AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

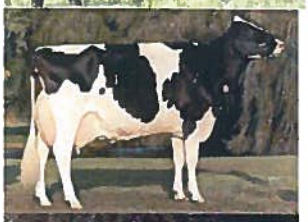
Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

L Q A & E PROGRAM Level II



Livestock Quality Assurance & Ethics for Animal Science Projects

"Decision Making Life Skills through Animal Science Projects"

MINNESOTA 4-H

UNIVERSITY OF MINNESOTA EXTENSION

Minnesota Livestock Breeders' Association

AGSTAR® FINANCIAL SERVICES, ACA

MINNESOTA PORK BOARD

MINNESOTA FOUNDATION FOR RESPONSIBLE ANIMAL CARE frac

Livestock Quality Assurance & Ethics Program for Animal Science Projects

Level II

Table of Contents

Introduction

- Wake Up Calls & Responses
- Moral Development & Youth Livestock Projects
- Authors
- The Curriculum
- Lesson Topics
- State Policy and Certification
- Program Delivery
- Additional Resources
- Alternative Methods for Teaching Youth with Special Needs
- Master Supply List for All Lessons – Check List
- Certificate of Completion

Introductory Lesson	Livestock Quality Assurance and Ethics
Lesson 1	Ethics & Animal Science Projects
Lesson 2	Antibiotics in Animal Agriculture
Lesson 3	Biosecurity
Lesson 4	Food Safety
Lesson 5	Environmental Stewardship
Lesson 6	Managing for Animal Care and Well-Being
Lesson 7	Speaking Up for Animal Agriculture

A joint project of

University of Minnesota Center for 4-H Youth Development, Minnesota Foundation for Responsible Animal Care, Minnesota Pork Board, with financial support from Minnesota Livestock Breeders Association and Ag Star Financial Services

The University of Minnesota and Minnesota Foundation for Responsible Animal Care are equal opportunity educators and employers.

Student work sheets included in this publication may be reproduced for education purposes providing the source is identified. Other potential users may not reproduce, transmit, transcribe, store in a retrieval system or translate into any language or computer language any part of these materials in any form or by any means, without the prior written permission of University of MN, Center for Youth Development, 200 Oak Street SE, Suite 270B, Minneapolis, MN 55455

First Printing – 2005

Second Printing & Revision - 2009

Introduction

THE WAKEUP CALL – ETHICS

The issue of livestock show ethics gained public attention in 1994, as residues of clenbuterol were discovered in animals exhibited at several major livestock shows in the United States. Infractions discovered at State Fairs in Texas, Oklahoma, Ohio, the International Livestock Show in Louisville, Kentucky and the American Livestock Show in Denver served as a "wake-up call" to persons organizing and managing youth shows. These unscrupulous practices not only threaten the future existence of 4-H and FFA youth development programs involving livestock, they also threaten consumer confidence in a safe and wholesome food supply.

THE WAKE UP CALL-QUALITY ASSURANCE (QA)

Food safety is the number one concern of consumers today. Perceptions of safety and wholesomeness play a major role in the buying decisions of an increasingly health concerned and diet conscious consumer. Meat produced in the United States is the safest in the world, and producers want to maintain that standard and continue to provide a quality product.

All species of livestock have a quality assurance program in which professional livestock producers are certified. Species organizations require continuing education for producers to keep up-to-date on new management practices and to maintain their certification.

Producing a safe, quality meat product is not only a concern to professional livestock producers and others in the food supply industry, but it must be an equal concern to the youth participating in a 4-H or FFA project. A 4-H/FFA member may only raise and market (sell) livestock once a year, but that animal is raised for FOOD and goes into the food system. Adopting quality assurance production practices helps to reduce the risk of contaminating the U.S. food supply and the future of youth livestock shows.

RESPONDING TO THE WAKE UP CALLS

Programs in ethics education and quality assurance have been implemented for youth in many states nationwide. One of the leaders in this effort, both as an educator and a researcher, is Dr. Jeff Goodwin, Director, 4-H Youth Development, Colorado State University. Dr. Goodwin has produced a series of educational videos, which are instructional, entertaining, and practical on the topics of ethics and quality assurance. The National Pork Board introduced a Pork Quality Assurance (PQA) program for adults in 1989, and in 2003 initiated a youth PQA certification program which was reintroduced in 2009 as Youth PQA Plus.

MINNESOTA'S RESPONSE

Youth programs in Minnesota have a long history of concern for ethical behavior and quality livestock production. Curriculums in 4-H and vocational agriculture have emphasized best management practices for quality animal care. A policy of zero tolerance for tampering with livestock has been a hallmark of the Minnesota State Fair. Show rules and policies, as well as orientation programs for youth that exhibit at the fair, reflect a genuine concern for fairness, ethical behavior and concern for the welfare of the animal. Keeping the financial rewards of special awards and the livestock auction at a reasonable level encourages ethical behavior.

In 1999, Minnesota Foundation for Responsible Animal Care (MnFRAC) took a leadership role in bringing attention to the critical subjects of Livestock Show Ethics and Quality Assurance at a statewide seminar conducted by Dr. Jeff Goodwin. As a follow-up to that program, a curriculum"Livestock Quality Assurance and Ethics Level I" was produced and implemented statewide. Young producers were required to complete a local training program and would then be certified for 3 years.

In 2002 a Minnesota State Fair Ethics Policy was established requiring all youth participating at the 2002 Minnesota State Fair as 4-H livestock exhibitors to have completed a Livestock Quality Assurance & Ethics

Workshop. This policy has continued to be in place, and interview and skillathon activities at the fair are built on the foundations of this curriculum.

By 2004, most 4-Hers in the initial training program were needing to be re-certified and a team of extension educators, and MnFRAC staff began to design and implement an advanced curriculum.

MORAL DEVELOPMENT & YOUTH LIVESTOCK PROJECTS

Good decision making skills and youth livestock projects can and should go hand in hand. Obvious examples of this would be day-to-day management techniques used to develop livestock projects and problem solving skills a young person uses when he or she places a class of four animals in a judging contest. Additionally, the delivery method commonly used to support livestock projects often evokes an element of competition. Competition, generally speaking, means rules, or at least guidelines – both of which can sometimes be interpreted in different ways by different participants.

Jean Piaget is a widely recognized researcher and one of the first to study the moral judgment of a child. His research can parallel the moral judgment of young people who access animal science projects in 4-H and FFA. One can even compare his research to the choices made by parents of these youth attracted to livestock projects as they together make choices surrounding their projects.

Regardless of the analogy, morality can simply be described within a system of rules. One's morality evolves as they gain varying levels of respect - or lack of respect – for the rules surrounding the "game." It should be remembered that everyone has morals, for they are the inner thoughts we all use to make choices.

