

Leading Training Sessions on Goat Management and Health

*A guide from Wildlife Conservation Society, to
be used with “Goat Management and Health:
A Guide to Raising Healthy Goats”*

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Contents:

- 1) Tips for Leading Training Sessions**
- 2) Suggested Schedule and Objectives for Goat Production
Training Sessions**

Tips for Leading Training Sessions

It is said that people remember 80% of what they do, 50% of what they are shown, and only 20% of what they are told. Therefore, the most important tip for training people on any topic is to get them as involved as possible. Here are some suggestions for making your training sessions effective:

1. **Plan!** Planning is very important. People will be able to tell whether or not you are prepared, and you will find that if you prepare yourself, training sessions go much more smoothly. Plan what you will go over during the session before the day of the session. Make notes as to what you will talk about and what questions you will ask the group. Look through your manual and review the sections you will be training on before the session so that you do not have to refer to it many times during the training.
2. **Work with your fellow trainers.** Plan your sessions together, and make sure that everyone participates in the training. You might divide certain parts of the session, so that one person is responsible for teaching each section. Working together makes your job easier and you will find that you all bring different ideas and strengths to the training sessions.
3. **Start each session with introductions.** Start by introducing yourself and letting the group know exactly why you are there. Include your name, title, regional assignment, and the name and purpose of the organization you are working with.
4. **State objectives (goals) for the session.** Follow introductions by briefly telling the group exactly what they will learn during the training session. For example, you might say, "At the end of today's session you will know the best ways to increase kid survival in your goat herds." It is not necessary to list each individual objective for the session.
5. **Ask questions.** Get trainees involved by asking them questions. For example, if teaching about nutrition, ask the audience why they think good nutrition is important. Use their responses to start a discussion.
6. **Encourage small group (3-5 people) or partner discussion.** Ask a question and give groups a chance to discuss. This will encourage people who are too shy to speak in front of the whole group to get involved in the discussion. You might assign groups so that trainees are not always talking with people they interact with every day. An easy way to do this is to assign everyone a number. Have them count off up to the number of groups you want them to be divided into. For example, if you want there to be 5 groups, say "You are a one, you are a two, etc.." up to "five." Start over from "one" when you get to the number of groups you want. Then say "All the ones, over here. All the twos, over here," etc.
7. **Demonstrate procedures.** Show the procedure once without a full explanation, then show it once more while explaining each step of what you are doing. Then let participants practice. Have them explain each step of the procedure as they complete it. If it is a large group, break it into smaller groups to complete the procedure. Have them explain the steps of the procedure to each other as they complete the steps.

8. **Assess learning.** At the end of the session (as well as during the session), ask questions to find out what the trainees have understood. You will find some suggested questions for goat management training in the next sections.
9. **State the topic of the next session.** If you will be returning to the group to do more training, tell them what they will be learning at the next session.

Suggested Schedule and Objectives for Goat Production Training Sessions

The following is a suggested schedule for goat production training sessions. Use the objectives listed in each part as a checklist to make sure you are covering all the important points on that topic. There are also suggested activities for each session. Pick the activities that you think are best for your group or come up with your own. You do not need to do all the activities in each section. You could also use some of the activities as a review at the end of all of the training sessions.

A list of questions for assessment has also been included at the end of each section. Ask these questions at the end of each training session to see what trainees have learned. The questions can also be used to review what has been covered over several or all of the training sessions. You could also turn the questions into a game; suggested “point values” for each question are in parentheses at the end of each question. You may need to adjust or redo a part of your training if you find that participants have not understood what you have taught them.

Session 1 – Introduction and Nutrition

Objectives

By the end of this session farmers will be able to:

- 1) recognize the importance of goat management and health in regards to poverty reduction and food security
- 2) make connections between goat production and other COMACO projects
- 3) explain why good nutrition is important for animal health and productivity
- 4) identify the three major nutrient categories
- 5) understand what a “supplement” is
- 6) identify examples of supplements for each major nutrient category
- 7) understand the importance of dietary supplementation in maintaining goat health and productivity
- 8) tell the proportions of each nutrient category for a balanced diet (about 2/3 energy, 1/3 protein, and vitamin/mineral supplements added in as available)
- 9) distinguish the periods when supplementation is especially important
- 10) understand the importance of providing clean, fresh water to animals at all times

Activities

- 1) **Supplement sorting.** Bring examples of feed supplements (sorghum, groundnut oil cakes, bones, etc.) to the training. After a discussion on nutrient categories or as a review, have trainees sort the feed supplements

into the proper categories. This would be most effective if you divide the group into smaller groups. Have a set of feed supplements for each group to sort, or say “Group 1 send someone to pick up the examples of “energy,” group 2 send someone to pick up the examples of “protein,” etc. Do not correct them as they are choosing or sorting; you will often find that they correct themselves or each other, which is a more valuable learning experience than being corrected immediately when they make a mistake. After they have sorted, discuss with the whole group, making corrections and asking questions to make sure everyone understands which supplements fit where.

