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**National Animal Health Monitoring System (NAHMS)**

United States Department of Agriculture

National Agricultural Statistics Service

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**NAHMS**

**Sheep 2024 Study**

**General Sheep Management Questionnaire (GSMQ)**

**Interviewer’s Manual**

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# Chapter 1 – General Information

## BACKGROUND

The Sheep 2024 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 scientifically sound and current 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) and the general public (by facilitating a safer and higher-quality food supply). Special emphasis is placed on obtaining valid estimates of management practices, production levels, and disease status of the national herd.

The NAHMS program is not designed to detect, regulate, or eradicate major epidemic diseases, but rather to learn about herd management practices, the environment in which the herd is located, and exposure to infectious agents to help inform research, education, and policy. The NAHMS program measures the occurrence of livestock diseases and public health concerns and reports the findings to the associated industries.

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 NASDA field enumerators were involved in most of these projects.

In 1996, NAHMS conducted its first sheep study. The NAHMS Sheep 2024 Study will be the fourth study of the sheep industry.

## HOW NAHMS SHEEP STUDY INFORMATION IS USED

Information gathered in NAHMS surveys is used to:

* Provide information to individual sheep Producers to enhance sheep health and production.
* Help sheep Producers and their private veterinarians identify health problems and take early action.
* Recommend changes in sheep-management practices that will reduce health problems.
* Identify specific health-care studies and research projects that need to be conducted.
* Provide industry groups with baseline information regarding their industry on a national level.
* Allow small ruminant research funding agencies to understand potential priorities for further investigation of small ruminant health and management.
* Define health-care areas that need more emphasis in veterinary and sheep owner education programs.
* Help scientists identify costly and concerning sheep health problems.
* Help drug companies decide which new products to develop.
* Assist government policy-makers in decisions affecting the food-animal industry.
* Benefit consumers by facilitating more efficient production of quality meat, milk, and other products.

**Some of these points (especially the first two) may be useful in persuading a reluctant owner/manager to participate in the survey.**

## PURPOSE OF THE NAHMS SHEEP 2024 Study

The NASS component of Sheep 2024 study focuses on sheep health and management practices used on sheep operations. It will allow us to evaluate changes in sheep health and management as they relate to control of infectious diseases and other management strategies. The cost of gastrointestinal parasite testing is one of the economic aspects of sheep health management emphasized in the NASS component of Sheep 2024. Background information, including sheep inventory, will allow us to evaluate health and management factors at the national and regional level.

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## **OBJECTIVES OF THE** NAHMS Sheep 2024 Study

* Describe management and biosecurity practices associated with, and producer-reported occurrence of, common economically important diseases in sheep.
* Describe antimicrobial stewardship on sheep operations and estimate the prevalence of enteric pathogens and antimicrobial resistance patterns.
* Describe management practices producers use to control internal parasites and reduce anthelmintic resistance.
* Describe changes in animal health, nutrition, and management practices in the U.S. sheep industry from 1996-2024.
* Provide a serologic bank for future research.

## BENEFITS OF PARTICIPATION IN THE NAHMS Sheep 2024 Study

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

**Benefits to Individual Producers**

1. Participating Producers will receive a variety of reports and information sheets that will enable them to compare their operation­–including management decisions and practices–with others in the sheep industry. These publications will present study data on national, regional, and operation-size basis for general management and production topics as well as specific health-related issues.

2. Participating Producers will receive an educational packet of information on common sheep diseases and topics covered in the study.

3. Producers will receive biological test results for:

* Gastrointestinal parasites and resistance to dewormers
* Fecal microbial cultures (*E coli, Campylobacter, Salmonella)*
* Results from lameness pathogen testing

**Benefits to the Sheep Industry**

1. Enhance awareness of the industry and provide a more thorough knowledge base about sheep health and management.

* General management and feeding practices by the type and size of operation.
* Knowledge of current disease prevention and biosecurity practices on sheep operations.
* Benchmark data on important sheep health management practices and the health of sheep in the United States.
* Knowledge of the occurrence of diseases important to productivity.
* Improved understanding of disease preparedness on sheep operations.
* Sheep marketing strategies used by Producers.
* Wool management and methods for marketing.
* Information important for policy makers and industry stakeholders.
* Identification of educational needs and opportunities related to sheep health.

The preceding items will provide sheep industry groups the background needed to guide Producer education and ultimately improve the health and productivity of sheep in the United States.

2. Increased awareness and knowledge of the industry and diseases important to the industry, which will promote research interest and guidance for topics at agricultural universities.

**Benefits to Veterinary Services, Universities, and Researchers**

For practitioners, universities, industries, and media involved with the sheep industry, descriptive reports summarizing all data along with prevalence 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 handling outbreaks of foreign animal diseases.
* Veterinary Services personnel will have a better understanding of the spectrum of the sheep industry and a baseline for industry knowledge in the event of an emergency response.
* The information collected will help to characterize the needs for further research and education.
* Researchers will use the background information provided by this study on the sheep industry to support grant applications.
* Describing the use of gastrointestinal parasite prevention methods nationally will provide useable information for the Southern Consortium of Small Ruminant Parasite Control.

The following Sheep 2024 Information Sheet (next 2 pages), produced by APHIS-Veterinary Services, provides more information about the Sheep 2024 project.