Within us all, however, exist a variety of values which drive us through such choices as telling the truth or telling a lie or abiding by the "rules" in the strongest sense or abiding by the rules in a more modified version that better suits one morals and values.

Piaget's research around the moral judgment of youth commonly uses marble games to evaluate children and conduct research. He suggests that young people gain their own moral judgment in four stages.

Stage 1. The **first stage** is purely motor and individual in nature and allows for exploration by the youth with the only rules being those created by that particular young person. In the case of marble games, imagine a one or two year old child experiencing a marble for the first time. The child has absolutely no idea what a marble is or what he/she might do with it. The child picks is up, looks at it and studies it – in the simplest of definitions. The child might drop it, pick it up, roll it or even put it in the mouth. Basically, there are no rules, only exploration.

Liken this stage to a child or a family that knows nothing about youth livestock projects and is experiencing one for the very first time. By comparison, they have no rules. They don't know when the animal should be born, how much it should weigh at fair time, what it should be fed for best performance or what they might do at fair time to prepare the animal for judging. For this family in the beginning, there are no rules and like the child experiencing a marble for the first time, there is only exploration.

Stage 2. According to Piaget there is a great deal of imitating as the child progresses to the **second stage** of moral development. During this stage, we find youthful marble players creating rules that mimic or duplicate fellow players. This stage sees young people playing together, but without trying to "win," because they've not yet created any rules for winning. If the playing partner throws the marble in the air, so might the other marble player(s). If one of the players roll it across the floor or hand it off to another player, so might others. There is no right or wrong way to play the game. Instead, the rules – as limited as they may be – exist because of mimicking and imitating.

Now let's compare this to our imaginary livestock project member or family. They experience the project, but only in a very limited sense. They begin to mimic others who are experiencing the project. They see others choosing animals of a specific birth date and follow suit, not because they immediately know why the animal should be born - they learn that as they progress to stage three. They see others sweeping their aisles at the fair and begin to do the same. They soon realize why they sweep the aisle, but the first time they see the sweeping or duplicate the sweeping, it is most likely because they see others doing it.

Stage 3. Piaget's **third stage** of moral development finds youth realizing that certain marble rules exist and they must publicly follow these rules if they desire to "win." They might know the marble must be shot from behind a certain line or that a specific marble must be knocked out of the circle if they are to win the game. And they make choices that will give them the best shot at winning the game. These choices, it must be noted though, are heavily influenced by others – what they've learned as they have studied the actions and strategies of other players.

In livestock circles, this might be a fairly logical stage for comparison. Livestock youth and their parents commonly imitate others who have won the game ahead of them. They groom and feed livestock and make other management decisions in ways that have commonly been successful for others.

Stage 4. The **fourth stage** of Piaget's research suggests that rules are more fully understood and more commonly agreed upon by the masses. Youth in this stage also begin to realize they have more control in interpreting these rules. They often try to control outcomes through interpretation. In playing marbles, these youth are now the leaders – good or bad. They can influence the rules in public ways and non-public ways to give them the best shot at winning the game.

Similarly, youth livestock projects and outcomes of those projects are heavily influenced by policy makers and the decisions made by youth and their families to utilize best practices to achieve success. Commonly rules and practices are followed as winners are named. But sometimes livestock families use a separate, self developed set of rules and policies created by their own moral judgment to gain a shot at the top award.

If we apply this philosophy and these stages to livestock projects, we can assume that young people are heavily influenced with respect to their moral decision making skills at about the same time they might begin to work with animal projects. Their ability to appropriately know and apply right from wrong is given an early chance to be shaped as they apply guidelines and rules to their animal projects.

Competition can be a livestock projects best friend. It can also be its' worst enemy. It is critical that we get to a high level of consistency and clarity around guidelines and rules that result in winners and losers.

This curriculum deals with decision making and ethics as they relate to youth-based animal science projects. It is designed to use group problem solving and decision making that will result in more continuity and understanding of the process widely recognized to create policies, rules and regulations with youth livestock shows. This curriculum is designed to integrate sound livestock management practices that will help maximize the trust of consumers as they purchase and consume the products derived from livestock projects - products like meat, milk and wool.

A more complete understanding of Piaget's moral judgment research can be found in his book *Moral Judgment of the Child*.

AUTHORS

Curriculum authors and coordinators:

- Juanita Reed-Boniface, Educational Consultant University of Minnesota Extension Educator, 4-H Emeritus
- Bradley Rugg, Program Director, Fairs and Animal Science, University of Minnesota, 4-H Youth Development
- Philip Berg, Instructor, Lamb and Wool Management, MN West Community & Technical College, former University of Minnesota Regional Extension Educator, Pipestone Co.
- Sharon Davis, University of Minnesota, Extension Educator 4-H, Youth Development, Albert Lea
- Shirley Doering, University of Minnesota, Extension Educator, 4-H Youth Development, Mankato
- Dr. Jacqueline Jacob, Poultry Extension Associate; University of Kentucky, former University of Minnesota Extension Specialist Poultry Science
- Dr. Deborah Roeber-Van Overbeke, Assistant Professor Meat and Carcass Evaluation, Oklahoma State University, former University of Minnesota Extension Specialist Meat Science
- Eric Sonnek, Technical Advisor, Ag Production Systems, Stearns County, St. Cloud

- Lori Schott, University of Minnesota, Extension Educator, Livestock, Mora
- Ann Walter, University of Minnesota, Extension Educator, Community Youth Development, Albert Lea
- Trudy Wasweet, Education Director, Minnesota Pork Board

THE CURRICULUM

The purpose of this curriculum is to build on the concepts of Level I Livestock Quality Assurance and Ethics program and to provide a "user friendly" and age appropriate educational package for educators, leaders, teachers and volunteers, and help youth participating in an animal science project to:

- Apply ethical principles and best management practices to produce safe and wholesome food.
- Be aware of the current issues in livestock production that impact quality assurance and best management practices.
- Explore non-exhibiting aspects of the project.
- Apply critical thinking and decision making skills to moral and ethical dilemmas.

USING THE CURRICULUM

Content and Format

The curriculum begins with an overview activity which introduces words and concepts that will be used in the series of lessons. This is followed by a general lesson, "Ethics in Animal Science Projects" and six lessons with "hands-on" activities.

LESSON TOPICS ARE:

- Antibiotic Use in Animal Agriculture
- Biosecurity
- Food Safety
- Environmental Stewardship
- Managing for Animal Care and Well-Being
- Speaking Up for Animal Agriculture

MINNESOTA 4-H LIVESTOCK QUALITY ASSURANCE AND ETHICS POLICY

All youth participating as a State Fair 4-H livestock exhibitor in beef, dairy, sheep, swine, poultry, rabbits, meat and dairy goat and lama must have completed the a Livestock Quality Assurance and Ethics workshop. Certification is good for three fair seasons. The level of training required is determined by the grade of the youth at the time the training takes place.

