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NAHMS Swine 2021 Large Enterprise Study

**2021 NAHMS SWINE LARGE ENTERPRISE
SURVEY - SITE SELECTION FORM (LESSF)
MANUAL**

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Chapter 1 – General Information

BACKGROUND

The NAHMS Swine 2021 Large Enterprise Study is being conducted jointly by the National Agricultural Statistics Service (NASS) and the National Animal Health Monitoring System (NAHMS). NAHMS is an information gathering and disseminating organization within the Animal and Plant Health Inspection Service (APHIS), an agency of the U.S. Department of Agriculture.

The purpose of the NAHMS program is to collect and analyze animal health data to provide current and scientifically sound information on the health status of U.S. livestock and poultry. The information is intended to benefit both livestock producers (by facilitating efficient production and animal welfare), industry leaders (by creating a reference guide and referral for trade negotiations with other countries) and the general public (education). Special emphasis is placed on obtaining valid estimates of management practices, production measures, biosecurity practices, disease status and disease prevention measures used in the national herd.

The NAHMS program is not designed to detect, regulate or eradicate major epidemic diseases, but rather to obtain snapshots of the levels (e.g., prevalence) of different swine diseases. Overall herd health is often related to animal genetics, herd management practices, the environment in which the herd is located and exposure to infectious agents. The NAHMS program attempts to measure these factors and to report the findings to the livestock industry, as well as to the general public.

NAHMS was started in 1983. In the first few years after it was established, animal health and economic data were collected for various types of livestock through several State programs. Since 1989, surveys have been national in scope and have focused on hogs from farrowing to market, dairy cattle, cow-calf operations, cattle-on-feed operations, equids, catfish, poultry, goats and sheep. NASS State offices and NASS field enumerators were involved in most of these projects.

In 1990, NAHMS conducted its first swine study. The NAHMS Swine 2021 Large Enterprise Study will be the sixth study of the more commercial side of the swine industry.

HOW NAHMS SWINE STUDY INFORMATION IS USED

Information gathered in NAHMS studies is used to:

- Provide industry groups with information regarding their industry on a national level.
- Facilitate trade negotiations and exports by providing other countries with a summary of the structure and health status of the U.S. industry.
- Identify information needs to promote funding for animal health research.
- Define health care areas that need more emphasis in veterinary education programs.
- Help scientists identify the most costly health problems.
- Help drug companies decide which new products to develop.
- Assist government policy makers in making more informed decisions affecting the swine industry.
- Benefit consumers by providing factual information on how swine are raised.

Some of these points may be useful in persuading a reluctant owner/manager to participate in the survey.

PURPOSE OF THE NAHMS SWINE 2021 LARGE ENTERPRISE STUDY

The purpose of the National Agricultural Statistics Service (NASS) component of the Study (Phase 1) is to compile essential industry information involving the areas of swine housing, swine management, production metrics and site biosecurity. To identify vital information, a needs assessment was completed involving industry representatives, producers, veterinarians and animal health officials. The needs assessment was used to develop the study objectives.

OBJECTIVES OF THE NAHMS SWINE 2021 LARGE ENTERPRISE STUDY

- Describe current U.S. swine production practices for gestation, farrowing, nursery, grower/finisher and wean-to-finish phases, specifically as they relate to housing, productivity, biosecurity and morbidity and mortality prevention.
- Determine the producer reported prevalence of select respiratory, neurologic, gastrointestinal, systemic and foodborne pathogens found in weaned market pigs.
- Describe antimicrobial use patterns in pigs from postweaning to market age
- Evaluate the presence of select pathogens and characterize isolated organisms from biological specimens (feces, oral fluids).

BENEFITS OF PARTICIPATION IN THE NAHMS SWINE 2021 LARGE ENTERPRISE STUDY

The information collected will be useful to individual producers, the Swine industry, animal health officials and veterinary groups.

Benefits to Individual Producers

- Participating producers will receive links to reports and information sheets that will enable them to compare their operation - including management decisions and practices - with others in the swine industry. These publications will present study summary data on a national, regional and operation size basis for general management and production topics as well as specific health related issues.
- Producers who choose to participate in the second phase of the study will receive oral fluid and fecal test results. These tests would provide the following information:
 - Whether the site has been infected with Senecavirus A (Seneca Valley Virus).
 - The serotypes and species of *Salmonella*, *Campylobacter*, and *Enterococcus*, respectively, as well as the antimicrobial susceptibility patterns present on their site(s) from isolates of these three pathogens and generic *Escherichia coli*.

Benefits to the Swine Industry

Baseline characterization of the commercial swine industry, including the following:

- National estimates of disease prevalence based on clinical signs as well as vaccination use, management biosecurity tools and medications used to combat disease by production phase. These estimates are valuable in trade negotiations and in combatting misinformation.
- National estimates of movement practices and feed management in growing pigs for disease planning.

Benefits to Veterinarians, Universities and Researchers

For practitioners, universities, industries and media involved with the swine industry, descriptive reports summarizing all data will be available for comparative analysis and interpretation.

- Information collected will provide basic parameters for animal disease models, including those used to plan for outbreaks of foreign animal diseases.
- Veterinary Services (VS) personnel will have a better understanding of the spectrum and demographics of the swine industry in the event of an emergency response.
- The information collected will help to determine areas needing further research and education.
- Researchers will use the background information provided by this study on the swine industry to support grant applications while national estimates provide the basis for study design and sample selection.

OVERVIEW OF NASS DATA COLLECTION

NASS will select operations from 13 swine producing States. Operations in these states account for 95.7 percent of operations with 1,000 or more hogs and 93.0 percent of the hogs on operations with 1,000 or more hogs in the U.S. Operations with 1,000 or more hogs account for approximately 15.6 percent of swine operations and sites in the U.S. but 97.2 percent of the swine inventory resides on these operations and sites.