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## OVERVIEW OF NASS DATA COLLECTION (phase I)

Sheep 2024 NASS on farm interviews will take place from January 2024 through February 2024 in the 30 major sheep states. A random sample of approximately 4,900 operations with one or more ewes reported in the January 2024 survey will be mailed a pre-survey letter and the Sheep 2024 study launch sheet.

State offices will mail a pre-survey letter, study launch sheet, biological benefits sheet and informational brochure to sampled operations. The office will provide you with copies of the letter and brochure so that you may refer to them during the interview. You will also be given with other materials that will provide general information about health topics important to sheep Producers.

Selected operations with 500 or more ewes will be asked to complete the NAHMS Sheep 2024 General Sheep Management Questionnaire at the same time they complete the NASS Sheep and Goat 2024 Survey. All other selected operations will be asked to complete the NAHMS Sheep 2024 General Sheep Management Questionnaire throughout January and February. Operations may complete the questionnaire electronically, through a mailed questionnaire, or via a CATI or personal interview. .

At the conclusion of the GSMQ interview, participants will receive information about the VS phase (Phase II) of the project, including the benefits of participation. Enumerators will ask Producers with 20 or more ewes who complete the GSMQ to complete the Consent Form at the bottom of the questionnaire. This gives NASS permission to release the Producer’s name and contact information to APHIS/VS/NAHMS for possible participation in the second phase of the study, which includes an additional farm visit and biological sampling. In trying to obtain consent, enumerators will briefly explain the NAHMS follow-up program. Detailed information is provided in Chapter 3.

***Information provided in this manual will focus on Phase 1 of the study, the General Sheep Management Questionnaire (GGMQ), and your role in the data-collection process.***

## OVERVIEW OF NAHMS DATA COLLECTION (Phase II)

Phase II of the NAHMS Sheep 2024 Study will take place from April 2024 to July 2024 and involves a face-to-face interview by a Veterinary Medical Officer (VMO). Operations with 20 or more ewes on January 1, 2024, that completed the General Sheep Management Questionnaire (Phase I of the study) and the consent form are eligible to continue to Phase II Participation in all phases of the study is voluntary, however operations that continue with Phase II of the study will be eligible to participate in biological sample collection to test fecal samples for gastrointestinal parasites and enteric microbes including *Salmonella, E. coli,* and *Campylobacter,* interdigital swabs to test for lameness pathogens, and blood samples for future research.

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## 2024 NAHMS Sheep STUDY COORDINATORS

NAHMS has designated one VMO in each State to serve as the State NAHMS Coordinator for Phase II of the Sheep 2024 Study. The State NAHMS Coordinator will be available to assist you and the State NASS office. A list of the NAHMS Sheep 2024 Study coordinators will be provided to you during training and can also be obtained from your State NASS Office.

# Chapter 2 – Terms and Definitions

Enumerators working on the NAHMS Sheep 2024 Study should be familiar with the following terms and definitions that are used in the questionnaire or are common terms used by sheep owners and managers and may be part of the responses given during the interview.

**Abortion:** Expulsion of a dead or non-viable fetus prior to the time of normal lambing. The fetus typically lacks normal hair covering the body.

**Antibiotic**: A chemical compound generally produced by molds that inhibits and/or kills certain bacteria. Antibiotics are used against illnesses caused by bacteria.

**Antimicrobial:** Any substance of natural, semisynthetic, or synthetic origin that kills or inhibits the growth of microorganisms but causes little or no damage to the host. Technically, all antibiotics are antimicrobials, but not all antimicrobials are antibiotics. For the purposes of this questionnaire, however, the terms “antimicrobial” and “antibiotic” are considered synonymous, and the term antibiotic is used in the questionnaire because it is more familiar to Producers.

**Auction**: Refers to an auction sale or auction barn where sheep and other animals are sold to the highest bidder.

**Backgrounder:** An operation that takes weaned lambs and raises them to a certain age or weight before returning them to the operation or sending them to a feedlot.

**Breed (n.):** Animals having a common origin and characteristics that distinguish them from other groups within the same species.

**Breed (v.):** To service by a ram or artificially inseminate. Not all animals that have been bred will be pregnant.

**Brucellosis** (Pronounced ‘broo-se-lo-sis.’): Bacterial disease of mammals that can affect sheep, causing abortion in ewes and inflammation of the testicles in rams. When *Brucella* (the bacteria that causes Brucellosis)first enters a herd, there is usually an abortion storm. Brucellosis in sheep is typically caused by *Brucella melitensis*, which is found in Mexico but not currently in the United States, and *Brucella ovis*, which exists in the Unites States but does not cause significant disease problems. *Brucella abortus*, which is rare in the United States, typically affects cattle but can also affect sheep. Brucellosis can affect humans, causing an illness with recurrent flu-like symptoms and high fever known as “Malta fever.”

**Castration:** The removal of male testicles or to otherwise make a male incapable of breeding.

**Commercial Complete Feed:** A feed that is purchased at a feed store and provides all of the necessary nutrients for the animal. It may be purchased in small bags or in bulk. It will make up a large portion of the animals diet.

**Commercial Warehouse:** Place that sorts and stores fiber (wool) before it is sold to processors.

**Cooperative Pool:** A group of Producers that pools their product (animals, milk, fiber) to sell to a buyer.

**Crop residue/by-product:** Material that is left after a crop has been harvested is considered a crop residue or by-product. These residues are frequently fed to livestock and may include the stalks, stems, leaves, or seed pods of harvested crops.

