

## Basic Information Needed for Troubleshooting Swine Production and Management Issues

The following highlights some of the important questions to ask to gather information to troubleshoot swine production and management problems.

### Nutrition

1. Gestating Sows
  - a. What is the genetic makeup of the sows?
  - b. What is being observed that leads to the opinion there is a nutritional problem?
  - c. Is the problem widespread or limited to a certain number of animals?
  - d. Are gestation sows housed outdoor or indoor?
  - e. If gestation sows are housed indoor, is the gestation facility naturally-ventilated or mechanically-ventilated?
  - f. Are sows group-housed in pens or housed individually in gestation stalls?
  - g. If sows are group-housed, how many sows per pen?
  - h. If sows are group-housed, are they grouped so that sows of similar body composition and size are housed together?
  - i. How much feed is provided daily for each sow?
  - j. What specific feed ingredients make up the gestation diet?
  - k. What is the nutrient analysis of the gestation diet?
  - l. What is the nutrient analysis of any premixes that are used?
  - m. Have any diet changes been made recently?
  - n. What type of waterers are used?
  - o. Are waterers checked daily to ensure they are working properly?
  
2. Lactating Sows
  - a. What is the genetic makeup of the sows?
  - b. What is being observed that leads to the opinion there is a nutritional problem?
  - c. Is the problem widespread or limited to a certain number of animals?
  - d. What is the body condition of sows when they enter the farrowing house?
  - e. What is the body condition of sows at weaning?
  - f. Are problems being observed with the nursing piglets? If so, describe the problems.
  - g. What type of facility is used for farrowing (type of crate, type of flooring, type of ventilation system, etc.)?
  - h. Are waterers checked daily to ensure they are working properly?
  - i. Is the farrowing facility managed all-in-all-out?
  - j. Is any type of cooling system (evaporative cool cells, drip buttons, etc.) used in the farrowing house?
  - k. What is the average length of lactation (or average pig age at weaning)?
  - l. What is the average litter size (number born alive and number weaned)?

- m. What is the average weaning weight of piglets?
- n. What is the average total daily feed intake of the lactating sows?
- o. How many times per day are lactating sows fed (once daily, twice daily, three times daily, etc.)?
- p. Do sows typically eat all feed placed in the feeders from one feeding time to the next?
- q. Are feeders periodically cleaned of old feed that remains in the feeder? If so, how frequently?
- r. What specific feed ingredients make up the lactation diet?
- s. What is the nutrient analysis of the lactation diet?
- t. What is the nutrient analysis of any premixes that are used?
- u. Have any diet changes been made recently?

### 3. Nursery Pigs

- a. What is being observed that leads to the opinion there is a nutritional problem?
- b. Is the problem widespread or limited to a certain number of animals?
- c. Is there a certain age when the problem seems to become most prevalent?
- d. What was the overall condition of the pigs when they were placed in the nursery?
- e. What is the average age of pigs when they are weaned?
- f. How long do pigs remain in the nursery facility?
- g. What type of nursery facility is used (type of flooring, type of pen partitions, type of ventilation system, type of feeders, type of waterers, etc.)?
- h. Are feeders adjusted properly?
- i. Are feeders checked daily to ensure feed is flowing down properly?
- j. Are waterers checked daily to ensure they are working properly?
- k. How many waterers are available in each pen and where are they located?
- l. Is the nursery facility managed all-in-all-out?
- m. What is the total pig capacity of the nursery (or nursery room)?
- n. How many pens are there in the nursery, and how many pigs are housed in each pen?
- o. How many different diets are fed in the nursery?
- p. When are diet changes made in the nursery (what age or pig weights)?
- q. What is the nutrient analysis of each diet fed in the nursery?
- r. What specific feed ingredients make up each nursery diet?
- s. What is the nutrient analysis of any premixes that are used?
- t. Have any diet changes been made recently?

### 4. Growing-Finishing Pigs

- a. What is being observed that leads to the opinion there is a nutritional problem?
- b. Is the problem widespread or limited to a certain number of animals?
- c. Is there a certain age when the problem seems to become most prevalent?
- d. What was the overall condition of the pigs when they were placed in the finishing facility?