The entire 2021 NAHMS Swine Large Enterprise Study consists of two phases. In Phase 1, NASS will contact approximately 2,200 swine operations with herds of 1,000 or more pigs to complete the 2021 NAHMS Swine Large Enterprise Survey-Site Selection Form (LESSF). The LESSF is a short questionnaire designed to select representative sites (approximately 4,085 total) within operations for further data collection using the 2021 NAHMS Swine Large Enterprise Survey (LES). Both the LESSF and LES will be administered via paper-assisted telephone interviews (PATI) if in-person interviews are not permissible at the time of the study.

The LES focuses on housing, management and productivity topics. Enumerators will also find out if the **operation contact** (representative for the operation) is willing to turn their names and contact information over to APHIS/VS personnel (Phase 2). If yes, consent will be captured on the LESSF (for the operation) and the LES (for each site sub-selected within the operation). Data collection for Phase 1 will occur from June 28, 2021, through August 2, 2021.

Information provided in this manual will focus on Phase 1 of the study, the 2021 NAHMS Swine Large Enterprise-Consent Process (Phase 2 participation), the LESSF and your role in the data collection process.

It will help promote the study when you make these contacts if you have a working knowledge of the materials sent ahead (e.g., the launch sheet) so you may give an accurate picture of what will be involved in completing the study. “Sales” points for the study include the following four areas:

1. The Swine 2021 study has been designed to collect information specifically requested by swine industry representatives, State, and Federal officials.
2. The output reports from this study are useful in trade negotiations.
3. A current snapshot of this swine industry segment in terms of health, management and movement is useful for State and Federal officials in disease response planning (e.g., African Swine Fever).
4. National estimates of modern commercial swine raising combat misinformation.

Participation in this study is voluntary. A respondent may choose to answer every LESSF or LES question, skip certain questions or sections or end the interview at any time. NASS Regional Offices should be able to answer most terminology questions or provide assistance in determining things like the “spirit” of a particular question. That is, what is the question really after?

OVERVIEW OF VS DATA COLLECTION

Phase 2 of the NAHMS Swine 2021 Large Enterprise Study will take place from mid to late September 2021 through January 2022 and involves a second site interview by a VS Veterinary Medical Officer (VMO) or Animal Health Technician (AHT) with optional participation in the biological sample collections mentioned previously.

NASS representatives will turn over information about operation contacts who indicate that they would like the opportunity to participate in Phase 2 of the study, starting in September 2021. This information has been turned over face-to-face between NASS RFO contacts and NAHMS State Coordinators in the past but will instead be electronically turned over for this study.

Chapter 2 – Terms and Definitions

Enumerators working on the NAHMS Swine 2021 Large Enterprise Study should be familiar with as many of the terms and definitions listed below as possible. To gain the most benefit from training, enumerators should review the definitions of these terms before attending the training session and ask any questions they may have then. **Note:** These terms are tailored to **this** questionnaire’s contents and interview procedures. There are also NASS terms (e.g., Callback).

Boar

Intact male pig used for breeding.

Breeding

All actions from mating to farrowing that culminate in a gilt or sow becoming pregnant and delivering a litter of piglets.

Bred Gilt

A gilt that is either slated to enter the breeding herd or has done so and has been inseminated either naturally (with a boar) or artificially.

Breeding females

All gilts and sows used for breeding.

Breeding males

All boars used for breeding, including teaser boars, who function primarily to detect sows returning to estrus.

Breeding Herd

All gilts, sows and boars actively used for breeding in a time frame on a site. Entry to the breeding herd is usually after a period of holding or quarantine. In the case of females this holding period may occur in a Gilt Development Unit.

Callback

A situation in which a respondent who has been contacted must, for any reason, be re-contacted. A callback may be needed to clarify a response from the original interview because of its relationship to other reported data or to talk with the person best able to provide the information requested.

Column

The vertical segments (top to bottom segments) of a table. Column names are typically located along the top side of a table.

Confidentiality

The assurance from NASS and the USDA to survey respondents that individual information collected on authorized USDA surveys will not be released to any person, organization or institution, including court subpoenas. The assurance of confidentiality is backed by federal law. See the “NASDA Employee Handbook” for regulations.

Contractee

A person who is responsible for producing a contractor’s hogs for a fee or other financial consideration. This person may own the operation where the hogs are raised but not the hogs themselves.

Contractor

Person or firm offering a contract agreement to a producer (contractee) to raise the person’s or firm’s hogs. The contractor typically owns the hogs and might supply the feed, medicine or other such items, but does not take care of the animals.

Cull (sows, gilts and boars) or “Culled Breeding Stock”

The action of removing animals from the herd or slating them for removal for a reason usually related to poor performance (e.g., sows no longer suitable for breeding). Usually, these animals are sent to slaughter (or rendering) similar to market hogs or euthanized on or off the site.

Facility

A structure and/or area where the animals are located or to which they have access.

Farrow

When a sow or gilt gives birth to a litter of piglets.

Farrowing Phase

Production phase in which sows and gilts give birth to piglets.

Feedback

The process of feeding essences of feces or other biologic material from swine that are already on site to new herd entries to expose them to pathogens endemic to the site without making them sick. Other materials could include placentas and stillborns.

Gestation

Time period from conception to birth, typically about 114 days in pigs.

Gestation phase

A time period in a sow’s or gilt’s life when they are presumed pregnant but have not yet farrowed.

Gilt

A sexually mature female pig that has not yet produced a litter of piglets.

