

# Slaughter Health Checks: Still A Valuable Tool



## TECHNICAL BULLETIN

### What is a slaughter health check?

A slaughter health check involves evaluating pigs at the slaughter plant for disease lesions, pneumonia mainly due to *Mycoplasma hyopneumoniae*, liver scarring due to ascarid (roundworms) larval migration, atrophic rhinitis and sarcoptic mange. Other lesions can be observed such as pericarditis, pleuritis and peritonitis (scarring of the heart, chest and abdomen, respectively; often caused by *Actinobacillus pleuropneumoniae*, *Hemophilus parasuis* or *Streptococcus suis*), tumors, abscesses, foot lesions and arthritis.

***Evaluating pigs at slaughter enables assessment of disease levels in “normal” pigs, unlike necropsy examinations which focus on evaluating lesions in “sick” pigs.***

### Why are slaughter health checks used less frequently than in the past?

The primary reason slaughter checks were performed in the past was to validate the disease-free status of specific pathogen free (SPF) herds. The decline in the number of SPF herds, along with labor-related costs and biosecurity constraints have resulted in fewer slaughter health checks. In addition, newer herd health practices including mycoplasma vaccination, age segregated rearing (multi-site production), improved biosecurity, modern facilities, disease eradication protocols and reduced weaning age have improved the overall health status of pigs. Multi-site production in particular has changed disease patterns such that overall disease levels may be reduced, but disease in a particular group of pigs may be more severe. Accordingly, slaughter checks on a few groups may not adequately characterize the health of a whole system that has multiple flows of pigs raised on multiple sites.

### Why consider a slaughter health check now?

There are many reasons for having a slaughter health check done on your pigs with the primary reason to follow up on a well-defined clinical disease problem in a flow or site. A slaughter check will evaluate the scope of the disease in the larger population. On the other hand, the scope of disease may not be captured from the smaller number of

pigs typically necropsied during a diagnostic workup. With multi-site produced pigs, it is important to select groups of pigs where disease was observed or suspected.

Currently, pneumonia is the most significant concern in commercial swine operations. Recent slaughter checks conducted by Merck Animal Health technical service veterinarians have revealed a large degree of variation in the control of pneumonia, most of which appear to be related to the number of mycoplasma vaccine doses (one vs. two) administered to the pigs. The results of these checks are available in an accompanying technical bulletin.

A second reason to conduct a slaughter health check is to evaluate a change in a herd's health program or some other production practice by providing information beyond routine production records. Although production records should be the cornerstone of evaluating the relative benefits of different products and practices, slaughter health checks, along with other disease monitoring efforts such as testing blood, oral fluids and feces for antibodies and pathogens, can be used to better understand the underlying reasons for observed performance differences. In order to use a slaughter check in this manner, a “baseline” of slaughter checks should be in place before the production practice is changed.

A third reason is to identify a disease that is not clinically apparent in the herd. Although this may seem far fetched, in fact, our recent slaughter checks have revealed diseases in herds that were not apparent, and if left unattended, could develop into serious problems. Why? Many herds are now getting older and even though they were populated with relatively clean pigs, a lot of time has passed and new diseases have unknowingly entered these herds. Reduction in antibiotic use due to economics and food safety concerns may enable the clinical revival of bacterial diseases that were previously in check. In some operations, the frequency of necropsies has been insufficient, the disease lesions were not recognized by the person performing the necropsy or the location of the disease in the pig was not examined. For example, failing to saw snouts may result in missing an atrophic rhinitis diagnosis.



## How do I get a slaughter health check done?

The first step is to contact a Merck Animal Health sales representative who will in turn forward the request to a Merck Animal Health technical services veterinarian. A plan will then be developed to accomplish the check. Communication between the producer, the buyer for the slaughter plant, the herd's veterinarian and Merck Animal Health personnel are necessary to coordinate scheduling of the pigs to the plant at the right time and scheduling the personnel who will be doing the slaughter check. Generally, a minimum of one week of lead time is needed to get the check organized.

## What are the limitations of a slaughter check?

First of all, it is important to recognize that the lesions observed at slaughter may be recent in nature. The lack of visible lesions does not mean that the pigs were free of the disease for the entire growing period. This is especially true with pneumonia lesions and liver scars, which can resolve over time. Likewise, pneumonia lesions are not specific to mycoplasma. Lesions due to swine influenza virus can look the same. To differentiate the two diseases, lung samples may be collected at slaughter and evaluated in the laboratory to determine the causative agent in groups that exhibit a high level of pneumonia.

## How are slaughter checks scored?

Pneumonia lesions are scored based on the percentage of the lung surface that exhibits visible lesions. Both the group's average score and the percentage of lungs with greater than 5 percent and 20 percent involvement are calculated. Reference values for comparison are provided by Merck Animal Health technical service veterinarians. The reference values are based on previous evaluations by Merck Animal Health and published papers.

Atrophic rhinitis is scored based on the degree of turbinate atrophy and septal deviation. An average score is calculated and a relative herd severity level is assigned by the Merck Animal Health veterinarian who conducted the check. Mange is scored based on the presence of small, red

papules on the skin surface after the hair has been removed from the carcass. Livers are scored based on the number of scars present on the surface. For both liver scars and mange a negative status is desired in most herds, so the data is evaluated more on a yes/no basis.

## How does slaughter health check information fit in with other diagnostic testing, production records and observations?

The interpretation and value of the slaughter health check information will vary between herds and over time. The information needs to be evaluated and interpreted in light of previous diagnostic test results, production records and observations made by the herd's staff, the attending veterinarian and other advisors. In some cases, the slaughter check information will provide a definitive answer to a question such as a product comparison or verification of a clinically obvious problem. Often times, the information leads to additional testing, especially when the results are unexpected such as the situation where a disease new to the herd, such as atrophic rhinitis is diagnosed or the extent of a disease, such as ascarid infestation, needs to be determined.

## How much does it cost to have a slaughter health check done?

Merck Animal Health technical service veterinarians will perform the checks at no cost to the producer where appropriate. If a private practitioner performs the check, Merck Animal Health will work with the practitioner and may assist with the cost where appropriate, providing that the data collected will be made available to Merck Animal Health for inclusion in a slaughter health check database.