- e. What is average age of pigs when they are placed in the finishing facility?
- f. What is the average age and weight of pigs when they are marketed?
- g. What type of finishing facility is used (type of flooring, type of pen partitions, type of ventilation system, type of feeders, type of waterers, etc.)?
- h. Are feeders adjusted properly?
- i. Are feeders checked daily to ensure feed is flowing down properly?
- j. Are waterers checked daily to ensure they are working properly?
- k. How many waterers are available in each pen and where are they located?
- l. Is the finishing facility managed all-in-all-out?
- m. What is the total pig capacity of the finishing facility (or finishing room)?
- n. How many pens are there in the finishing facility, and how many pigs are housed in each pen?
- o. Are the finishing pigs split-sex fed?
- p. How many different diets are fed in the finishing facility?
- q. When are diet changes made in the finishing facility (what age or pig weights)?
- r. What is the nutrient analysis of each diet fed in the finishing facility?
- s. What is the nutrient analysis of any premixes that are used?
- t. What specific feed ingredients make up each finishing diet?
- u. Have any diet changes been made recently?

### **On-Farm Feed Mixing and Diet Analysis**

- a. Are complete diets mixed on the farm, or are commercial base mixes and premixes mixed with grain and(or) protein supplements on the farm?
- b. What type of on-farm feed mixing equipment is used (stationary feed mill, grinder-mixer, etc.)
- c. If a grinder-mixer is used for on-farm feed mixing:
  - i. Is the grinder-mixer equipped with a weigh cell?
  - ii. Is the weigh cell accurate?
  - iii. What size screen is used?
  - iv. Is the screen too worn to grind to the proper particle size?
- d. What is the particle size of the diets?
- e. Are ingredients (corn, soybean meal, etc.) and complete diets routinely analyzed for nutrient content? If so, how often?
- f. How are ingredient and diet samples collected for nutrient analysis?
- g. What are the nutrient profiles of ingredients used in diet formulations?
- h. Are all ingredient and feed storage bins in good working order (keep out moisture, rodents, etc.)?
- i. Are computer-controlled feedmills programmed with the most up-to-date diet formulations?
- j. Are base mixes and premixes accurately measured?
- k. What quality control standards are in place to prevent drug carryover between diet mixes (if drugs or antibiotics are included in diets)?



## **Breeding/Reproduction**

1. Sow Herd
  - a. What is being observed that leads to the opinion there is a breeding or reproduction problem?
  - b. Is the problem widespread or limited to a certain number of animals?
  - c. Are females bred by natural service (pen-mating or hand-mating) or by artificial insemination?
  - d. If females are bred by pen-mating:
    - i. What is the boar:sow ratio in each pen?
    - ii. Are boars rotated among breeding pens? If so, how often?
    - iii. Does the boar's body size match up with the body size of the females?
    - iv. Is a young, newly mature boar being used with larger, older sows?
  - e. If animals are bred by hand-mating or artificial insemination:
    - i. How is standing heat determined?
    - ii. How many times per day is standing heat checked?
    - iii. How many services are used per sow?
    - iv. What is the timing of matings relative to the onset of standing heat?
    - v. Is the timing of matings different for gilts versus sows?
  - f. If animals are bred by artificial insemination:
    - i. Is semen collected and processed on-farm or purchased?
    - ii. How is semen stored?
    - iii. Is boar stimulation provided while sows are being bred? If so, how is it provided?
    - iv. How much time is taken for inseminating each sow?
    - v. Describe equipment and techniques used for inseminating sows.
    - vi. Who does sow inseminations (producer or technician)?
    - vii. If multiple people do sow inseminations, do conception and farrowing rates vary amongst technicians?
  - g. Has semen from the boars being used for matings or semen collections been checked for motility and percent normal sperm cells?
  - h. What is the average conception and farrowing rate for the herd?
  - i. When are unsettled sows coming back into standing heat relative to the time when they were previously mated (a normal 21 day cycle or greater than would normally be expected)?
  - j. What is the body condition score of sows when they are mated?
  - k. What is the weaning-to-estrus interval?
  - l. What is the age and weight at first mating for replacement gilts?
  - m. How are sows housed for breeding (group-housed or individually-housed in stalls)?
  - n. If individually-housed for breeding, how long do sows remain in stalls following breeding?
  - o. Are there any known health or disease problems active in the herd that might be