Note: Since 2006, pre-State Fair age 4-Hers are recommended to be certified. Some counties do, however, require certification of pre-State Fair age 4-Hers for participation at the county fair. It should be recognized that counties policies might be stricter than this state policy.

Certification Levels

This curriculum is designed to be sequential and to meet standards of Youth PQA Plus. To meet these criteria, the following components need to be met.

Grades 3-5

- 4-Hers completing grades 3-5 must be certified in Level I.
  - Certification requirements – Completion of the Level I Ethics lesson and three of the remaining six lessons.

Grades 6-8

- 4-Hers completing grades 6-8 that are certifying for the first time must be certified in Level I.
  - Certification requirements – Completion of the Level I Ethics lesson and three of the remaining six lessons.
- 4-Hers completing grades 6-8 who were previously certified should be certified in Level II (unless parents and 4-H staff agree that developmentally, the child should recertify at Level I).
  - Certification requirements – Completion of the Ethics lesson and three of six of the remaining lessons of the level in which they are certifying.

Grades 9-11

- 4-Hers completing grades 9-11 must certify at Level II.
  - Certification requirements – Completion of the Level II Ethics lesson and three of the remaining six lessons.

Grades 12-13

- 4-Hers completing grades 12-13 have four options:
  1. Certify at Level II
  2. Complete an Animal Science class at a two year or four year accredited college. Documentation of the Animal Science class completion and approval by County 4-H staff prior to the 4-H county fair entry deadline.
  3. 3. Teach a 4-H LQA&E session at a club, county or regional workshop. Documentation of the 4-H LQA&E training and approval by County 4-H staff prior to the 4-H county fair entry deadline.
  4. Contribute in a leadership role at a 4-H animal science project meeting at the club, county or regional level. With this option the 4-Her must submit a brief written summary documenting the workshop. Include:
     - Number of participants
     - Geographic location of 4-Hers reached (club, county, region)
     - Content focus (include agenda or lesson plan and promotional flyer)

- Personal reflection of the event

This documentation must be submitted to and approved by County 4-H staff prior to the 4-H county fair entry deadline. NOTE: The audience must reach beyond siblings and immediate cousins.

Training Requirements

A training – either Level I or Level II – must have a minimum of three contact hours with youth in order to constitute a Certified LQA&E training. Contact time is defined as teaching time and should not include registration, lunch/supper/snacks or breaks.

Certification Monitoring

The 4-H Plus software program is equipped to track LQA&E certification. 4-H staff is expected to monitor certification.

CERTIFICATES

At the completion of the program, each member is awarded a certificate. Camera ready copy is included for duplication.

PROGRAM DELIVERY

Each region/county/school will need to determine the best method of presenting the program. If done on the club level, each lesson could be used as the topic at a project meeting or a monthly club meeting. The program could also be presented county wide at an all day county project meeting or a series of county wide meetings. Counties who have an animal science camp might use this program as the camp learning sessions. It could also be used in multi county or regional animal science programs, especially if enrollment in animal projects is low.

Agricultural education instructors could use the series of lessons as a classroom unit or as special programs with FFA chapters. Junior breed associations could use the program for meetings or conventions.

GUIDELINES FOR IMPLEMENTING THE LOCAL PROGRAM

Work with Regional Extension Educators, program directors, and program coordinators to establish a county or regional planning committee. Members of the committee could include: representatives of county project committees, persons who have been to the training, local veterinarians, producers certified in species QA, regional extension educators, county program coordinators, and older experienced livestock youth.

Tasks for the committee:

- Determine county policy for certification and training. Be clear who is to be certified and when, communicate this to members and leaders. The state guideline requires all animal science members to be certified.
- Set up a record keeping system within the county or region. The 4-H Fair Plus software program is equipped to flag LQA&E certification. Some examples: make a duplicate copy of the certificates and keep one in the county/regional office and have the member keep one or develop a tracking system using the 4-H enrollment program.
- Plan training: determine number and ages of members who will attend, set date, time and place.(ote: Allow 35 minutes minimum for each of the lessons) Share training dates, time and location with neighboring counties.
- Consider offering Level I in the morning and Level II in the afternoon to ease time and travel for facilitators and participants.
- Plan for promotion, registration, meals, registration fees or meal costs.

- Assign teacher/facilitator for each session. The Introductory Lesson and "Ethics in Animal Science Projects" are intended to be taught in a group setting for all in attendance. The remaining lessons are best taught in smaller breakout sessions perhaps in a round robin fashion.
- Many counties have found team teaching to be an effective way to present the smaller breakout sessions.
- Review supplies needed for each lesson, determine how they are to be obtained, paid for, etc.

A few reminders for teachers/facilitators:

- Know your time schedule and organize your presentation and activities accordingly.
- Double check your materials, handouts, etc. so you know you have more than enough.
- If you are team teaching, know who is doing what and practice for a smooth transition between people. (One person can introduce the activity or video/DVD while the other person attends to the equipment or hands out materials) Know who will rewind the video, pick up the extra handouts, etc.
- If you're using AV equipment, be sure your pieces work with the equipment. Have the equipment ready (hooked up, turned on, focused, volume set and at the starting point).
- Reinforce the learning. Be creative, use current situations when possible. Think of industry or public concerns and refer to them in the session. Be a resource in keeping youth current on these.
- Reinforce those smiles and nerves--there may be some of each.
- Have FUN with your groups!! We know you will do a great job!

SUGGESTED SCHEDULE
COUNTY/REGIONAL LIVESTOCK
QUALITY ASSURANCE & ETHICS TRAINING

8:15-8:45 (30 min.)	Registration
8:45-9:45 (60 min.)	General Session Welcome, Introduction Lesson/Activity Ethics
10:00-10:35 (35 min.)	Session I
10:40- 11:10 (35 min.)	Session II
11:15-11:50 (35 min.)	Session III
11:55-12:15 (15 min.)	Evaluation/Final Activity

Total teaching time--3 hours 30 minutes

Instructors:

- Ethics in Animal Science Projects
- Antibiotics in Animal Agriculture
- Biosecurity
- Food Safety
- Environmental Stewardship
- Managing for Animal Care and Well-Being
- Speaking Up for Animal Agriculture

ADDITIONAL RESOURCES AND TEACHING AIDS

Resources and teaching aids are identified at the end of each lesson. Refer to the appendix for a list of additional helps.

ALTERNATIVE METHODS FOR TEACHING YOUTH WITH SPECIAL NEEDS

We all know the old cliché, "Kids come in all shapes and sizes." Kids also come with different abilities. This statement has never been truer in the history of 4-H – we are reaching a much more diverse group of young people than in the past. Each youth is unique in their individual strengths and challenges. Some youth are challenged physically, some mentally and some both physically and mentally. Some challenges are visible and others are not noticeable until we get to know the individual well.