- 2) **Examples from the group.** Ask for examples of feed supplements for each nutrient category.
- 3) **Show samples of feed supplements.** Show samples of protein bank trees/leaves and other dietary supplements.
- 4) **Create goat diets.** Bring feed samples and have the group put together a proper diet, meeting energy, protein and vitamin/mineral requirements for a 20 kg animal. You can use Appendix 1 (Nutrition) in the “Goat Management and Health” manual to calculate the amount of dry matter needed in one day. The point is not for them to construct a perfect diet, but they should understand the idea that most of the diet (about 2/3) should consist of energy sources, about 1/3 should be protein sources (for example, protein bank leaves), and that vitamin and mineral supplements should be included as well. If you do not have supplements, have the group to discuss how much feed from each category is necessary for a balanced diet.

Questions

- 1) If goats leave feed in the trough, they are no longer hungry (True or False). (1) *False; goats are selective eaters and will not “clean their plates”*
- 2) What are the main nutrient categories? (2) *Energy, protein, vitamins/minerals*
- 3) Give two examples of supplements for each nutrient category. (3) *see section in Goat Management and Health manual for a full list*
- 4) How do you calculate how much to feed an animal? (4) *Multiply its weight by 3% (3/100); multiply by 5% (5/100) for a pregnant or nursing animal*
- 5) Name two protein bank trees. (5) *Desmodium, Leucaena, Sesbania, Gliricidia, Cajanus, Calliandra, Mulberry*

Session 2 – Birthing and Kid-rearing

Objectives

By the end of this session, farmers will be able to:

- 1) understand why increasing kid survival is important for any goat production operation
- 2) identify the major signs that tell when a doe is about to give birth
- 3) recognize when a doe is having difficulties giving birth and know what to do to help her
- 4) recognize if a doe has rejected a kid and know how to encourage her to accept the kid (only as a last resort)
- 5) identify the most important way to increase kid survival
- 6) explain how to make sure kids are getting enough colostrum
- 7) identify the main parts of colostrum, and identify when colostrum is strongest, when milk stops containing antibodies, and the importance of kids getting colostrum within the first hour of life
- 8) understand the importance of doe nutrition, especially the week after giving birth
- 9) explain the two most important reasons for doe/kid confinement (colostrum, bonding)

Activities

- 1) **Create milk-feeders for kids.** Farmers can create milk-feeders for kids individually or in small groups. They can make the milk-feeders at home after the session and bring them to the next session. The suggestion in the manual is a plastic bag with a small hole cut into it. They may use this idea, or they might come up with a different idea. Tell them to try their milk feeder on a young animal to see how it works. When they share their feeders with the entire group, they should say what materials they used, how easy or difficult it was to create, and how well it worked when they tested it. You might have a young kid available and test the feeders at the session.

Questions

- 1) What is the most important thing we can do to increase kid survival?
(1) *make sure the kid gets colostrum soon after birth!!!*
- 2) Give two reasons to confine a doe when she is ready to kid. (2)
- 3) If you have determined that a doe has rejected a kid (remember to wait at least one hour and observe), what are some things you can do to

- encourage acceptance? (2) *Spray perfume on both of them or mix manure in water and sprinkle it on both of them so they smell the same*
- 4) What does the first milk contain that helps fight disease? (3) *antibodies*
 - 5) How can you tell if a doe is having difficulty giving birth? (3) *labor is lasting 3 or more hours; she has been having contractions and still no kid has come out; remember, does usually are not in labor for longer than 30-45 minutes*
 - 6) Explain what to do if you determine a doe is having a difficult birth, step by step. (4) *wash your hands up to the elbows; when the doe is not having a contraction, put your hand into the birth canal over the top of the kid; if the kid is coming out feet first, try to push back gently on the kid and rearrange its position; once the kid is in the proper position, gently pull the kid when the doe is having a contraction.*
 - 7) Give two signs a doe is about to kid. (4) *clear, thick discharge (mucous) from birth canal, she looks uncomfortable, rising and lying down frequently, goes off feed, separates herself from the group*
 - 8) When does the doe's colostrums strongest (have the most antibodies)? (4) *up to one hour after birth*
 - 9) When does the doe's milk stop containing antibodies? (5) *2-3 days after giving birth*
 - 10) What is the average length of pregnancy for a doe? (5) *150 days*