Gilt Development Unit (GDU)

A facility dedicated to replacement gilts destined for the breeding herd. The GDU prepares the gilt for entry into the breeding herd proper often by exposing her to pathogens endemic to the breeding herd (which may be on another site) via vaccination or other acclimations such as feedback. The GDU also often provides boar exposure and time to gain weight. Gilts may be kept there through weaning of first litter and rebreeding

<https://www.ipic.iastate.edu/SowBridge/SB0112GDU.pdf>.

List Frame

A sample of potential farm operators or agribusinesses selected from a List Sampling Frame.

List Sampling Frame (LSF)

A list of agricultural operators in a State. Each classified operation name becomes a sampling unit or potential respondent. The name may belong to an individual, manager, farm or ranch, corporation or institution.

Litter

The product of a farrowing. A collection of newborn pigs born at one time to a sow.

Market Pig (Hog)

A weaned pig intended for slaughter as opposed to breeding. Market hogs usually weigh 300 pounds or more when sent to slaughter.

Nonresponse

Failure of a respondent to reply to a survey questionnaire. This may be the result of two types of nonresponse: item nonresponse (refusal of respondent to answer one or more questions) or survey nonresponse (refusal of respondent to answer any or most of the questions).

Nursing pigs

Piglets nursing on their mother.

Operation

The overall business and top level management unit for a swine rearing facility, which might contain one or more sites. For example, “EB and Son Hogs” might be the name of an operation encompassing all production phases of swine rearing (e.g., gestation, farrowing, nursery and grower/finisher) on one or more **sites** (geographic locations), each devoted to a different production phase or combination of phases. (See also “Site.”)

Out of Business

A farm or ranch operator who no longer raises crops, livestock or poultry. He may own farmland which is being operated by someone else.

Out of Scope Operation

University, extension, experimental and prison farms.

(Target) Population

A defined set of farms or operations to which a survey pertains. The population elements must be defined in space and time as well as content. For example, the population to be surveyed might be described as all farms in the country with 1,000 hogs or more.

Premises

A site, including the land and swine buildings on it.

Refusal

A person representing a sample unit who will not cooperate in the survey and who refuses to provide sufficient information to satisfactorily complete the questionnaire or who will not give an interviewer permission to complete the questionnaire.

Respondent

The person who provides the information necessary to complete a survey interview.

Row

The horizontal segments (left to right segments) of a table. Row names are typically located on the left side of a table.

Sample

The total number of sampling units selected from a sampling frame.

Sampling Frame

The list that identifies every sampling unit within the target population. The sampling units are the individual members of the target population whose characteristics are to be measured.

Sampling Units

Potential respondents to a survey selected to comprise a sample from the sampling frame. The sampling units are individual members of the target population whose characteristics are to be measured.

Site (separate)

One geographic location or address that functions to produce one or more production phases (e.g., breeding, nursery, grower/finish). A site can be a part of an operation or it can be the whole operation, if the operation has only one site. (See also “Operation”).

Sow

A female pig that has produced one or more litters of piglets.

Survey

The collection of data pertaining to specific sample units. A sample is selected and information collected from individual sampling units. Data reported by the selected sampling units, when summarized, provides an indication of what the total would be if all the sample units within the sampling frame had reported.

Survey Period

The time period during which survey data collection can occur.

Weaned Pigs (Hogs)

Piglets no longer nursing on their mother. This includes nursery and grower/finisher age pigs.

Weaning

The process of transitioning baby pigs from mother's milk to solid food, which also implies removal from the mother.

Weaning Age

The age at weaning which is approximately two to four weeks of age.

Chapter 3 – Enumerator Procedures

THINGS TO DO PRIOR TO THE FIRST OPERATION CONTACT

Familiarize yourself with the NAHMS Swine 2021 Large Enterprise Study by reviewing the information you received in your training, the LESSF, the LES and this manual. This manual is designed to familiarize you with the LESSF.

Things to have for your initial contact with the *operation contact*:

- This manual,
- NAHMS Swine 2021 Large Enterprise Study launch sheet,
- NAHMS Swine 2021 Large Enterprise Study timelines and biologic incentives sheet,
- Industry Support Letters,
- The LESSF Appendix,
- Two copies (one for the *operation contact* if in person) of the Large Enterprise Survey - Site Selection Form (LESSF)-**one with a label**,
- Multiple (up to 10) copies of the Large Enterprise Survey (LES),
- A copy of the Phase II Survey Summary,
- Pen/pencils, and
- Your business card information to leave with the *operation contact* and subsequent *site contacts*

NOTE: Farm biosecurity is much tighter since the (swine) Coronavirus outbreak in 2013 and 2014. Compounding that is the current fear of African Swine Fever entering the United States. Don't be surprised if the site contacts insist on meeting you at a place of their choice **that is not the farm itself**, if in person interviews are conducted.

WHO TO INTERVIEW

Interview the operator (*operation contact*) of the swine operation or their designate initially. With them you will fill out the LESSF. This questionnaire will allow you and the *operation contact* to select sites within the operation (for contacts/visits to fill out the LES). After this process you will receive contact information from the *operation contact* as to the person you will need to talk to on those selected sites, the *site contact*.

If any of these people are too busy to be interviewed at the time you were scheduled to visit, set up a later appointment at their convenience. Be sure to keep the appointment. If an emergency prevents you from doing so, inform the *operation contact* beforehand and re-schedule the interview(s).

A note for in-person interviews (if conducted): If the *operation contact* or the person the *operation contact* said should do the site selection interview is not present when you visit but is expected soon, either wait or make other contacts nearby and return later, **unless** you meet the other contacts at a farm. That would increase the risk of transferring a disease from one operation's pigs to another.