The challenges or disabilities that are not always as noticeable include ADHD, ADD, epilepsy, autism, mild or moderate mental retardation, and numerous learning disabilities specific to individuals. Of course some disabilities are very noticeable, such as physical disabilities, sensory impairments, cerebral palsy, spina bifida and Down syndrome, but everyone is unique in how their disability or challenge affects them. They will have different strengths and challenges.

In 4-H programs, as in all other youth programs, we want learning experiences to be positive and we want to meet the needs of each youth participating.

So, what can we do as educators to make sure that this LQA&E program is inclusive and user friendly for all youth in all ability levels?

It is difficult to answer this question except with general information because each youth and each situation is unique. There is no one "recipe" that will work for all youth with special needs. That is why communication with the youth and their parent is so important. Here are some ideas to think about:

- Make sure that when youth register for the LQA&E program that they identify if they have special needs and what they are specifically. You might add a line on the registration form for parents to fill out about any special accommodations that need to be made to enhance the learning experience for their child.
- Visit with the parent and/or youth with the special needs to determine the best strategy for their learning experience. Talk to the parents about the child's strengths as well as weaknesses.
- Develop the strategy(ies) best suited for the situation and communicate the implementation of these strategies with the LQA&E session trainers.

Here are some examples of alternative methods for teaching youth with special needs:

- When at all possible, have the youth with special needs included in the regular LQA&E program with a youth/adult mentor. This youth/adult mentor would assist the youth with special needs throughout the sessions by clarifying directions for activities, defining terminology used in sessions, assist in performing steps in activities, etc. (see the attached "Tips for Companions: How to Help Your Partner with a Disability Succeed"). It would be important for the mentor to be someone the youth is comfortable with and this mentor should be briefed on specific strategies to use with their partner from the 4-H Regional Extension Educator. **Remember, youth with special needs need to be engaged in their own learning experiences too – things should not be done *to* or *for* them but rather with them!**
- Modify learning activities and materials to be concrete, real, and relevant to the needs of the individual youth. The more structured the session the easier it will be for the youth to follow along.
- Make sure the facilities where you are hosting the program are accessible for the youth's special needs. (Ramps rather than stairs, accessible bathrooms, visuals placed for all to see, etc.). Modify emergency procedures as needed.
- Video tape sessions so that youth with special needs have an opportunity to review the sessions again if needed.
- In some situations it may be best to work with a parent or youth/adult volunteer to conduct a "home study" option with the youth having special needs. The video tapes could be viewed and discussed in the home. Individual sessions and activities could also be facilitated in the home one to one. It would be suggested to break up the sessions over a period of time rather than to do all in one day.

- It is recommended that the parent or youth/adult leader who will be assisting the youth with special needs with his/her animal project attend the training as well. This will make the messages to the youth with special needs consistent in their day to day project work.
- University of Illinois Extension has a great resource on their web site. It will give you specific strategies on how to teach youth with specific disabilities. www.urbanext.uiuc.edu/specialneeds/index.html.
- Another web resource for specific information on working with children and youth with special needs; it will give you information on specific disabilities: www.nncc.org/Diversity/specneeds.page.html.

If you are still feeling uncertain about how to best modify the LQA&E program for youth with special needs contact the youth's school teacher. Special Education teachers are trained in educational methods and know the youth well. They also tend to be the strongest advocates for their students with the exception of parents. Your local ARC (Association for Retarded Citizens) also is a good resource in working with youth having special needs.

WHY INCLUSION IS IMPORTANT

Our government has clearly mandated, and for good reasons, that we must develop ways to enable people with disabilities to exercise their right to be fully participating members of the communities in which they live. Community programs like 4-H play a vital role in fulfilling the mandate of inclusion.

WHAT DOES IT MEAN TO BE FULLY INCLUDED IN A COMMUNITY?	
• Opportunities	• Belonging
• Contributing	• Making choices
• Participating	• Being needed
• Being respected	• Cooperating
• Acceptance	• Feeling Useful
• Taking risks	• Happiness
• Friendship	• Freedom
• Success	• Confidence
• Security	• Being valued

WHAT DOES IT MEAN TO BE EXCLUDED FROM A COMMUNITY?	
• Rejection	• Viewed as different
• Discrimination	• Denied opportunity
• Denied participation	• Being ignored
• Feeling weird	• Feeling inferior
• Being alone	• Feeling powerless
• Anger	• Resentment
• Sadness	• Frustration
• Fear	• Depression

TIPS FOR MENTORS

How to Help Your Partner with a Disability Succeed

1. **Help your partner get started:**
   Engage them in conversation about the workshop, their animal project and how the workshop will affect their future project work.

2. **Help your partner feel good about doing an activity with you:**
   Encourage your partner to engage in the activity with you by saying something like, "Oh, we can do this!"
   Reward success or partial success by saying something like, "Hey, Chris, that was a good try" or "You did it!"

3. **Help your partner do things as independently as possible:**
   If the steps in an activity are obvious and within your partner's capabilities, invite your partner to go ahead on his/her own. Then, if assistance is needed, do the following . . .
   Verbally instruct your partner, saying something like, "Chris, put the syringe needle in the orange deeply and inject." Sometimes your partner at this point won't get into the activity. If this happens try the following . . .
   Verbally instruct and demonstrate: "Chris, watch me inject the orange. See?" Demonstrate and then reposition the materials for your partner saying, "Chris, now you try it." If your partner needs more help than this, try the following . . .
   Verbally instruct and physically guide: "Chris, let's do this injection together." Gently nudge your partner's arm toward the materials. If your partner doesn't continue the movement on his/her own, take your partner's hand gently and assist in doing the complete injection. Then reposition the materials, saying, "Okay, Chris, now you do it by yourself."

4. **Help your partner handle frustration and recover from failure:**
   Respond to accidents *calmly*: reposition materials for another try.
   Correct your partner *gently* if he/she misbehaves toward you, saying "no" firmly but calmly. Provide a second chance. If misbehavior continues, ask the adult leader or educator for assistance. Do not try to discipline your partner; that is the role of the adult leader or parent.

5. **Help your partner to a good activity ending:**
   Say pleasant things about the activity and interaction as the session wraps up.

TIPS FOR ADULT LEADERS

- Read the activity plan prior to the activity and check that all materials and a good working space are available.
- Make sure that materials and tools are laid out for safe and easy access.
- Check that the position of each participant with a disability is close to his/her partner.
- Adapt the activity for the ages and ability levels of participants and particularly for the characteristics of participants with disabilities.
- Prompt (cue) cooperative interactions when they are not occurring, e.g., "Mike and Dave, would you work together as partners on this next activity."
- Reward cooperative interactions when they are occurring, e.g., "Sue and Alice, you did a really good job working together during that activity."
- Redirect when someone is off task and step in if a situation is deteriorating.
- As an activity ends, say something pleasant to participants.