**Cull:** Adult animals permanently removed from the herd. Operations cull animals because of disease, to reduce herd size, to improve genetics or desirable phenotypic traits, or to economize during episodes of high feed costs. Operations attempting to enlarge their herds are less likely to cull animals for most of these reasons.

**Direct Sale:** Selling methods by which the Producer’s sheep or wool are purchased directly off the farm or ranch. Approaches for direct sales may include internet or video marketing.

**Dry Lot:** An enclosed, unpaved area without vegetation where the animals can move about freely.

**Ewe**: A female sheep.

**Hair sheep:** A breed of sheep whose fleece is more like hair than wool. The hair has little if any scale or crimp and little ability to bind into yarn. **See wool.**

**Identification—Herd-Level vs Animal-Level:** Two types or levels of animal identification are necessary to support animal disease management programs: herd (or "group/lot") and individual-animal identification. Herd-level identification is when all members of a herd carry the same marking, such as a typical brand indicating the ranch of origin. Animal-level identification is when each member of a herd has its own unique identifier, such as an eartag with a different number for each animal in the herd.

**Internal Parasites:** Internal parasites (usually worms) are the leading cause of disease in goats. A high parasite burden can cause anemia, watery feces, bottle jaw, and, in severe cases, death. Inappropriate use of anthelmintics (dewormers) is a cause for worms to become resistant to the deworming agents, which is making it much harder to control parasites in herds.

**Johne‘s (pronounced ―Yo-knees‖) Disease; also Known as Paratuberculosis:** A contagious disease of cattle and other ruminants, including sheep, that results in weight loss and diarrhea despite a normal appetite. Diarrhea is less common in sheep than in cattle. The disease is caused by the bacterium Mycobacterium avium subspecies paratuberculosis, which can survive on an infected premises for up to a year and infect any ruminant. The primary mode of transmission is fecal-oral, including ingestion of contaminated feed, water, or bedding. Lambs can be infected by nursing an udder soiled with contaminated fecal material. The bacterium also can be transmitted through milk and colostrum, as well as in utero. Infected animals shed the bacteria for months or years before they develop clinical signs, resulting in heavy contamination of pastures before it is known the disease is present. Sheep sharing pasture with infected cattle are susceptible to infection.

**Lamb:** A young sheep, usually less than 1 year old.

**Lambing:** The process of giving birth in sheep.

**Market Sheep or Lambs:** Animals raised and marketed primarily for sale.

**Milk Sheep:** For the purposes of this study, this term refers to sheep that are raised primarily to produce milk, regardless of their breed.

**Mottle or Speckle-faced:** A sheep or lamb with splotchy coloring on the face, usually black/white or brown/white.

**Neurologic Signs:** Problems associated with the nervous system. Animals with neurologic problems can exhibit odd behaviors such as: circling, tremors, lip smacking, loss of coordination, rubbing against fences. They may be dull, depressed, aggressive, or comatose and can appear weak, stagger, or assume abnormal postures.

**“Off the Operation”:** Refers to sites distinct from the current premises. A site, such as grazing land, that’s “off this operation” might be owned by the same Producer or by someone else.

**Ovine Progressive Pneumonia -** Ovine Progressive Pneumonia (OPP) is a slowly progressive viral disease of adult sheep caused by an ovine lentivirus. Most sheep do not show clinical signs of OPP, but the sheep that do typically don‘t display signs until 2 years of age or older because of the virus‘s long incubation period. Often, the first sign noticed is a general loss of body condition referred to as ―thin ewe syndrome.‖ Weight loss occurs despite the affected sheep having normal appetites. Another common sign of OPP is increased breathing effort at rest; animals tire easily and may be seen trailing the flock. These sheep are often called ―lungers.‖ Secondary bacterial infection is very common and results in additional signs such as fever, cough, lethargy, and nasal discharge. OPP infection also can cause ―hard bag,‖ an enlarged, firm udder with reduced or no milk flow. Infection with OPP virus also may cause other problems such as meningitis and encephalitis. Clinical signs include an unsteady gait, twitching, or stumbling, which can progress to hind limb or total paralysis. Arthritis may accompany OPP infection. Pain and swelling of the joints and a shortened gait are common.

**Pasture:** Areas with plants, such as grass, grown for feeding or grazing animals.

**Primary Use:** This refers to the primary use of the sheep regardless of the breed. For example, a Producer might have a Suffolk sheep that is a pet for his child. This sheep would be considered ‘Other’ primary use and described as a pet.

**Quarantine:** Physical separation of an animal or group of animals from other sheep on the operation, with no physical contact allowed.

**Ram:** Male sheep, usually kept for breeding purposes.

**Replacement Lambs:** Lambs that are retained to be used for breeding in the flock.

**Scrapie:** Scrapie is a fatal, degenerative disease affecting the central nervous system of sheep and goats. Infected flocks that contain a high percentage of susceptible animals can experience significant production losses. In these flocks over a period of several years the number of infected animals increases and the age at onset of clinical signs decreases making these flocks economically unviable. Animals sold from infected flocks spread scrapie to other flocks. The presence of scrapie in the U.S. also prevents the export of breeding stock, semen, and embryos to many other countries.