LARGE ENTERPRISE SURVEY- SITE SELECTION FORM (LESSF) INTERVIEW(S) STEPS

First formulate and practice an introduction that briefly explains the study and gains an *operation contact's* cooperation. You can repeat the "sales" points or your variation of them when you contact the operation to arrange for a time to interview. Say it in your own words so it is comfortable to share and be prepared to answer the respondent's questions about the details of the study. Contact the *operation contact* and attempt to arrange a time to meet or conduct the interview. Up to seven calls should be made to try to administer the questionnaire.

Prior to starting the LESSF with the *operation contact* ensure that there is a EPAID, name and address on the label on the operation's LESSF. If they are missing, make sure to note all of these pieces of information, especially the EPAID, as this is the primary linking field. Make changes to the name and address information on Question 2 in Section 4 of the LESSF, if necessary. This will help the Veterinary Services (VS) Data Collector locate the operation if the *operation contact* consents to the opportunity to participate in Phase 2.

1. Operator or Operation Contact and interview. **THIS IS THE MOST IMPORTANT CONTACT YOU WILL MAKE.**

- If, after exhausting your contact protocol and the enumeration window has ended, you are unable to make contact with the operation, **check code 8 in Section 4, Question 3 on the LESSF.**
- When you make contact, use your introduction to explain why you are calling (NAHMS background, current study and the phases involved in the study). If the operation contact refuses the interview, **check code 3 in Section 4, Question 3 on the LESSF and thank the operation contact. Then fill out Question 4 in Section 4 and enter the time and date in Questions 6 and 7.**
- If this is an "Out of Business" operation, **check code 2 in Section 4, Question 3 on the LESSF and thank the operation contact. Enter the time and date in Questions 6 and 7.**
- **(Unlikely to occur)** If this is an "Out of Scope" operation, **check code 6 in Section 4, Question 3 on the LESSF and thank the operation contact. Enter the time and date in Questions 6 and 7.**
- Otherwise, go on with the interview and let the respondent know that a printout or other tally of sites may help with the site selection in Section 3.
- Introduce the LESSF as to purpose and commence filling it out. **Check code 1 in Section 4, Question 3 on the LESSF if Section 1, Question 2 is "No", conclude the interview and thank the operation contact. Enter the time and date in Questions 6 and 7.**
- Select the sites in Section 3 and obtain contact information for the sites.
- Introduce the LES, briefly. If the contact doesn't have time to scan the LES you can tell them something along the lines of the example below.

"The site questionnaire asks for information only for the site. For every production phase we ask how the pigs are housed and what kind of biosecurity measures the site takes (like do they wash animal transport truck trailers). If there are sows on the site, we ask about things like mating practices, piglet productivity, where they get the sows and culling reasons. If the site has weaned pigs we ask about sourcing and mortality."

- If time, introduce Phase 2 information (including potential biologics collections). The depth of this introduction depends on the time available. You can summarize the Phase 2 questionnaire in your own words or use the example below. You may also refer them to the information found on the Phase 2 Survey Summary, which should have come in their survey mailing.

"The Phase 2 questionnaire asks veterinary type questions again at the site level. There are three sections representing breeding animals, nursery and grower/finisher aged pigs. In each we ask about diseases that have been giving you trouble over the past year, vaccine and antimicrobial use and diet components."

- Attempt to obtain the *operation contact's* consent to the opportunity for their selected sites to participate in Phase 2 in Section 4, Question 1. More information regarding this consent is found in the LESSF Appendix, which should have come in the survey mailing. Let them know that you will be seeking similar consent at each site on separate forms. Their buy in now would be a strong incentive for site participation.

If they consent, thank them and go to **Section 4, Question 3 of the LESSF and check code 4 and enter the time and date in Questions 6 and 7.**

If they **don't** consent, ask them if after you are done with the site visits you can come back to ask them about consent to the opportunity for their selected sites to participate in Phase 2. If they agree then *creating a good impression during the site visits is paramount. Hold off on Section 4, Questions 3 and 4 of the LESSF for now BUT enter the time and date in Questions 6 and 7.*

If they won't agree to consent either now or later, thank them and go to **Section 4, Question 3 of the LESSF and check code 5. Then fill out Question 4 in Section 4 and enter the time and date in Questions 6 and 7.**

- Leave copies of any other materials the *operation contact* wants. Thank them for everything.