Session 3 – Housing

Objectives

By the end of this session, participants will be able to:

- 1) understand why good housing is necessary for goats and livestock in general
- 2) identify the characteristics of an ideal goat housing facility (e.g. slatted floors, isolation area for sick animals, confinement area for does about to kid, etc.)
- 3) list the special considerations for confinement feeding
- 4) identify the characteristics of an ideal feed trough
- 5) know what the recommended COMACO goat housing structure looks like

Activities

- 1) **Design a goat housing facility.** After a discussion on requirements for good housing, have trainees design a goat housing facility on paper, in small groups. Have each group come up and share their design with the whole group. The whole group can comment on each

design, saying what is good about the design, what is missing, and what could be improved.

- 2) **Design/build feed troughs.** Farmers build feed troughs. They can do this on their own time and then bring them to the next session. Have them share their designs with the group and discuss what is good or bad about each design. This could be made into a competition; the person or group with the best design will win. Some criteria to use when judging the designs may include: ease of construction, availability and cost of materials (should be easily found and low cost), and ease of use.
- 3) **Housing structure competition!** Show the goat housing structure made with bricks (in training manual); challenge the groups present to construct a good housing facility as a competition. The winners' structure will be the model example. Give participants a certain amount to complete the structures and tell them how it will be judged. Give time for groups to start planning during the session. They should come up with a time table (for example, we will have the foundation built by next week, etc.) They should assign responsibilities to each group member. Some examples for responsibilities are:
 - i. supply manager(s) – responsible for collecting the necessary materials for building
 - ii. time keepers(s) - will make sure the building schedule is followed
 - iii. messengers – will notify members when building will occur or if there have been changes in the schedule
 - iv. design team – mainly responsible for designing the structure
 - v. construction team – responsible for directing the building of the structure

Everyone should be willing to help with all the responsibilities, but it may help to have specific people assigned to leading each responsibility. Here is an example of a checklist that may be used for judging:

Checklist:

- water bucket or container available?
- dew/kid isolation area?
- sick animal isolation area?
- size appropriate for number of animals?
- shade available?
- slatted floors?
- adequate ventilation?
- safety (i.e. will animals or people find it dangerous to enter inside the structure)?

You can also use the following guidelines to score on a scale of 1-5 (5 being the best):

- Materials used** - ease of collection, cost, etc.
- Ease of construction** - is the structure complicated or easy to build; the simpler the better
- Design** – how do you rate the design of the structure?
- Ease for cleaning/manure collection**

You may think of more to add to each list.

Questions

- 1) Give two reasons housing is important for animals. (1) *protects animals from predators; protects animals from harsh weather; controls parasites; prevents goats from standing or lying in mud*
- 2) Name 3 requirements for good goat housing (2). *slatted floor, raised from ground, isolation area for sick animals, isolation area for does about to give birth; feed trough and water container, especially if animals are confined all of the time; easy to clean; access to shade*
- 3) True or false: Does about to give birth can be confined in the same area used for isolating sick animals if no sick animals are inside (2). *False*
- 4) Name 2 special considerations for confinement feeding. (4) *clean water provided at all times; humans must provide 100% of diet so make sure adequate amounts are being provided*

Session 4 – Breeding Management, Goat ID, Record-keeping

Objectives

By the end of this session, farmers will:

- 1) know the recommended method for castration
- 2) know how old a kid should be when performing castration with an elastic band
- 3) be familiar with other methods of castration (Burdizzo, knife) and understand the benefits and risks of each method
- 4) understand the importance of good hygiene when castrating
- 5) recognize the characteristics of a good breeding buck
- 6) recognize the importance of castrating or selling non-breeding bucks
- 7) understand the importance of record-keeping and know the important information to keep track of (growth rates, illness, number of kids born, number of kids surviving to weaning, etc.)