WORKING WITH SECOND LANGUAGE LEARNERS

(Source: American National Cattle Women Education Handbook)

All over the United States there are eager learners, but they don't speak English as proficiently as you were hoping. Sometimes the situation or strategies used are call ESL (English as a Second Language) or ELD (English Language Development) or any other term that an individual state may create. It is all the same; they just need some assistance in comprehension.

Please remember that social language development is very different and is much more accelerated than cognitive classroom language behaviors. The interaction you see on the playground is not what you will see in the classroom.

When you go into a classroom, you usually have a set of learning goals. With ESL students, they may have different goals based upon their level of language development. There has been created a 5 step sequence of development, defined by behaviors:

Level 1	Generally a silent stage, they sit there and listen, but may not verbally participate. This is an acquisition stage, where they are soaking up everything you say. It is more a vocabulary than a concept goal.	Use vocabulary and illustrate it with pictures or things. Act out the verbs you use.
Level 2	The start of language production. They start putting one or two words together; they are actually starting to process in English, but only after mental translation from their native language.	These students will want to practice their new vocabulary. Allow them to participate with identification questions and one or two word answers. Not many concepts will be discussed here.
Level 3	Concept develop is starting. These students use short sentences and phrases. They begin to put ideas together. Many of these students are still mentally translating. This is also the stage where reading and writing would be appropriate.	Ask them how things are alike or different. Ask them about sequences. Use sequential words like "first, second".

Level 4	Now they are thinking and talking in English. They are able to express their cognitive ideas.	The main idea is easiest for ESL students to ascertain; the devil is in the details. Make sure you pay attention to positional words like "in" and "on" (they don't always hear the different vowel sounds).
Level 5	I think this represents even our English speaking children. Refinement is needed.	Ask them why and how questions. Model correct grammar and vocabulary choices.

When in a group of students, there are some other general strategies to remember:

- Do not yell at them, just speak slower. Enunciation is really important but not to the point of distortion.
- Language learning includes lip reading, so do not turn your back to write on the board, as you talk to them. Facial clues really help (happy, sad, scared, quizzical).
- Use as many aides a possible (pictures, models, actions).
- Keep the sequences simple and uncomplicated.
- Have opportunities for nonverbal responses like stand-up, sit-down, nod your head, thumbs up, and thumbs down.
- Do not overload them with too much stimuli; give them time to process, translate, and communicate. Too much can become distracting and the idea will be lost.
- Label everything you bring in. Sometimes if they see the word, then they create a base for it. If they just rely upon auditory input, they may inadvertently change it.

These tips are just for the oral presentations. Each culture has idiosyncrasies that may be interesting. Some may be very quiet and nonresponsive out of respect. Some may be verbose and overwhelming. Some may not be comfortable looking you in the eye. Just go with your instincts, have fun, and teach them that we are not the cowboys in the "shoot-em-up westerns."

MASTER SUPPLY LIST FOR ALL LESSONS

Introductory Activity

- Flipchart, chalk board or placards with terms
- Dry erase boards (EPR) for each participant

Ethics and Animal Science Projects

- Case study statements-one per participant of those selected
- Video/DVD – "A Question of Ethics"
- VCR/DVD and monitor for video
- International Association of Fairs and Expositions National Code of Ethics
- Minnesota State Fair 4-H Premium Books
- Species Information Sheets
- County Premium Lists and Rules

Antibiotic Use in Animal Agriculture

- Dry erase boards (EPR) for each participant and marking pens
- Tags from feed for a variety of different animals – duplicate examples-one per participant
- Flip charts and permanent markets

Biosecurity

- Biosecurity Lesson PowerPoint (download from http://www.fourh.umn.edu/programs/AnimalScience/): computer and projector
- Blackboard or easel with paper
- Management Practice Cards-one set for each group of 4 participants
- Copies of Power Point Worksheet-one per participant
- Copies of Biosecurity case studies-one for each group of 4 participants
- Copies of Biosecurity plan worksheets--one per participant

Food Safety

- What Part of Oink Don't You Understand CD Kit
- Poster paper or flip chart
- Notebook or scratch paper
- Dry erase boards (EPR) for each participant and marking pens
- Markers or pens
- Tape
- Copies of the Hazard Hunt worksheet-one for each participant
- Copies of the study guide--Government Agencies one per participant
- Copies of the case studies selected for discussion (at least one copy for each small group)

Environmental Stewardship

- News articles that attest to how livestock production impacts on our environment.
- Two or more samples of animal manure, corn silage, wool or bedding animals have been on or common household products: vinegar, onion, orange or ammonia
- FeBreeze or other air freshening product
- Copies of local zoning regulations/ordinances related to livestock – one per participant or one per small group.
- Oil Spill Demonstration (optional)
    - 3 baby food jars with lids or other clear containers light oil (baby oil or a light cooking oil), motor oil and water
    - small cake pan
    - wool felt fabric cut in 4"X4" pieces
    - eye dropper

Managing for Animal Care and Well-Being

- PowerPoint (download from http://www.fourh.umn.edu/programs/AnimalScience/): Managing for Animal Care and Well-Being Lesson, computer and projector
- Copies of MNFRAC Animal Care Guidelines Poster-one for each participant
- Animal Traceback Activity 3 and Worksheet 1 –one per each participant
- Animal Traceback Activity 3 and Worksheet 2-one per each participant
- Breeding Record Activity 4 and Worksheet 1-one per each participant
- Breeding Record Activity 4 and Worksheet 2-one per each participant
- Breeding Record Activity 4 and Worksheet 3-one per each participant
- Flip chart and markers

Speaking Up for Animal Agriculture

- Flip chart or white board
- Pictures of Exhibitors at fair--one set of 10 pictures for each group of youth.
- Markers
- Hand-out/worksheets-enough for each participant
- PowerPoint (download from http://www.fourh.umn.edu/programs/AnimalScience/): Speaking Up for Animal Agriculture, computer and projector
- Power Point Worksheet- one per each participant