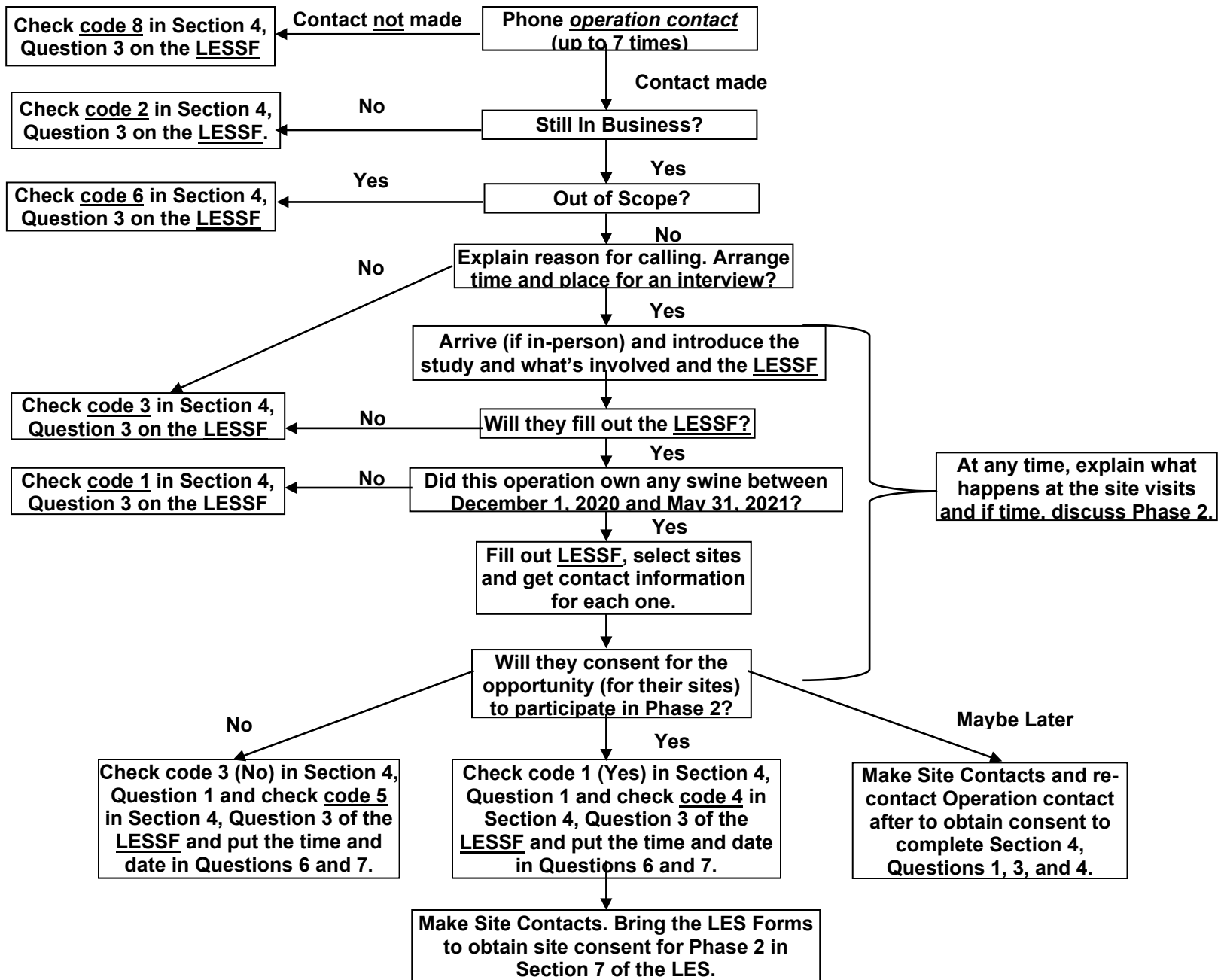
2. Make *site contacts* and arrange for time to interview. Inform the contact that you have been allowed to talk to them based on the operator interview. If the contact asks what this is all about you can once again use the launch sheet, biologics benefits sheet, industry letters, and other survey materials including the "sales" points to explain. The sites will not have received mailed survey packets and so this will be the first contact they receive with regards to participating in the study.

3. Return to the *operation contact* after the LES site interviews if need be and if your supervisor allows it to attempt to gain consent if they didn't already. If the consent form is signed, **Section 4, Question 3 of the LESSF and check code 4.**

- If the consent is **NOT** given, **check code 5 in Section 4, Question 3 of the LESSF and the reason why in Question 4.**

See the flowchart on the next page for a graphic overview of the LESSF INTERVIEW(S) STEPS.

Operation level visit steps



SPECIAL SITUATIONS

An operation or site may be a **show pig business**. Show pigs are raised primarily for exhibition and are managed a bit differently than their commercial counterparts. For the purposes of this study there is absolutely **no difference** in the way that the questionnaires are filled out. Show pig operations or sites can have breeding swine, piglets, nursery age pigs, grower/finisher age pigs and their own biosecurity, housing and medication practices.

The same is also true for **niche market businesses**. These are entities that market their pigs as organic, pasture raised or some other designation that sets them apart from a more commercial marketing chain.

MORE ON THE CONSENT FORM AND INFORMATION ABOUT PHASE 2

Operation contacts who are willing to have their names turned over to VS for potential participation in Phase 2 of the NAHMS Swine 2021 Large Enterprise Study will be asked to consent to the opportunity for their sites (or themselves, if they are a one-site operation) to participate in Phase 2 of the study in Section 4, Question 1 of the LESSF. By consenting, the operation agrees to be contacted by a VMO, who will provide information about participation in the second phase of the study. There are **two** additional concerns that the **operation** and **site contacts** may have about participation in Phase 2.

1. Private Veterinary Practitioners

Some respondents may feel that having a VMO visiting their site will conflict with the services provided by their own veterinarian. Explain that you will be glad to explain the program to the operation's veterinarian and that producer and veterinary organizations, such as the American Association of Swine Veterinarians (AASV), have participated in the design and review of the questionnaires. Additionally, the VMO's job is only to provide professional expertise in collecting accurate animal health and production data on the Phase 2 questionnaires and assisting with biologics collections.

2. Serious Diseases

Some operators may be apprehensive about the VMO's enforcement and quarantine power regarding certain animal diseases. Explain that the on farm tests are **not** for epidemic or regulatory type diseases. The VMO would enter the production areas **only** for those optional tests that the **operation contact** and **site contacts** agree to. Alternatively, a site designate can collect the samples. Phase 2 interviews can be done in the respondent's home, office, local coffee shop, or over the phone. The VMO interview and the biologics collections are also **not** intended to detect the presence of any regulatory type diseases. Remind them that NAHMS is not a regulatory agency.

DELIVERING COMPLETED WORK TO THE FIELD OFFICE

Forward completed LESSFs and LESs to your supervisor or the State, according to your survey instructions.

Chapter 4 –LESSF Overview and Filling out the LESSF

This chapter provides information about conventions used throughout the questionnaire regarding instructions, how to enter responses and different types of questions used in the questionnaire. Please consult the LESSF for reference as you read through this material.