**Seedstock/Breed stock:** Animals that are intended to be used for breeding, most often due to their superior genetics.

**Shearing** - Using shears to clip wool from sheep.

**Sheep -** Term describing both ewes and rams together.

**Sore mouth (orf, contagious ecthyma):** Sore mouth is caused by a pox virus and is highly contagious in sheep, especially young lambs. Sores caused by the virus usually occur around the mouth and teats but can also occur on the legs, vulva, and face. Scabs, which contain virus, can fall off the animal and remain in the environment, providing a source of infection for other animals. The virus is zoonotic, meaning it can infect people. Infected people can develop sores that may be painful and last for 2 months, but they usually heal without scarring. People do not infect other people.

**Tuberculosis (TB):** Bovine tuberculosis is a contagious, infectious, communicable disease of animals and humans caused by Mycobacterium bovis. It is commonly a chronic, debilitating disease but occasionally may assume an acute, rapidly progressive course. TB is a widespread zoonosis of global magnitude and affects nearly all species of vertebrates. Disease is spread by direct contact, inhalation of droplets expelled from infected lungs, and ingestion of contaminated feed or milk.

**Unweaned lamb:** A lamb still nursing an ewe or otherwise consuming milk.

**Veterinary Client Patient Relationship (VCPR):** A VCPR exists when your veterinarian knows your sheep well enough to be able to diagnose and treat any medical conditions they develop. The VCPR allows your veterinarian to take responsibility for making clinical judgments about sheep, accepting the responsibility for providing them with medical care, keeping a written record of your sheep’s medical care, advising you about the benefits and risks of different treatment options and providing oversight of treatment, compliance (your follow through on their recommendations) and outcome. A VCPR is established when your veterinarian examines your animals in person and is maintained by regular veterinary visits as needed to monitor your animals’ health. https://www.avma.org/public/PetCare/Pages/VCPR-FAQs.aspx.

**Veterinary Feed Directive:** A written order (paper or electronic) by a licensed veterinarian approving the use of an antimicrobial in feed, in the context of a valid veterinarian-client-patient relationship. Since the full implementation of FDA Guidance for Industry #213 on January 1, 2017, a VFD is required for use of medically important antimicrobials in feed. The use of medically important antimicrobials for production purposes (e.g., growth promotion) is illegal. Medically important antimicrobials may only legally be used for therapeutic purposes

**Weaned lamb:** A lamb that is no longer nursing an ewe or otherwise drinking milk.

**Weaning:** Removal of lambs from milk (or liquid ration), whether it is from their mother or a teat feeding system.

**Wether:** A castrated male sheep. This term comes from the word ‘bellwether’, which was the practice of placing a bell around the neck of the sheep which would lead the flock. This sheep would frequently be a castrated male sheep.

**Withdrawal Period:** Refers to the antibiotic withdrawal period and it the time it takes the body to break down an antibiotic until it is no longer present. This will vary depending on the drug, the animal species, and whether the animal product is milk or meat.

**Wool:** The fleece shorn from sheep. Wool’s scaling and crimp make it easier to spin the fleece y helping the individual fibers attach to each other, so that they stay together. Wool is spun into yarn or thread and eventually made into garments.

**Wool Breeds -** White-faced sheep breeds selected for their adaptability to environmental and forage conditions, reductive efficiency, milking ability, wool production, and longevity. Ewe lambs are generally selected from crosses among these breed types.

Described below are the individuals involved in administration of this questionnaire:

**Enumerator -**  Refers to the individual administering (i.e., asking the questions) for the NAHMS Sheep 2024 General Sheep Management Questionnaire. Throughout this manual, the enumerator is often referred to as “you.”

**Regional Field Offices (RFO) -** NASS has 12 regional offices across the country, each of which is responsible for the statistical work in several states.

**Respondent -**  The individual who answers the questions in the NAHMS General Sheep Management Questionnaire. Throughout this manual, the Respondent is often referred to as the “Producer.”

**Supervisor -**  The NASS supervisor who oversees the enumerator.

# Chapter 3 – Enumerator Procedures

## GENERAL

A pre-survey letter has been mailed to the sampled operations requesting their participation and notifying them that a NASS representative will contact them via telephone to set up a convenient time to complete the survey if they do not complete it electronically or mail it in. The NAHMS Sheep 2024 Study launch sheet and biologics benefits sheet was included with the pre-survey letter to provide background information about the study.

As part of your job on the NAHMS Sheep 2024 Study, you must provide respondents with an explanation of the NAHMS program and explain what he/she might expect from and gain by participating in the study. Your explanation should be based on information from your State training workshop, the NAHMS Sheep 2024 Study launch sheet, training materials, and information from this manual (Chapter 1). Respondents may ask questions about the NAHMS program based on the pre-survey letter and other materials they received. If they have questions that you cannot answer, respondents can phone either the NASS RFO or the NAHMS Coordinator directly (contact information is available from the Regional NASS office).

## WHO TO INTERVIEW

**Interview the Producer of the sheep operation, if possible.** Information collected from other people is often less accurate. If the Producer says someone else is more knowledgeable, interview that person. There may be sections of the questionnaire that require the response of a different person who is knowledgeable about that section. **Encourage respondents to have the operation records on hand.** If records are used, information provided will likely be more accurate and the interview will take less time.