CERTIFICATE OF COMPLETION

for

MN Quality Assurance / Livestock Ethics Program

Level II

This certificate is awarded to

Minnesota Foundation for Responsible Animal Care Date

University of Minnesota Extension Service Date

MINNESOTA FRAC FOUNDATION FOR RESPONSIBLE ANIMAL CARE

Minnesota Livestock Breeders' Association

MINNESOTA 4-H

UNIVERSITY OF MINNESOTA EXTENSION

Date of Completion	Trainer Signature	
		Lesson 1 Ethics in Animal Science Projects • Identify practices that enhance the performance and "look" of the animal and practices that "step over" the boundaries of ethical behavior. • Apply problem solving strategies to enforce codes of ethics for youth livestock shows. • Utilize group problem solving skills.
		Lesson 2 Antibiotic Issues • Define antibiotics and how they work • Understand the reasons to use, or not to use antibiotics when raising animals and the risks and concerns with the use of antibiotics when raising food animals. • Know alternative to the use of antibiotics • Identify principles and guidelines for the responsible use of antibiotics
		Lesson 3 Biosecurity • Define and identify major components of biosecurity. • Identify appropriate biosecurity management practices and procedures. • Develop biosecurity plan for a scenario livestock enterprise.
		Lesson 4 Food Safety • Debate who has the responsibility for food safety. • Identify three hazard types • Understand concept of HACCP plan • Describe functions and responsibilities of United States Department of Agriculture and Food Safety Inspection Service. • Identify measures in place on farms to contribute to wholesome, safe food supply. • Discuss current food safety issue.
		Lesson 5 Environmental Stewardship • Identify environmental concerns. • Be aware of state regulations related to raising livestock. • Identify ways in which grazing animals and confinement animals are contributors to environmental programs.
		Lesson 6 Managing for Animal Care and Well-Being • Understand the importance of observation and interaction when providing animal care • Recognize animal care guidelines and identify management practices involved. • Understand importance of record keeping to animal agriculture and gain skills in record keeping
		Lesson 7 First Impressions, Telling Our Story • Understand what constitutes a first impression. • Analyze ways to make good first impression. • Identify information needed about an audience. • Gain skills in planning a presentation and shaping the message for success. • Understand current issues and challenges in animal agriculture and strategies being used to meet these challenges and interpret to the media.

Introductory Lesson

Livestock Quality Assurance and Ethics

Juanita Reed-Boniface, Educational Consultant

Livestock Quality Assurance and Ethics

BACKGROUND INFORMATION

This series of Livestock Quality Assurance and Ethics lessons is intended to introduce young producers to some of the current issues in livestock production that impact quality assurance and ethics. The topics and activities will build on the lessons in Level I which emphasized specific management practices that are to be used for positive and responsible animal production. In contrast to Level I, Level II focuses on issues that may not always have a right or wrong answer. The goal is to help the young person use critical thinking and decision making skills to analyze and study an issue in order to decide the best way to approach the issue in relation to his/her own animal project.

As a result, the lessons in Level II feature more small group discussion and decision making activities. Decision making is a deliberate process that one goes through when faced with a choice of more than one course of action. It includes the following five steps:

1. **Defining and describing the problem.**
   What do you think the problem is?
   How do you see the problem?

2. **Brainstorming for solutions.**
   What are possible ways to solve the problem? Share and build on the ideas of each other.

3. **Looking at the consequence for each solution.**
   What would it cost in dollars, time or other resources?
   What good things would come out of doing this?
   Is it an acceptable management practice?
   How would we feel about the solution?
   How would others feel about it?
   What could go wrong?
   What are the risks? Can we afford to take the risks?

4. **Making a decision.**
   What solution will you try?

5. **Evaluating that decision.**

Decision making is a step by step process of defining the problem, seeking possible solutions, mentally testing these solutions for appropriateness to your situation and the problem, selecting a course of action, and reflecting on the results to determine how to proceed in the future.

LEARNER OUTCOMES

Participants will become familiar with some of the topics and terms that will be used in Level II lessons.

TIME SCHEDULE

- 15-20 minutes

SUPPLIES NEEDED

- flip chart, chalk board or placards with the following words:

  Antibiotics, Antibiotic Resistance, Biosecurity, Infectious agents, Avian influenza, HACCP (Hazard Analysis and Critical Control Point), Environmental Stewardship, Salmonella, FSIS (Food Safety and Inspection Service), First Impressions, Industry Jargon, Ethics/Ethical Behavior.
- Dry Erase boards (EPR) for each participant.

LESSON PLAN

I. Introduction

Welcome participants to the workshop. Give a brief background on The Livestock Quality Assurance & Ethics Program

- This is part of a program started in 1999 in Minnesota to respond to industry quality assurance guidelines and concerns for ethical practices in livestock shows.
- Level 1 introduced in 2001-2 which certified youth for three years, Level II introduced in 2004, studies current issues in livestock production that impact on quality assurance and ethics. Topics will build on the things you learned and have been practicing in Level I.
- Completion of this series of lessons will certify you for another three years.

II. Word Association Activity

A. Display the following terms (one at a time) on a chalkboard, flip chart, placard, computer, etc.)

Using Dry Erase boards, ask the group to share their first thought or response for each item: for example BSE responses might be: mad cow disease, Cow that Stole Christmas, Oprah Winfrey, Canadian border closed)

B. Encourage quick responses, and limit discussion--this is not intended to stimulate discussion or questions, but to serve as a "warm up" activity to help participants transition from other activities and focus on the topics for the day.

C. Terms:

- Antibiotics
- Antibiotic Resistance
- Biosecurity
- Infectious agents
- Avian Influenza
- HACCP --(Hazard Analysis and Critical Control Point)

- Environmental Stewardship
- Salmonella
- FSIS (Food Safety and Inspection Service)
- First Impressions
- Industry Jargon
- Ethics/Ethical Behavior

D. Conclude the activity by telling the group that these are some of the topics that they will be learning about in their workshops during the day.

- Acknowledge that some of them have had personal experience with these topics, encourage them to share their experiences and to ask questions.
- Remind them to LEARN and HAVE FUN.

Lesson 1

Ethics and Animal Science Projects

Bradley W. Rugg, 4-H Director, Fairs and Animal Science
Center for 4-H Youth Development

Ethics and Animal Science Projects

BACKGROUND INFORMATION

Moral decision making skills begin almost at birth. Research indicates that one of the valuable life skills attained through Animal Science projects is that of decision making. However, it is not a given that all choices made by youth with respect to Animal Science projects are good choices. Our only guarantee is that choices will be afforded youth. An expected outcome of this lesson is that youth will be better equipped to make moral choices. A similar parallel can be drawn for role models. Youth with Animal Science projects will have role models. But positive role models are not a given.

This lesson is designed to complement and support the "A Question of Ethics" video/DVD. This video should be reviewed prior to the activity. The activity also utilizes the International Association of Fairs and Expositions National Code of Show Ring Ethics (IAFE). This document is a resource to and is part of this lesson. Other 4-H resources that are specie specific include the Minnesota State Fair 4-H Premium Books, Specie Information Sheets, Animal Science Show Requirements and county premium lists and rules. These documents should also be reviewed.