Sometimes you will need to probe the respondent to get an adequate answer to a question. You should probe when the respondent can't answer the question, when the answer isn't enough to record, when you think the answer may be incorrect because it doesn't fit with other information already obtained, when the response isn't in the right units and when you think the respondent didn't understand the question.

NOTE: Unknown Response/Decline to Answer

Always enter a response for every question unless you are instructed to do otherwise. **If the respondent declines to answer a question or does not know the answer, leave the response box blank and indicate “DK” (if the question provides no option for DK response) or “Declined” in the margin.** When the data are analyzed later on, it is very important to know if the respondent declined to answer a question, did not know the answer or if the answer should have been zero, “no” or “none.” **By providing a response for every part of every question, you will improve the quality of the data and the information published as the result of this study.**

Also: If the respondent doesn't know the answer to a question **give them time to let them ask someone who does.** You can call them back later if need be.

NOTE: The main point of this questionnaire is to get a list of sites the operation owns pigs at (whether or not they own the site itself too) in the state where the *operation contact* office is. Then select up to 9 of those sites to perform a site interview (LES) on those sites.

LESSF SECTIONS OVERVIEW

This is an **operation** level questionnaire. It initially includes all the sites within that operation that the operation owns on the day of the interview. Later on we pare down the site selection to only those operations in one state.

SECTION 1 – OPERATION INVENTORY

This section determines whether this operation is currently eligible to participate in the study and if so, collects static (**June 1, 2021**) operation inventory (all pigs owned by the operation) separated out by production type. If the operation had no hogs between December 1, 2020 and May 31, 2021 enter code 1 in Section 4, Question 3 and end the interview. Fill in the time and date in Section 4, Questions 6 and 7.

SECTION 2– ELIGIBLE SITES PART OF THIS OPERATION

In this section you determine if this is a multi-site operation, how many production sites there are in total and how many there are within the state that is printed on the label on the front of the LESSF. This is one way that we are accounting for multi-state operations and is done to prepare for actual site selection that will lead to LES site interviews within the state. You then determine how many of the sites in the state have breeding hogs and how many are devoted to just raising weaned pigs (e.g., nursery and grower/finisher aged pigs) to select sites within each category in Section 3.

SECTION 3 – SITE SELECTION

This section has two main subsections. The first is to select the closest sites with breeding hogs to be contacted for a LES interview with the number of sites selected dependent on how many sites with breeding hogs there are in the state. The second subsection does the same thing but with sites with weaned pigs only.

SECTION 4 – CONCLUSION

Section 4 provides the conclusion for the interview. It has two major purposes: (1) obtaining the proper interview response codes after completion (or not) of the LESSF interview and (2) recording if the operation consents to its selected sites to the opportunity to participate in Phase 2 of the study.

To obtain consent for the opportunity for the operation and its selected sites to participate in Phase 2 of the study, note consent (or not) in Section 4, Question 1 of the LESSF. If the operation contact consents, mark Section 4, Question 1 as code 1 (Yes), ensure the operation contact information is up to date, and mark Section 4, Question 3 as code 4. Additional information regarding consent to the opportunity to participate in Phase 2 of the study can be found in the LESSF Appendix document, which should have come in the survey mailing.

FILLING OUT THE LESSF

NOTE: “Item” (in the questionnaire) is synonymous with “question” in this manual.

NOTE: If the respondent doesn’t know the answer to a question (e.g., how many Cull sows, gilts and boars they own on **June 1, 2021**) **give them time to let them ask someone who does.** You can call them back later if need be.

Section 1, Questions 1, 2 and 3: Question 1 asks the *operation contact* whether he or she had heard of the 2021 Swine Study before the day of the interview. Considerable time and effort went into informing producer groups about the study over the past two years. Whether there will be study participation for this operation rides on the response to Question 2. If the response is “No” go to Section 4, Question 3 and check the first box, enter the time and date in Questions 6 and 7 and **thank the operation contact for their time.**

In Question 3, indicate how many head of pigs were in each category (a-g) on all sites with pigs owned by this operation on June 1, 2021. **Then** add 3a-3g together and place the number in 3h and check the total with the *operation contact*. In this case, Question 3 could be read as, “Of the total swine on hand on all sites with pigs belonging to this operation on June 1, 2021, how many were sows, unmated replacement gilts and bred gilts in the breeding herd? How many were unmated replacement gilts for breeding not yet in the breeding herd, such as those in a Gilt Development Unit?” and so on. **Note:** If the respondent is unsure of any of these terms (like what a Gilt Development Unit is) consult Chapter 2 of this manual.

1. Had the respondent heard of the NAHMS 2021 Swine study prior to contact by NASS? ¹⁰⁰⁰ 1 Yes 3 No
2. Did **this operation** own any swine between **December 1, 2020 and May 31, 2021**, including those raised by someone else for you on contact, regardless of location?..... ¹⁰⁰¹ 1 Yes 3 No

If Item 2 = No, SKIP to Section 4, Item 3.

3. Of the total swine owned on **June 1, 2021 on this operation**, how many were: (Enter **Zero** if None)

| | Head |
|--|--------|
| a. Sows, unmated replacement gilts and bred gilts in the breeding herd?..... | + 1002 |
| b. Unmated replacement gilts for breeding not yet in the breeding herd, such as those in a Gilt Development Unit?..... | + 1003 |
| c. Nursing pigs?..... | + 1004 |
| d. Boars and young males for breeding, including teaser boars?..... | + 1005 |
| e. Cull sows, gilts and boars?..... | + 1006 |
| f. Weaned hogs under 60 pounds?..... | + 1007 |
| g. Market hogs 60 pounds and over, excluding cull sows, gilts and boars? | + 1008 |
| h. Then the total number of swine on this operation on June 1, 2021 is:..... | = 1009 |

The sum of Item 3a through 3g should total to the number of swine in Item 3h.