- contributing to the breeding or reproduction problem?
- p. Are records available to help document a problem?
    - i. Nonproductive sow days
    - ii. Weaning-to-estrus interval
    - iii. Weaning-to-first service interval
    - iv. Number repeat services
    - v. Conception rate
    - vi. Farrowing rate

17. Boars

- a. What is being observed that leads to the opinion there is a breeding or reproduction problem?
- b. Is the problem widespread or limited to a certain number of animals?
- c. Are boars used for natural matings or for semen collection?
- d. What is the age of the boar(s) experiencing breeding problems?
- e. Is the problem one of libido or failure of boars to settle sows after mating?
- f. At what age are new boars used to begin mating sows or have semen collected?
- g. How many times per week are boars used for matings or collected?
- h. What type of facility is used to house boars (type of flooring, type of pen partitions, type of ventilation system, presence or absence of some type of cooling system, etc.)?
- i. Are boars housed individually?
- j. Is semen routinely checked for motility and percent normal sperm cells? If so, how frequently?

**Genetics/Selection**

- a. What genetics (breed, line, etc.) are currently being used?
- b. What is the goal of the genetics program (develop replacement females, develop herd boars, market hog production, etc.)?
- c. What types of data are used to help make selection decisions?
  - i. EPDs
  - ii. Selection Indexes
  - iii. Performance data
- d. How are the data used to make selection decisions?
- e. What type of breeding program is used (two-breed rotational cross, three-breed rotational cross, terminal cross, etc.)?
- f. Are market pigs sold on a carcass merit basis?
- g. What is the average carcass data for market pigs based on kill sheets provided by the packer (percent lean, percent fat-free lean, backfat, etc.)?
- h. What selection criteria is used for purchased semen?

## **Health and Disease**

- a. Does the producer have access to quality veterinary advice and services?
- b. Does the producer work routinely with a veterinarian? If so, how often are routine farm visits conducted?
- c. What routine vaccinations are given?
- d. What diseases or health conditions are known to be present in the herd?
- e. Is the health or disease problem new or something that has been observed before?
- f. What specific conditions or problems are being observed?
- g. Is the problem widespread throughout the herd, or is confined within a certain type or age of pig?
- h. Have any affected animals been posted with the Livestock Disease Diagnostic Center?
- i. Have sick animals been treated with medications? If so, what medications have been used?
- j. Are antibiotics or antimicrobials included in diets? If so, which ones?
- k. Is new breeding stock purchased from a single supplier or do they come from multiple sources?
- l. What is the herd health status of breeding stock suppliers?
- m. Are isolation/acclimatization procedures in place for the introduction of new animals into the herd? If so:
  - i. How long are they isolated
  - ii. Are animals tested following the isolation period?
  - iii. What is the acclimatization protocol?

## **Starting a New Swine Operation/Expanding an Existing Swine Operation**

- a. What type of operation is desired (farrow-to-finish, farrow-to-wean, farrow-to-feeder, nursery operation, finishing operation, etc.)?
- b. How large an operation is desired (number of sows, number of nursery spaces, number of finishing spaces, etc.)?
- c. Has a production flow been clearly outlined and defined (breeding schedule, group sizes, etc.)?
- d. What types of facilities will be needed?
- e. Who will perform the actual construction?
- f. Has someone with livestock facility expertise reviewed facility construction plans?
- g. Where will the animals be marketed?
- h. Has long term marketing plans been finalized?
- i. Is adequate land available for manure nutrient utilization?
- j. Have all relevant permits been obtained?
- k. Is the selected site for the operation suitable for a swine operation?
- l. If the operation will work under a contract, what are the details of the contract?

m. Is adequate labor available?