- 8) be familiar with appropriate methods of marking goats (ear-notching, ear tags) and know the recommended method (notching)
- 9) recognize the importance of rotating and sharing breeding animals between groups to avoid inbreeding

Activities

- 1) **What makes a good breeding buck?** Before you start a discussion on selecting a good breeding buck, have several bucks available and ask farmers which one they would keep for breeding. Give a short “history” on each animal, which can be made up. For example, you might say, “This first buck was a triplet and has a history of mouth sores. The second buck’s mother has been very healthy and always gives birth to strong, healthy kids,” etc. They will also make their decisions based on how the animals look. Have them give the reasons they would or would not keep certain bucks for breeding. Farmers can discuss in small groups or with partners. Then have each group share their choices and reasoning with the whole group.
- 2) **Demonstration of elastic band castration.** Use a 2-3 day old kid to show how to place the elastic band around the scrotum for castration. If you can get several young kids, allow groups to practice placing the elastic bands. Only do this once with each kid and be sure to clean the elastic bands very well before using them, or the area might become infected.
- 3) **Examples of goat identification methods.** Bring some goats that have been marked using different methods to the training session. You may have someone who has experience with ear-notching show how to do it.

Questions

- 1) What is the recommended method for farmers to castrate their goats?
(1) *with an elastic band*
- 2) Name two things to look for when selecting a good breeding buck. (2) *large size, big muscles, healthy, healthy mother, not a twin or triplet*
- 3) Name three things to keep track of in your records. (2) *growth rate, illness, number of kids born, number of kids surviving to adulthood, etc.*
- 4) How old should the animal be when castrated by the recommended (rubber band) method? (3) *no older than 2-3 days*

Session 5 – Marketing

Objectives

By the end of this session, farmers will be able to:

- 1) explain ways to improve the quality of the product (goats)
- 2) consider how age and size at the time to market affects profit
- 3) understand that selling goats at different times of the year will bring different prices and the importance of planning ahead when deciding when to sell goats (for example, they will get low prices if they sell right at the beginning of the school year because that is when everyone is selling their goats to pay for school fees and costs)
- 4) identify ways to keep a constant market for goats (for example, advertising to restaurants, giving *mbasela* bonuses, etc.)

Activities

- 1) **Discussion on how to get good prices for goats.** Before giving suggestions on marketing, ask farmers to discuss some ways they think they will get the best prices for their goats. This might be a good way to start the entire session.
- 2) **Questions for small group or partner discussion:**
 - a. How can we improve the quality of our product (goats)?
 - b. How can age or size of the animal affect actual profit (as in if the goat is too large or old then time and resources are wasted; if too small, will not bring a good price)?
 - c. What are the best times of year to sell goats? Why?

Session 6 – Assessing Goat Health (How Can We Tell if an Animal is Sick or Healthy?)

Objectives

By the end of this session, farmers will be able to:

- 1) know what to look for when evaluating the health of a goat
- 2) perform a physical exam on a goat
- 3) explain what a sick goat looks like and what a healthy goat looks like
- 4) know safe and appropriate ways to restrain a goat

Activities

- 1) **Demonstrate physical exam.** Using a live goat, show farmers how to perform a physical exam and what to look for. If possible, have several goats available so that farmers can practice after you demonstrate.
- 2) **Group discussion:** What does a healthy/sick goat look like? This would be a good time to have small group discussion before you discuss the question with the whole group.

Questions

- 1) What is the first thing to do when examining an animal? (1) *observe it from a distance*
- 2) Tell 3 signs that tell you a goat is sick. (1) *see section in manual on "Assessing Goat Health"*
- 3) Give 3 areas used for body condition scoring. (2) *ribs, backbone, loin*
- 4) How can you tell if an animal has anemia? (3) *pale conjunctiva, bottleneck*
- 5) Name two things you look for when examining the mouth. (3) *sores, missing teeth*
- 6) Name two causes of anemia. (3) *blood loss (by parasites or other causes), malnutrition*
- 7) What do lymph nodes do for the body? (4) *help protect the body against disease*
- 8) Describe two locations where lymph nodes can be easily found. (5) *just under the jaw (submandibular), just in front of the shoulder (prescapular), just in front of the hip (sublumbar), on the sides of the udder (supramammary)*