LEARNER OUTCOMES

Participants will be able to:

- Identify practices that enhance the performance and "look" of the animal.
- Identify practices that step over the boundaries of ethical behavior and violate codes of ethics.
- Apply problem solving strategies to enforce the code of ethics that are standards for youth livestock shows.
- Utilize group problem solving skills that simulate leadership responsibilities and roles in local settings.

SUPPLIES NEEDED

- Case Study statements – one per participant of those selected
- "A Question of Ethics" video/DVD
- VCR/DVD and monitor for video (appropriate size for size of room and group)
- Resources noted above – IAFE Code of Show Ring Ethics – one for each participant

TIME SCHEDULE

The video takes about 20 minutes to view. The small discussion groups will work for about 10-12 minutes with case studies. The total group discussion that convenes later will fill the remaining time. Thus, the total activity could last 45 - 60 minutes.

LESSON PLAN

I. Introduction

Give a brief introduction of the topic which might include:

A. Importance of ethics in Animal Science youth programs

B. A review of the Level 1 Livestock Quality Assurance and Ethics Lesson 6. Review the four questions raised in that lesson which indicate whether an action or activity is appropriate. Those questions include:

1. Does it violate FDA laws?
2. Is it fraud?
3. Is the animal's welfare compromised?
4. Is it real world agriculture?

C. Briefly review the International Association of Fairs and Expositions National Code of Show Ring Ethics. Indicate it is the basic document used to guide ethics in youth Animal Science Shows in Minnesota

D. Remind the group that with 4-H membership comes certain expectations on what is and what is not appropriate.

II. Activity

A. Begin a list of issues that the audience has heard of that question moral decision making skills. The suggestions on the list should be things where a decision on the moral appropriateness of the action was questioned and consequences were considered. Begin with a list that is broader than youth livestock shows. The list may include things like what was done to an athlete caught drinking during the sports season or a prank that got out of hand or student that asked for special consideration to make up a test because of a death in the family.

B. Make a second list that is more youth livestock show specific. For example, the situation might have happened at a 4-H event. The prank might have been an annual initiation done to new state fair participants. And, the special consideration might have been requested on county fair judging day so that the youth can move on to State Fair.

C. Do not judge each item you list or debate consequences that might have been enacted.

D. Introduce and show "A Question of Ethics" video/DVD.

1. Introduction: This video addresses the rare case of unethical practices associated with youth shows. Purpose of the video is twofold: To explain that the vast majority of people involved with youth shows will not tolerate the unethical practices of a few and to remind all involved that the *real* purpose of the program is youth development.
2. Show Question of Ethics video/DVD.
3. After video/DVD ask:

a. Why do we have Junior or Youth Livestock Shows? (Answer is youth development).

b. If you didn't agree with the video/DVD what might you say? (Answers: cause a fuss, too controversial, not tough enough, professional fitters aren't all bad, tranquilizers used for safety).

III. Discussion

A. Break your audience into groups of 5 to 7. Duplicate copies of the case studies and give each group a case study. Depending on the size of your group, you may have more than one group working with each case study. You will note that each case study indicates the role of the group and the rule that guides the situation.

B. Ask each group to develop a plan to address the situation provided in each case study. The questions provided in each can serve as framework for their discussion. Give the groups about 5-7 minute to discuss and develop a plan.

C. Ask each group to read the situation in their case study to the entire group and report their recommendations. If your group is large enough such that more than one group has a case study, be sure to allow time for each additional group to add to the report.

It is not critical that all case studies be discussed in depth. As the facilitator, do a thorough job on your favorite case study and divide the remaining time between the remaining case studies.

D. There is no right or wrong plan on each situation. Rather, the facilitator should guide the discussion and make suggestions that promote honesty, integrity, fairness and, above all, positive youth development.

E. Conclude by reminding the group of the power of group problem solving AND the importance of sound moral judgment as it relates to youth animal science programs.

CASE STUDY 1 – COUNTY FAIR GRIEVANCE

Your Role:

You are a member of the grievance committee chosen by the Regional Educator and Program Coordinator to deal with County Fair issues that arise. The committee is comprised of one representative from each of the nine State Fair Species.

Scenario:

A grievance has been filed during the county fair. The grievance alleges that two rabbit exhibitors that have won trips to State Fair did not complete the required Livestock Quality Assurance and Ethics Training. The grievance indicates that the exhibitors (who are brothers) attended a training, but left after only about 30 minutes of the three hour session.

The Rule:

All State Fair 4-H Livestock exhibitors must have completed Minnesota 4-H Quality Assurance and Ethics Training.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decisions?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

CASE STUDY 2 – HERDMANSHIP

Your Role:

Your county has a herdsmanship committee for county fair. It is managed by an adult volunteer with membership of two youth from each specie.

Scenario:

It has been brought to your attention by several judges that one of the largest clubs in the dairy goat barn has consistently low herdsmanship scores. They are concerned that the filthy aisles, dirty goats and very messy tack area is posing an image problem for 4-H

The Rule:

Herdsmanship for each club exhibit will be evaluated twice each day of the county fair. The basis for scoring is printed in the county fair premium book. Awards will be given to the top two exhibits in each specie and stalling preference for next year's county fair will be based on this year's herdsmanship scores.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decisions?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

CASE STUDY 3 – MARKET LAMB IDENTIFICATION

Your Role:

You are the youth co-chair of the Sheep Project Development Committee in your county. Besides the adult co-chair, there are six other (three youth and three adult) members of the committee.

Scenario:

The Regional Educator and the Program Coordinator request a meeting with you and the adult co-chair. It has been brought to their attention that a sheep exhibitor in your county has supposedly identified a market lamb that is hitting the jackpot show circuit in a neighboring state. The animal is allegedly being exhibited and shown there by a 4-Her from that state.

The Rule:

All animals exhibited must be owned solely by the 4-Her or owned jointly by agreement with parent/guardian. Leased animals are also permitted in some project areas.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decisions?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

CASE STUDY 4 – SWINE OWNERSHIP

Your Role:

You are a 4-H swine exhibitor.

Scenario:

Your best 4-H friend also loves the swine project. Thanks to him you started attending bowl and judging activities. You made the county livestock judging team and seem to have an inherit ability to remember livestock. You and your friend follow each others exhibits. On your most recent summer visit you were shocked to see that there was a new barrow in his pen you are sure you have never seen before. It is a very good animal!

Although you talked at length about how good he was, you were reluctant to tell your friend of your almost positive feelings that the barrow is new and probably not tagged until recently.

The Rule:

All 4-H swine projects must be identified by May 15.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decisions?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

CASE STUDY 5 – ALLEGED PAYLEAN USE IN SWINE

Your Role:

You are a member of the Swine Program Development Committee in your County. There are 4 youth members and 5 adult members to the committee. The 4-H Program Coordinator and the Extension Educator also have representation on the committee.

