation procedures permitted under traditional inspection of market hogs.

Under HIMP, post-mortem inspection is conducted by up to three online inspectors who visually inspect the head, viscera, and carcass of each hog at fixed locations on the evisceration line. Before FSIS online inspection, establishment personnel sort carcasses and parts and trim dressing defects and contamination (e.g., hair, bruises, feces, ingesta, and milk). Establishment employees also mark with ink localized pathology defects intended for removal under FSIS supervision (e.g. localized nephritis and localized arthritis) and carcasses and parts intended for disposal under FSIS supervision (e.g., carcasses and parts with malignant lymphoma). Online inspection is conducted much more efficiently and effectively under HIMP than under traditional inspection because establishment personnel have already sorted carcasses and parts, trimmed dressing defects and contamination, and identified pathology defects on the

carcasses, thereby correcting most removable defects, before the FSIS online inspectors perform their carcass-by-carcass inspection.

Under HIMP, offline inspection consists of system verification activities through which FSIS continuously monitors and evaluates establishment process control. FSIS conducts more offline, food safety related verification inspection activities under HIMP than under traditional inspection. Some examples of food safety related verification inspection activities include: HACCP, sanitation SOP, and other prerequisite program verification procedures, including 24 carcass verification checks per shift specifically for generalized diseases and conditions and for contamination (compared to 11 carcass verification checks per shift under traditional inspection). FSIS also conducts more offline humane handling verification tasks under HIMP than under traditional inspection.

FSIS has concluded that the HIMP model has a number of benefits, such as focusing FSIS inspection personnel on the areas of greatest risk in the hog slaughter system and providing an incentive to establishments to improve and innovate, while ensuring effective online inspection.

#### *C. U.S. General Accountability Office (GAO) and the USDA's Office of the Inspector General (OIG) Reports on HIMP*

In 2013, the U.S. General Accountability Office (GAO) and the USDA's Office of the Inspector General (OIG) evaluated FSIS's HIMP pilot study and issued findings and recommendations.<sup>4,5</sup> GAO identified strengths in the pilot study, including that of giving plants responsibility and flexibility for ensuring food safety and quality and allowing FSIS inspectors to focus more on food safety activities. However, GAO also identified what it believed to be data gaps in the HIMP pilot study. GAO recommended that FSIS collect and analyze information to determine if the HIMP pilot study is meeting its purpose, and FSIS agreed with the recommendation.

The OIG report also included recommendations related to HIMP procedures. According to the OIG, FSIS did not adequately oversee the HIMP program because the Agency did not

evaluate whether the program resulted in a measurable improvement of the inspection process; allowed one HIMP plant to forgo the standard FSIS policy to manually inspect viscera; and did not have formal agreements with the HIMP plants. In response to OIG, FSIS agreed to complete an evaluation of HIMP market hog establishments.

#### *D. Analysis of HIMP*

##### *1. FSIS Evaluation of HIMP*

In 2014, in response to the GAO and OIG reports, FSIS conducted a comprehensive analysis of data collected from the operation of HIMP in market hog establishments and prepared a written report (the "Hog HIMP Report") that presents a thorough evaluation of the models tested. Based on this evaluation, FSIS concluded that market hog slaughter establishments participating in HIMP were performing as well as comparable large non-HIMP market hog establishments and meeting FSIS requirements for operating under waivers through the HIMP project.

A summary of the Hog HIMP Report is provided below. The full Hog HIMP Report is available on the FSIS website at: <http://www.fsis.usda.gov/wps/wcm/connect/f7be3e74-552f-4239-ac4c-59a024fd0ec2/Evaluation-HIMP-Market-Hogs.pdf?MOD=AJPERES>. Before implementation of the HIMP project, an independent consulting firm, Research Triangle Institute (RTI) collected baseline organoleptic and microbiological data in the five market hog slaughter establishments that volunteered to participate in the HIMP program. These data reflect the performance of the establishments under traditional inspection and provided the basis to establish HIMP performance standards for food safety defects and non-food safety "Other Consumer Protection" (OCP) defects.

FSIS established three categories of food safety related performance standards under HIMP for these conditions: "FS-1" addresses infectious conditions (e.g., septicemia, toxemia, pyemia, and cysticercosis); "FS-2" addresses contamination from fecal material, ingesta, and milk; and "FS-3" addresses certain conditions identified at ante-mortem (e.g. moribund, pyretic, and neurologic conditions). FSIS has a zero tolerance policy for food safety conditions identified as FS-1, FS-2, and FS-3 to protect consumers from conditions that may be harmful. Therefore, the HIMP performance standard for food safety defects was set at zero.

FSIS established the performance standard for non-food safety OCP

<sup>4</sup> GAO, 2013. More Disclosure and Data Needed to Clarify Impact of Changes to Poultry and Hog Inspections, <http://www.gao.gov/assets/660/657144.pdf>.

<sup>5</sup> OIG, 2013. Food Safety and Inspection Service—Inspection and Enforcement Activities at Swine Slaughter Plants, <https://www.usda.gov/oig/webdocs/24601-0001-41.pdf>.