Sessions 7-9: Goat Disease

The sessions on goat disease should not be used for farmers to memorize the names of diseases. However, farmers should be familiar with common goat diseases. They should know how to recognize if their animals have certain illnesses, and what they can or should do about these illnesses. Remind them that they should have built an isolation area for sick animals and that they should be isolated until they have recovered from the illness. Also, any new animals (whether they appear to be sick or not) should be isolated for two weeks before introducing them to the herd. Focus your sessions mainly on the signs of the common diseases, and on common ways to prevent and control them. Emphasize the importance of good nutrition, cleanliness and proper housing in preventing disease. Also, stress the importance of hand washing after handling livestock. I suggest dividing the diseases like this:

Session 7: Parasites and Diseases Caused by Parasites – In this session, include Parasites (Internal and External), Heartwater and East Coast Fever. Focus most of

your time on Parasites and Heartwater, as these are major problems in goat populations.

Session 8: Zoonotic Diseases (Diseases that can be spread to humans) – In this session, include Soremouth, Caseous Lymphadenitis (CL), Causes of newborn diarrhea, Brucellosis and Tetanus. Emphasize the importance of hand washing in preventing the spread of these diseases to humans.

Session 9: Other Diseases and Conditions of Goats – In this session, include Footrot, Bloat, Mastitis, Foot and Mouth Disease and Pregnancy Toxemia. Focus most of your time on footrot, bloat and mastitis.

Objectives

By the end of these three sessions, farmers will be able to:

- 1) identify the major signs, prevention methods and treatments available for each of the diseases
- 2) be familiar with natural treatments for the relevant diseases or conditions
- 3) understand the importance of good nutrition, proper housing and cleanliness in preventing the spread of disease
- 4) understand the importance of hand-washing after handling animals
- 5) know the signs of disease in humans for the zoonotic diseases and how to prevent them (for example, boiling milk before drinking it prevents Brucellosis in humans)

Activities

- 1) **Questions for small or whole group discussion to start sessions:**
 - a. What are the best ways to prevent disease?
 - b. What are some of the signs you notice when your goats are sick?
- 2) **Playing “vet”.** After you discuss the signs, control and prevention of the diseases during one session, give some descriptions of a sick animal, then ask farmers to discuss in small groups which disease the animal in your description might have. For example, you might say “There is an animal with lumps under the jaw and near the hip. People in the village also have these lumps under their jaws. What disease is this?” You can make this a competition - give points to those groups who answer correctly!

Questions

- 1) Give one way to prevent footrot. (1) *keep dry enclosures (not muddy), trim hooves if necessary, control ticks*
- 2) Which disease is most likely to cause large lymph nodes? (1) *caseous lymphadenitis (CL)*
- 3) True or False: Soremouth sores and scabs are only found on the mouth. (1) *False*
- 4) What are the three best ways to prevent disease? (2) *good nutrition, proper housing, cleanliness (hygiene)*
- 5) Give one natural remedy for internal parasites (worms). (2) *give crushed popo seeds*
- 6) How is East Coast Fever spread between animals? (2) *by ticks*
- 7) Give 3 signs that an animal has parasites. (3) *see section in "goat disease" section of manual on parasites*
- 8) Name two zoonotic diseases that goats can get and give to humans. (3) *soremouth, cryptosporidiosis*
- 9) What do you do if you think an animal has mastitis? (3) *if the kid is over 6 weeks old, stop it from nursing the doe, and the doe will need to be milked out at least 3 times a day until the udder is normal*
- 10) Describe the treatment for bloat. (4) *give cooking oil; get the animal to chew on a stick*
- 11) What is one treatment for footrot? (4) *trim hooves and dip them in kerosene*
- 12) Name two diseases that may cause stiffness or convulsions. (5) *heartwater, tetanus*

Session 10 – Review

Use this session to go over the most important points that farmers should focus on in managing their goats. You might include activities that you did not get to do with your group in earlier sessions, or you could make a competition out of asking review questions. Here are the areas we suggest that farmers focus on in order to improve goat health and increase income from goats:

- 1) Nutrition
 - a. 3 nutrient groups and examples from each
 - b. importance of good nutrition
 - c. protein banks
- 2) Kid-rearing
 - a. Doe/kid confinement

- b. Colostrum or “first milk” (especially during the first hour!)
- c. Doe nutrition

3) Housing

- a. Construction of brick structures
- b. Birthing pen and separate isolation area for sick animals
- c. Feeding trough

4) Breeding management

- a. selecting bucks
- b. castration

5) sick versus healthy goat

6) Parasites

- a. Main signs: bottle neck, anemia and diarrhea
- b. Common available treatments (popo seeds for worms, engine oil and tobacco leaves for ticks)