## NAHMS GENERAL SHEEP MANAGEMENT QUESTIONNAIRE (GSMQ)

The GSMQ asks for information about herd inventory, general management, feed and housing management, shearing and wool marketing, movement and marketing, identification, and biosecurity and health management. Collection of the GSMQ is the first phase of the NAHMS Sheep 2024study. At the conclusion of the GSMQ interview, you will briefly describe the Phase II of the study and ask producers with 20 or more ewes if they agree to be contacted for the NAHMS phase II that will be conducted by a federal or state Veterinary Medical Officer (VMO). Answer any questions regarding phase II and attempt to obtain the Producer's signature on the Consent Form. Please emphasize that completing the consent does not commit the Producer to participating in the follow-up study; it only allows additional contact and further explanation of the study by a VMO. The Producer can decide at that time whether to participate in the follow-up study. Producers **do** need to sign the consent form if they would like to participate in possible biological sampling.

## SPECIAL SITUATIONS

**Private Veterinary Practitioners**

Some respondents may express concern about the involvement of the Veterinary Medical Officer (VMO) during the second phase of the study. They may feel this will conflict with the services provided by their own veterinarian. Explain that the VMO will be glad to explain the program to the Producer's veterinarian and that industry and veterinary organizations have participated in the design and review of the questionnaires.

VMOs will not give Producers veterinary advice about their operation. The VMO’s job is to provide professional expertise in collecting accurate animal health and production data.

**Serious Diseases**

Some Producer may be apprehensive about the VMO’s enforcement and quarantine power regarding certain contagious animal diseases. Explain that the on-farm tests are **not** for epidemic or regulatory-type diseases, such as Scrapie. The VMO will enter the production areas **only** for those optional tests that the Producer agrees to complete. VMO interviews regarding management practices can be done in the respondent's home, office or at a local coffee shop. The VMO questionnaires are not intended to detect the presence of any regulatory-type diseases.

**"Out of Scope" Operations**

APHIS considers certain types of farm operations to be "out of scope" for the GSMQ. This includes university, extension, experimental, and institutional farms whose production is being used primarily for **noncommercial** purposes. **Do not complete a GSMQ** for these operations.

## BURDEN STATEMENT

Federal regulations require that an estimate of the average time required to complete be provided with all questionnaires used by agencies of the Federal government. The burden statement’s average time requirement represents the average completion time expected based on the number of OMB-allowed pretests of the questionnaire. The average expected interview time to complete the GSMQ is 60 minutes, although this is expected to vary depending on whether the respondent consults records and the types of records consulted during the interview.

The burden statement time requirement might represent the actual average completion time recorded in previous years of the survey or it might be what NASS and OMB consider an average completion time. If the respondent has problems with a questionnaire or the time required to complete it, these concerns may be conveyed to OMB at the address on the burden statement. Because use of the burden statement is required by OMB regulations, any questions a respondent may have about the burden statement should be addressed in writing to OMB.

## CONSENT FORM AND INFORMATION ABOUT PHASE II

Respondents that are interested in participating in Phase II of the NAHMS Sheep 2024 Study will be asked to complete the consent at the end of the questionnaire. By completing the consent form, the respondent agrees to let NASS share their contact information with the 2024 NAHMS State Coordinator and be contacted by a VMO that will provide information about participation in the second phase of the study.

**Again, please emphasize to the Producer that completing the consent form does not obligate the Producer to participate in the NAHMS Phase II**. Respondents do not need to make a decision about participating in the follow-up phase of the study until talking to the VMO. . The VMO will explain the purpose and scope of the on-farm study at the time of the initial contact by the VMO, and the Producer can decide then to decline further participation.

## DELIVERING COMPLETED WORK TO THE FIELD OFFICE

Forward completed GSMQs and Consent Forms to the State office or your supervisor, according to your survey instructions. Mail the forms at a central post office each day to ensure prompt delivery.

If you doubt that the last completed work will reach the State office by the final due date, call your supervisor for additional instructions.

# Chapter 4 – General Instruction, Question and Response Formats

This chapter provides information about conventions used throughout the questionnaire, instructions, how to enter responses, and examples of different types of questions used in the questionnaire.

Sometimes you will need to probe the respondent in order 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, and when you think the respondent didn't understand the question.

Please be careful not to lead the respondent to a particular response. Simply restate the question or the response to encourage the respondent to keep thinking about it.

## ENTERING RESPONSES

Use a black lead pencil to record data and make notes; never use ink on a questionnaire. Make all entries clear and easy to read. Entries should be entirely inside the boxes.

**IMPORTANT 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, record “-1” in the response box and indicate “DK” (don’t know) 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 as the enumerator will improve the quality of the data and the information published as the result of this study.**

Most questions will refer to the 2023 calendar year. Only a few questions may refer to a different time frame, or to general practices which will not have a time frame referenced. There are also questions that refer to specific groups of sheep, such as ewes, lambs, rams, or wethers.

**When asking these questions, be sure to emphasize the time frame and sheep class referenced so they are clear in the respondent's mind.**

Throughout the questionnaire there are instructions to the enumerator or the interviewee or both. These instructions provide important information about response coding, question skips, cell references, flow, and question completion.

**INSTRUCTION EXAMPLE A:** This question has an example of instructions within a question. First: *[Select one.]* may be read aloud to the responder as it could resolve the question whether to choose a single or multiple choices

Example: Item D10.