Section 2: The purpose of this section is to get the number and production type of sites with pigs this operation owns prior to selecting some of those sites in Section 3. If there is more than one site within this operation (Question 1) then you ask how many total sites this operation owns pigs on (Question 2) and how many are located within the state **this operation resides in** (Question 3). The state will be the state that is printed on the label on the front of the questionnaire. This is to help address multi-state operations.

NOTE: If there is only one site then you can go to Section 3 directly. Fill in the contact information in Table 2 if the one site has breeding pigs (may also have weaned pigs). Fill in the contact information in Table 4 if the one site **only** raises weaned pigs (e.g., nursery and/or grower/finisher aged pigs). *It may be that you can do the LES on the spot if the site you are at is the only one the operation raises pigs at. However, that is increasingly a rare situation.*

Then subdivide the production types located on sites within the state the operation resides in from Question 3 into sites with breeding pigs (and possibly weaned pigs) and sites with weaned pigs **only** in Question 4a and b. Breeding sites can contain weaned pigs for growing, but the sites in 4b cannot contain breeding pigs.

Read to respondent: For the purposes of this study, a "site" consists of a physically distinct area, an area with a unique address that has pig production facilities and support structures and typically specializes in a production phase.

1. Do you raise swine at more than one production site today? INCLUDE contractee locations where hogs are raised for you as a contractor..... 2001 1 Yes 3 No

If Item 1 = NO, fill in the contact information for that site in Section 3 (Table 2 if the site has any breeding swine, or Table 4 if the site has no breeding swine) and SKIP to Section 4.

2. On how many separate production sites are your swine raised today? INCLUDE contractee locations where hogs are raised for you as a contractor **Sites** 2002

3. Of these (item 2) sites, how many sites were located within this state ("this state" is the state that is included in the label printed on the front of this survey)? **State Sites** 2003

Read to respondent: For the purposes of this study, a site with "Breeding swine" means a site with sows, gilts and possibly unweaned piglets and boars and potentially growing pigs as well.

4. Of these (item 3) sites, how many had: **State Sites**

a. **Any Breeding swine** such sows, gilts, boars (may also have weaned pigs)?..... 2004

b. **No Breeding swine** such as sites with only nursery and/or grower finisher aged pigs?..... 2005

Items 4a + 4b should total to the number of sites in Item 3

Section 3: We shall deal with the breeding and weaned only pig site selection by example. It is hoped that for the sake of the *operation contact's* time that if they have more than a few sites with breeding pigs that they have a list that they can produce easily. We will use some examples to illustrate different operation scenarios you could run into.

EXAMPLE 1: Questions 1 and 2, Sites with Breeding swine

In this example operation, the response in Section 2, Question 4a indicated the number of breeding swine sites where pigs were owned by the operation in this state where you are interviewing was 20. There was no list of them available but your *operation contact* knows where they are by heart.

For Question 1, since you have 20 breeding sites (2 to 49 sites in this State with any Breeding swine) you need to select the two closest (from where you are sitting right now) sites and write down their contact information as shown in **Figure 1**.

Figure 1.

If there are NO sites with Breeding swine in Section 2, Item 4a, SKIP to Item 3.

1. Use the number of sites in this State with any **Breeding swine** (Section 2, Item 4a) and the table to determine the number of sites to select.

| If the number of sites in this State with any Breeding swine (Section 2, Item 4a) is | Then choose this many sites | Instructions |
|---|-----------------------------|--|
| 1 | 1 | Write the site information for that site that is geographically closest to you into the table in 2 below. |
| 2-49 | 2 | Write the site information for both sites that are geographically closest to you into the table in 2 below. |
| 50 or more | 3 | write the site information for the three sites that are geographically closest to you into the table in 2 below. |

2. Select sites with **Breeding swine**.

| Site Number (Office Use) | Site Contact name and title | Phone number | Address | Notes |
|-----------------------------|---------------------------------|--------------|----------------------------------|-------|
| 1 | Juan Mejia - Herdsman | 000-222-1212 | 50 Lacombe Street, Macomb, IL | |
| 2 | Abby Smith - Farrowing Asst. | 000-222-1312 | 32 Country Road A, Macomb, IL | |
| 3 | | | | |

If Section 2, Item 4b = 0 then SKIP to Section 4.

EXAMPLE 2: Questions 3 and 4, Sites with NO Breeding swine:

These questions are identical to Questions 1 and 2. The only difference is that the site selection is based on the number of sites in this state with weaned pigs only. Note the instruction at the end of Question 2 above. **If Question 4b in Section 2 is zero or none then SKIP to Section 4.**

In our example operation, the response in Section 2, Question 4b indicated the number of sites with only weaned pigs in this state was **101**. Fortunately, the respondent had a list of them and called in an assistant that knew roughly where they all were in the state.

For Question 3 (**Figure 2** below), since you have 101 weaned pig only sites (50 or more sites in this State with NO Breeding swine) you need to select six sites from the respondent's list of sites within the operation with only weaned pigs based on geographic closeness as shown in Question 4.

Figure 2.

If Section 2, Item 4b = 0 then SKIP to Section 4.