7) Marketing – especially planning ahead to sell goats at times of year where they will get the best prices

Poultry Health and Management Training Sessions

Session 1 – Introduction and Nutrition

Objectives

By the end of this session, farmers will be able to:

- 1) recognize the importance of poultry management and health in regards to poverty reduction and food security
- 2) make connections between poultry production and other COMACO projects
- 3) explain why good nutrition is important
- 4) identify the three major nutrient categories
- 5) understand what a “supplement” is, and that it is not the animal’s entire diet
- 6) identify examples of poultry diet supplements for each major nutrient category
- 7) understand the importance of dietary supplementation in maintaining poultry health and productivity
- 8) understand the importance of providing clean, fresh water to animals at all times

Activities

- 1) **Creating protein sources for poultry.** Bring the necessary materials for termite or maggot growing. Allow trainees to prepare each one.
- 2) **Supplement sorting.** Bring examples of feed supplements (sorghum, groundnut oil cakes, bones, etc.) to the training. After a discussion on nutrient categories or as a review, have trainees sort the feed supplements into the proper categories. This would be most effective if you divide the group into smaller groups. Have a set of feed supplements for each group to sort, or say “Group 1 send someone to pick up the examples of “energy,” group 2 send someone to pick up the examples of “protein,” etc. Do not correct them as they are choosing or sorting; you will often find that they correct themselves or each other, which is a more valuable learning experience than being corrected immediately when they make a mistake. After they have sorted, discuss with the whole group, making corrections and asking questions to make sure everyone understands which supplements fit where.
- 3) **Examples from the group.** Ask for examples of feed supplements for each nutrient category.
- 4) **Show samples of feed supplements.** Show samples of dietary supplements for chickens.

Session 2 – Housing

Objectives

By the end of this session, farmers will be able to:

- 1) understand why adequate housing is necessary for poultry and livestock in general
- 2) identify the characteristics of an ideal poultry housing facility (e.g. slatted floors, perches, isolation area for sick animals, confinement area for young birds, etc.)
- 3) be familiar with “cafeteria” feeding
- 4) build a “drinker” for poultry
- 5) understand the importance of “creep feeding” for young chicks and know how to build a “creep” feeder

Activities

- 1) **Show examples of structures.** Build a “creep feeder” or basket house before the session so that you can show farmers what these structures should look like. Show them how the spaces between the slats of the creep feeder or only big enough for chicks to enter.
- 2) **Farmers build structures.** Have farmers create a creep feeder for chicks or basket housing for young chicks/hens and/or a drinker. You might have materials ready for them to do this at the session, or you can discuss the designs for each structure and have them construct the structures at home. They can bring them to the next session. Ask them to test the structures out on their animals and see how they work. By bringing the structures to the next session, farmers can view each other’s structures, talk about which materials and designs were easiest to work with, and share new ideas with each other.
- 3) **Build a “drinker.”** Bring the materials needed to make a drinker and show the farmers how to make one. You might use 20 gallon and 10 gallon containers, cutting off the bottom of one to use as the base, and using part of the second container for the part that is placed upside down for the water to drain from.

Session 3 – Poultry Health and Disease

Objectives

By the end of this session, farmers will be able to:

- 1) identify the major signs, prevention methods and treatments available for each of the diseases
- 2) be familiar with natural treatments for the relevant diseases or conditions
- 3) understand the importance of good nutrition, proper housing and cleanliness in preventing the spread of disease
- 4) understand the importance of hand-washing after handling animals

Activities

- 1) **Sick chicken vs. healthy chicken.** Ask participants to identify signs of a sick chicken vs. a healthy chicken. This can be small group discussion followed by a whole group discussion.

Questions

- 1) True or False: Chicks should be let out with their mother to scavenge at one week of age. (1) *False*
- 2) What are the three best ways to prevent disease? (2) *good nutrition, proper housing, cleanliness (good hygiene)*
- 3) What is the purpose of a creep feeder? (2) *to allow the chicks access to high quality feed where the adult chickens cannot reach it*
- 4) Give two sources of vitamin/mineral supplements for chickens. (2) *burned and crushed bones/eggshells, trace mineral salts, bone meal*
- 5) Give two signs of a sick bird and two signs of a healthy bird. (4) *see section in manual for a full list*
- 6) Choose two poultry diseases and describe the main signs. (5)