10. For operations that did not sell the majority of wool in 2023, was the majority of your operation’s wool: [Select one]

1🞏 Stored in bags or bales on the farm or at a warehouse

2🞏 Given away (included if given to the shearer)

3🞏 Thrown away

4🞏 Used for alternative purposes (such as bedding, mulch, insulation, spinning)

5🞏 Other? (Specify: 0424 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

**INSTRUCTION EXAMPLE B:** This instruction is a ***fill-in***. When a reference to a previous item is enclosed in the “stem” in parentheses, you should FILL IN the data entered in that previous item when you read the question. For example, if the response for iItem 3 was “35,” you should say “35” in place of the “(item 3)” when you read the question below. A second instruction is for the Total calculation as just previously shown.

Example: Item A5.

5. On January 1, 2024, of the total sheep and lambs on the operation (Item 3), how many sheep were the following breeds?

INCLUDE all sheep only once. Head

a. Black face wool breeds (for example, Hampshire, Suffolk Shropshire, Romanox, Oxford) \_\_\_\_\_

b. Fine wool white face (for example, Rambouillet, Merino, Targhee) \_\_\_\_\_

c. Medium wool white face (for example, Columbia, Corriedale, Cheviot, Finn) \_\_\_\_\_

d. Long wool (for example, Border Leicester, Coopworth, Romney) \_\_\_\_\_

e. Mottle-faced, brockle, or speckle-faced crossbred ……. \_\_\_\_\_

f. Colored wool (for example, Black Welsh, Jacob, Navajo Churro, CVM, Shetland) \_\_\_\_\_

g. Hair sheep (for example, Barbados, Katahdin, Dorper, St. Croix) \_\_\_\_\_

h. Milk sheep (for example, East Friesian, Rideau Arcott) \_\_\_\_\_

i. Other crossbred (Specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \_\_\_\_\_

j. Other (Specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \_\_\_\_\_

k. Unknown \_\_\_\_\_

l. Total (should equal Item 4)

**INSTRUCTION EXAMPLE C:** This example indicates a skip and should **not** be read aloud.

Example: Item B8

8. During 2023, was any training provided by outside parties such as extension, veterinarians, presenters, and sheep organizations to any paid or unpaid personnel who had duties directly related to raising sheep?

2021

1 Yes **[Continue]** 3 No **[Go to Item 10]**

**INSTRUCTION EXAMPLE D:** Prompts such as "includes and excludes" and other instructions for respondents are also enclosed in **parentheses**. Read these to the respondent.

Example: Item G19.

19. From January 1, 2023, to December 31, 2023, did you use any oral, injectable, or tropical antibioitics (exclude anti-inflammatories) on any sheep on your operation in the previous 12 months?

1Yes [Continue] 3No [Go to Item 19]

**INSTRUCTION EXAMPLE E:** Optional wording, or term clarification, can be shown in plain print (enclosed in parentheses). Read these to the interviewee as well.

For example, in Section G, Item 6, you could indicate the type of veterinarian and say “For what purposes were the sheep tested for brucellosis? Veterinarian recommendation; this would be a nonregulatory, private practitioner”.

Example: Item G6.

6. For what purposes were the sheep tested for brucellosis (*B. ovis*, epididymitis):

a. Movement requirement? 1 Yes 3 No

b. Show or exhibition requirement? 1 Yes 3 No

c. Veterinarian (nonregulatory, private practitioner) recommendation? 1 Yes 3 No

d. State requirement? 1 Yes 3 No

e. Concern for milk safety? 1 Yes 3 No

f. Other? (specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) 1 Yes 3 No

The information provided in parentheses in Section E, Item 11 represents a term clarification and can be read to the respondent if you think it helps.

Example: Item E11.

11. From January 1, 2023, to December 31, 2023, did any of the sheep or lambs leave this operation, attend an event (for example, fair, show, sale, rodeo, or visit to another operation for breeding), and then return to this operation?

1Yes [Continue] 3No [Go to Item 13]

**INSTRUCTION EXAMPLE F:** Parenthetical instruction for “Other (specify\_\_\_\_\_\_)” tells the responder and interviewer alike that a choice of “Other” **requires** a write in of what specifically they meant by the “Other.”

Example: Item G16

16. If no veterinarian was used from January 1, 2023, to December 31, 2023, which of the following best describes why not? *[Select one]*

1🞏 Veterinarian available in the local area but not knowledgeable about sheep

2🞏 No veterinarian available in the local area

3🞏 Too expensive

4🞏 No veterinarian needed on this operation - no health-related problems

5🞏 No veterinarian needed on this operation - animals treated by farm personnel

6🞏 No veterinarian needed on this operation- other reason (specify:­­­\_\_\_\_\_\_\_\_\_)

7🞏 Other (specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

**Question Formats**

1. **Count or Percent Questions**

Respondents will be asked questions that require them to respond in a variety of units (for example number of head, cost in dollars, percent of total, etc.). **Record responses in the units required**. If a respondent answers in a different unit, write the answer outside the printed box, convert it to the required unit, and record the converted data in the box (this can be done at a later time). If the answer is “Zero” or "None," check the box for “None” if available, otherwise enter “0.” If the respondent declines to answer or does not know, enter “-1.” Always write notes about answers that appear unusual or are outside the expected range.

*It’s important in Quantity questions to* ***always*** *answer it (****unless*** *it is part of a skip or has a provision for absent quantity entries like in Example B below) in some fashion. For example in Example A below, if there were no sheep or lambs placed on an outdoor dry lot enter “0”.*

**QUESTION EXAMPLE A:** Here the quantity under consideration is **number of months.** Indicate how many months any sheep or lambs from the operation were placed on each of the locations listed during the last 12 months. The total of options a-e should add up to 12 months.