3. Use the number of sites in this State with **NO breeding swine** [Section 2, Item 4b] and the table below to determine the number of sites to select.

| If the number of sites in this State with NO breeding swine (Section 2, Item 4b) is | Then choose this many sites | Instructions |
|--|-----------------------------|--|
| 1 | 1 | Write the site information for that site that is geographically closest to you into the table in 4 below. |
| 2-10 | 2 | Write the site information for both sites that are geographically closest to you into the table in 4 below. |
| 11-49 | 3 | Write the site information for the three sites that are geographically closest to you into the table in 4 below. |
| 50 or more | 6 | Write the site information for the six sites that are geographically closest to you into the table in 4 below. |

4. Select sites with **NO Breeding swine**.

| Site Number (Office Use) | Site Contact name and title | Phone number | Address | Notes |
|--------------------------|-------------------------------|--------------|------------------------------|-------|
| 4 | Matt Smith - Herdsman | 000-224-1301 | 100 Lacombe St., Macomb, IL | |
| 5 | Matt Jones - Herdsman | 000-225-8888 | 212 CR A., Macomb, IL | |
| 6 | Amy Bradley - Nutrition Mgr. | 000-234-1213 | 8 School St., Peoria, IL | |
| 7 | Brad Weston - Intake Mgr. | 000-226-2222 | 555 CR 5, Macomb, IL | |
| 8 | Kath Easton - Herdsman | 000-240-8128 | 2150 Centre Ave., Macomb, IL | |
| 9 | Bill Thomas - Production Mgr. | 000-835-3576 | 109 Woodland St., Macomb, IL | |

If the two examples above were one operation, after the interview you can save yourself some time and grab 8 blank LESs (from these last two examples) and fill out the EPAID and Site Number box with the “Site Number (Office Use)” from Tables 2 and 4 in Section 3 for each site selected as shown below in **Figure 3** using “**Matt Smith-Herdsman’s**” site from above as an example. NOTE: Ensure that the EPAID matches between the EPAID printed on the label on the LESSF and all of the LES’s started for sites selected for that operation.

Figure 3.

Please make corrections to name, address and ZIP Code, if necessary.

| Multiple Site Identification | | |
|------------------------------|-------------|-------------|
| EPAID | Site Number | Line Number |
| 1 7 0000 0 0 4 1 | 0 4 | _____ |

Office Use Only

| |
|------|
| 0001 |
| 0002 |

BEGINNING TIME (MILITARY)

EXAMPLE 3: Questions 1-4. A Smaller Operation Consisting of 2 Sites with Any Breeding Swine and 5 Sites with No Breeding Swine

For this operation, the response in Section 2, Question 4a indicated the number of sites with any breeding swine in this state was **2** and the response in Question 4b indicated the number of sites with no breeding swine (weaned pigs only) in this state was **5**. No list of these sites was available. Since you have 2 sites with any breeding swine, you would select both for the breeding sites. You would write the site information for both sites Question 2 (**Figure 4**).

Figure 4.

If there are NO sites with Breeding swine in Section 2, Item 4a, SKIP to Item 3.

1. Use the number of sites in this State with any **Breeding swine** (Section 2, Item 4a) and the table to determine the number of sites to select.

| If the number of sites in this State with any Breeding swine (Section 2, Item 4a) is | Then choose this many sites | Instructions |
|---|-----------------------------|--|
| 1 | 1 | Write the site information for that site that is geographically closest to you into the table in 2 below. |
| 2-49 | 2 | Write the site information for both sites that are geographically closest to you into the table in 2 below. |
| 50 or more | 3 | Write the site information for the three sites that are geographically closest to you into the table in 2 below. |

2. Select sites with **Breeding swine**.

| Site Number (Office Use) | Site Contact name and title | Phone number | Address | Notes |
|--------------------------|----------------------------------|--------------|-------------------------------|-------|
| 1 | Dominique Bernal - Herdsman | 000-222-1214 | 52 Lacombe Street, Macomb, IL | |
| 2 | Kiyan Andersen - Farrowing Asst. | 000-222-1314 | 36 Country Road A, Macomb, IL | |
| 3 | | | | |

If Section 2, Item 4b = 0 then SKIP to Section 4.

Next, we have to geographically select sites from this operation with NO breeding swine. Since the producer does not have a list of these sites available, you listed them out with him and selected the closest two as shown below in **Figure 5**.

Figure 5.

If Section 2, Item 4b = 0 then SKIP to Section 4.

3. Use the number of sites in this State with **NO breeding swine** [Section 2, Item 4b] and the table below to determine the number of sites to select.

| If the number of sites in this State with NO breeding swine (Section 2, Item 4b) is | Then choose this many sites | Instructions |
|--|-----------------------------|--|
| 1 | 1 | Write the site information for that site that is geographically closest to you into the table in 4 below. |
| 2-10 | 2 | Write the site information for both sites that are geographically closest to you into the table in 4 below. |
| 11-49 | 3 | Write the site information for the three sites that are geographically closest to you into the table in 4 below. |
| 50 or more | 6 | Write the site information for the six sites that are geographically closest to you into the table in 4 below. |

4. Select sites with **NO Breeding swine**.

| Site Number (Office Use) | Site Contact name and title | Phone number | Address | Notes |
|--------------------------|-----------------------------|--------------|----------------------------------|-------|
| 4 | Murphy Farrell - Herdsman | 111-324-1607 | 1523 Fire Road B, Burlington, IL | |
| 5 | Elicia Reyna - Herdsman | 111-225-7779 | 866 CR C, Macomb, IL | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

At the end you can again save yourself some time by grabbing 4 blank LESs (for this example) and filling out the EPAID and Site Number box with the “Number of sites selected” columns from Section 3, Tables 2 and 4 for each site selected as shown below in **Figure 6** using “**Murphy Farrell-Herdsman's**” site as an example. Again, ensure the EAPID number matches between the LESSF for the operation and each LES for sites selected for that operation.

Figure 6.

Please make corrections to name, address and ZIP Code, if necessary.

Multiple Site Identification

| EPAID | Site Number | Line Number |
|------------------|-------------|-------------|
| 1 7 0000 0 0 7 9 | 0 4 | |

Office Use Only

| |
|------|
| 0001 |
| 0002 |

BEGINNING TIME (MILITARY) :