Example: Item C1.

1.During 2023, for how many months did your operation manage the majority of the sheep on the following primary locations during daylight hours? Months

a. Open range (unfenced acreage with herder) \_\_\_\_\_

b. Fenced range (uncultivated fenced acreage) \_\_\_\_\_

c. Fenced farm (cultivated pasture or browse) \_\_\_\_\_

d. Outdoor dry lot (pen with dirt, concrete, or other surface not used for grazing) \_\_\_\_\_

e. Indoors (enclosed building) \_\_\_\_\_

**[Total must equal 12 months]**

**QUESTION EXAMPLE B:** This question is primarily a quantity question(s) that asks for number of sheep in each category of primary use. If there are no Meat production sheep or lambs on the operation, put 0. **Don’t forget the “Other (specify…)” if there are sheep on the operation that are primarily used for something other than one of the categories listed in the question.**

Example: Item A6.

5. On January 1, 2024, of the total sheep and lambs on the operation (Item 3), how many had the following primary uses? For lambs, report the use for which they are intended. Do not report the same sheep or lambs in multiple categories.

Head

a. Meat production \_\_\_\_\_

b. Wool production \_\_\_\_\_

c. Show, competition, 4-H, or club lambs \_\_\_\_\_

d. Seekstock/breeding stock \_\_\_\_\_

e. Milk production (include milk for cheese or other products) \_\_\_\_\_

f. Brush control/fire suppression/solar grazing \_\_\_\_\_

g. Other (Specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \_\_\_\_\_

**IMPORTANT NOTE: NUMBER CHECKING RESPONSES**

* Multiple questions will require adding or subtracting various cells for a total. Fill in the total while working on the question, DO NOT WAIT to complete the total until you’re done with the questionnaire.
* Double check the math to ensure the number being written is correct.
* Confirm the total number with the Producer and clarify any discrepancies.

1. **Yes/No Questions**

Many questions ask for a “Yes” or “No” response.

**"Yes" is always indicated by code "1" and "No" by code "3."**

“**Don’t know**” (DK) option will sometimes be indicated by code “2.” If a “Don’t know” option is not offered, and if the respondent answers with "Don't Know," or if a respondent declines to answer a specific question, enter -1 in the cell and write "DK" or "declined" beside the answer cell.

Sometimes “**Not Applicable**” (NA) option will be indicated by code “4.” If a “NA” option is not offered, and if the respondent answers with “This question doesn’t apply to me” or declines to answer a specific question, enter -1 in the cell write “NA” or "declined" beside the answer cell.

**QUESTION EXAMPLE C:** This serves as an initial screening question to determine if you should continue with the interview-that the operation is an active sheep farm. If the answer to item 1 is “Yes,” then continue the interview. If the operation did not have at least one sheep or lamb on hand January 1, 2024, then go to Section H (Office Use). Operations that are still in business but had no sheep or lambs on hand on January 1 (skip is indicated) should have a response code “1" in Question 5 Section H.

1. On January 1, 2024, were any sheep or lambs, regardless of ownership, on this operation?

INCLUDE Barbados and all hair breed sheep

1Yes [Continue] 3No [Go to Section H, Item 5]

**QUESTION EXAMPLE D:** This Yes/No question has more than one subpart and represents separate questions. The main question is attached to an item number (6), and the 8 different endings to the question-the subparts-are identified with a lower-case letter (a, b, c) etc.). Each subpart is a separate question and must be asked separately. You should read the question stem followed by the ending subpart (i.e., “Through genetic selection or testing, are you working to:”). If there are a lot of subparts, you will probably only need to read the stem for the first two or three subparts. Once the respondent understands that the stem is repeated, though unspoken, you can continue reading only the subparts.

Example: Item B11.

11. Did your operation use genetic selection or testing for any of the following purposes? [Select all that apply]

a. Improve lamb or meat production? 1 Yes 3 No

b. Improve wool quality or wool production?.................................................................... 1 Yes 3 No

c. Improve the resistance of your sheep to internal parasites? 1 Yes 3 No

d. Other? (Specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) 1 Yes 3 No

**QUESTION EXAMPLE E:** One question has a subpart that’s only required to be answered based on the previous question. If the answer to the question in Column 1 is “No”, skip the question in the next column. If the respondent said he or she did not add any of the sheep class to the operation, then you skip the column that asks how many were added. .

Item E4.

1. **Code Questions**

For questions answered with a code number, enter the number that goes with the respondent's answer. If the respondent answers using only the code number, verify that the code is correct by repeating the answer in words. If answers appear unreasonable, but are verified as correct, make explanatory notes in the margins. Do not make notes or unnecessary entries inside response boxes. If the respondent declines to answer or doesn’t know, and a “don’t know” response is not provided, enter “-1” and write any comments in the margin.

When a question specifies to select ONE answer from a list, the respondent must choose only ONE answer from several possible choices that you offer. Each response category has a code number. When you enter the respondent's answer, you enter the code number if you are required to write the code in a box.

**QUESTION EXAMPLE H:** This example requires that you check only one box. There is a possibility that one answer doesn’t fit or that two fit as a primary method for maintaining production records. Perhaps the respondent keeps handwritten records and then enters them into a software program at a later date. In that case code “4” could be checked and you can explain further in the “Any other method (specify\_\_\_\_\_\_\_\_\_)” option.

Example: Item A6.

6. From January 1, 2023, to December 31, 2023, what was your primary system for maintaining sheep production records? [Select one]

1A livestock or sheep management software program (Specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

[Continue]

2Any other spreadsheet or word document [Continue]

3Handwritten records [Continue]

4Any other method (Specify:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

[Continue]

5Did not maintain sheep and lamb production records [Go to Item 8]

**REMINDER: CONFIRM AN “OTHER” IS TRULY AN “OTHER”**

* When completing questions that have an “Other” option ensure that the “Other” answer does not fit any of the provided categories.
* If you think it possibly fits into another category, place it in the most appropriate category and write a note in the margin to explain the logic behind the placement.
* Always attempt to get a specify to the “Other.”
* If you think a response possibly fits into another category, place it in that category and write a succinct note in the margin to explain the logic behind the placement.

**d. Scale or Category Questions**

These types of questions often involve check boxes grouped under headings that are in some sort of order (i.e., Increasing or Decreasing) as you read across from left to right. Only the box under one heading can be checked per each question or question section.

**QUESTION EXAMPLE I:** The scale response “increases” as you go from left to right. Check the most applicable box for each practice; whether it was “Never”, “Sometimes”, or “Always”

Item G22.

22. During 2023, how often were the following recorded:[Check one only for each row]

**Never Sometimes Always**

a. Names of antibiotics Used: 1 2 3

b. Dates of antibiotic treatments? 1 2 3

c. Antibiotic withdrawal time? 1 2 3

d. Amount used? 1 2 3

e. Identification of animal treated? 1 2 3

d. Reason for treatment? 1 2 3

**e. Matrix Questions**

These question types are reserved for times when there are multiple bits of information to be collected on different yet related topics. The name “matrix” is used because the information goes into cells at the junction of a row and a column. This type of question is one that should be used sparingly because although a lot of information can be collected at once, it can be burdensome to the responder.

**QUESTION EXAMPLE J:** This requires quantity of sheep broken out by age (across the top) **and** reason sheep permanently left the farm. When asking questions like these it helps to show the responder the question. **Some enumerators bring along a separate questionnaire for the responder to follow along with and that definitely helps in cases like the question below.** In this case it helps to read the question starting like: “Of the total (read number from 14a above) lambs (under 1 year old) that were premanently removed from this operation, how many were direct sales to consumer or ethnic market?” You would attack this question one response area at a time until the responder got the gist of what you were asking, making the full preamble with the stem unnecessary.

Item E15.

15. How many of these live sheep and lambs were permanently removed through the following

channels:

Number of Head

**Lambs Cull Sheep Breeding sheep**

**Check none if the age class was not permanently removed.** 1None 1None  1None

a. Direct sales to consumer or ethnic market? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

i. Of these direct sales, how many were slaughtered

on the operation? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

b. Direct sales to slaughter in plant/packer? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

c. Moved to a feedlot separate from this operation? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

d. Direct sale to a backgrounder (non feedlot feeders)? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

e. Direct sales to another sheep producer?

INCLUDE 4-H/show sales \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

f. Auction/sale barn? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

g. Buyer/dealer for resale? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

h. Slaughtered for personal use? \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

i. Total \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

# Chapter 5 – Completing the Questionnaire and Questions of Note

This chapter provides guidance for completing the General Sheep Management Questionnaire (GSMQ) by face-to-face or computer assisted interview. The first part covers general information about administering the questionnaire. The second part covers particular questions in the GSMQ questionnaire and provides explanations and helpful information for completing many of the questions.

## INTRODUCING THE NAHMS Sheep 2024 Study TO THE RESPONDENT

Before beginning your work, formulate and practice an introduction that briefly explains the survey and gains the respondent's cooperation. Say it in your own words so it is comfortable to share, and be prepared to answer the respondent's questions. You will be provided with informational materials that explain Phase II of the NAHMS Sheep 2024 Study. Familiarize yourself with these materials before the interview by reviewing the study launch sheet, biologics benefits and timeline sheet and information flyerd. Please **give** these materials to the respondent and briefly discuss Phase II of the study and the benefits of participating in this phase including the biologic sampling. Please explain that the data collected in this interview and in Phase II are used to generate summary reports and provide valuable information to the U.S. sheep industry, sheep operations, researchers, extension service, and state and federal policy makers. Summary reports from the previous NAHMS Sheep 2011 Study are available at the NAHMS website : [www.aphis.usda.gov/nahms](http://www.aphis.usda.gov/nahms)

**Prior to starting the questionnaire**, ensure that there is a label with a NAHMS ID of the respondent to be interviewed; identification information will be on the envelope. Make changes to the name and address information on the envelope, if necessary. Detailed directions to the operation will help the Veterinary Services (VS) Data Collector locate the operation if the Producer consents to participate in Phase II. Write the directions on the envelope or in the “comments” section of the questionnaire. Do not write anything that could identify the Producer/operation on the questionnaire.

## ADMINISTERING THE QUESTIONNAIRE

The GSMQ asks for information about sheep inventory, management practices, health events and management, animal movement, and operation biosecurity. The majority of questions in the GSMQ require the respondent to select a response from a list of possible answers, or to respond in a variety of units (head, percent, months, etc.). **Therefore, it will be helpful for the respondent to have a copy of the questionnaire during the interview.** You may ask the respondent to follow along in the questionnaire as you proceed. Or, you may direct the respondent to read over the answer choices each time you come to a question with multiple answer choices.