Scenario:

A very competitive swine family has come to the county fair with another outstanding group of market hogs. They are always at the top end of the State Fair line-up. A couple of the barrows in their string appear to be under a higher-than-normal amount of stress. Their respiratory rate seems to be excessive. Several swine members from the club have confirmed that one of the kids from the family told his friends on the club tour that their show pigs were being given Paylean to hopefully give them the edge. Everyone suspects they must be feeding the product in excess of the labeling requirements. Your 4-H staff has brought this issue to the PDC for advise and guidance.

The Rule: You are unsure of Paylean dosage requirements and are also unsure of the amount, if any, that was administered by this family.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decision?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

CASE STUDY 6 – POSSIBLE PETA (PEOPLE FOR THE ETHICAL TREATMENT OF ANIMALS) AT YOUR COUNTY FAIR

Your Role:

You are on the 4-H Livestock Advisory Committee in your county.

Scenario:

Yours is a fairly small livestock county, but it has a fairly large population. Thus, the livestock barns are a popular place for "city" folks. Some interesting things have been happening today in the county fair livestock barns. That is a small group of people that nobody knows are spending time in the barns asking 4-Hers "strange" questions. They asked a dairy exhibitor why he didn't have water in front of his heifer on this hot summer day. And they asked a poultry exhibitor why she had to crowd three birds into that very small cage. This group is taking a lot of pictures. Several 4-H families fear this is only the beginning of more to come as they heard the group talking about the media reporters and over heard something about putting up the bumper stickers.

The Rule:

You are unaware of any rule about this matter, but you have taken the LQA&E training and are aware of the need to be responsible livestock producers.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decision?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

CASE STUDY 7 – LAMB DIES AT THE COUNTY FAIR

Your role:

You are a dairy exhibitor.

Scenario:

It is the night before the dairy show and since you are the oldest junior leader in your club, you are busy doing last minute clipping of your animals and are about to milk your last cow so that she will have the right amount of milk in her udder for tomorrow's show. It is nearly 1AM. You hear a commotion in the sheep barn. The sheep show was yesterday and no one seems to be around so you decide to do a little investigating. Somebody's lamb got its' head caught in the gate and has strangled itself! The sheep appears to be dead.

The Rule:

Time is of the essence. You don't know of any rule, but certainly feel the need to do something fast. All kinds of possibilities race through your mind.

The Plan:

- What is your plan?

- Who will you involve?

- What information will you need from others to support your decision?

- What questions will you ask and of whom will you ask them?

- Are there recommendations for rule clarifications or changes?

HANDOUT

IAFE National Code of Show Ring Ethics

(International Association of Fairs and Expositions)

Exhibitors of animals at livestock shows shall at all times deport themselves with honesty and good sportsmanship. Their conduct in this competitive environment shall always reflect the highest standards of honor and dignity to promote the advancement of agricultural education. This code applies to junior as well as open class exhibitors who compete in structured classes of competition. This applies to all livestock offered in any event at a livestock show.

All youth leaders working with junior exhibitors are under an affirmative responsibility to do more than avoid improper conduct or questionable acts. Their moral values must be so certain and positive that those younger and more pliable will be influenced by their fine example. Owners, exhibitors, fitters, trainers and absolutely responsible persons who violate the code of ethics will forfeit premiums, awards, and auction proceeds and shall be prohibited from future exhibition in accordance with the rules adopted by the respective fairs and livestock shows. Exhibitors who violate this code of ethics demean the integrity of all livestock exhibitors and should be prohibited from competition at all livestock shows in the United States and Canada.

The following is a list of guidelines for all exhibitors and all livestock in competitive events:

1. All exhibitors must present, upon request of fair and livestock show officials, proof of ownership, length of ownership, and age of all animals entered. Misrepresentation of ownership, age, or any facts relating thereto is prohibited.
2. Owners, exhibitors, fitters, trainers, or absolutely responsible persons shall provide animal health certificates from licensed veterinarians upon request by fair or livestock officials.
3. Junior exhibitors, their family members, or other 4-H members are expected to care for and groom their animals while at the fairs or at livestock shows, in accordance with grooming rules in the 4-H State Fair Premium Book.
4. Animals will be presented to show events where they will enter the food chain free of drugs. The act of entering an animal in a livestock show is giving of consent by the owner, exhibitor, fitter, trainer and/or absolutely responsible person for show management to obtain any specimens of urine, saliva, blood, or other substances from the animal to be used in testing. Animals not entered in an event which culminates with the animal entering the food chain shall not be administered drugs other than in accordance with applicable federal, state and provincial statues, regulations and rules. Livestock shall not be exhibited if the drugs administered in accordance with federal, state and provincial statutes, regulations and rules affect the animal's performance or appearance at the event.

   If the laboratory report on the chemical analysis of saliva, urine, blood, or other sample taken from livestock indicates the presence of forbidden drugs or medication, this shall be prima facie evidence such substance has been administered to the animal either internally or externally. It is presumed that the sample of saliva, urine, blood, or other substance tested by the approved laboratory to which it is sent is the one taken from the animal in question, its integrity is preserved and all procedures of said collection and preservation, transfer to the laboratory and analysis of the sample are correct and accurate and the report received from the laboratory pertains to the sample taken from the animal in question correctly reflects the condition of the animal at the time the sample was taken, with the burden on the owner, exhibitor, fitter, trainer, or absolutely responsible person to prove otherwise at any hearing in regard to the matter conducted by the fair or livestock show.

   At any time after an animal arrives on the fair or livestock show premises, all treatments involving the use of drugs and/or medications shall be administered by a licensed veterinarian, except in breeding classes for sound management practices such as mastitis or pneumonia control.

5. Any surgical procedure or injection of any foreign substance or drug or the external application of any substance (irritant, counterirritant, or similar substance) which could affect the animal's performance or alter its natural contour, confirmation, or appearance, except external applications of substances to the hoofs or horns of animals which affect appearance only and except for surgical procedures performed by a duly licensed veterinarian for the sole purpose of protecting the health of the animal, is prohibited. The exception is that dairy exhibitors may treat for mastitis.
6. The use of showing and/or handling practices or devices such as striking animals to cause swelling, using electrical contrivance, or other similar practices are not acceptable and are prohibited. The use of drenching, mechanical pumping devices, or other abnormal methods to administer water or fluids to animals will not be permitted, except for veterinarian approved treatments for dehydration.
7. Direct criticism or interference with the judge, fair or livestock show management, other exhibitors, breed representatives, or show officials before, during, or after the competitive event is prohibited. In the furtherance of their official duty, all judges, fair and livestock show management, or other show officials shall be treated with courtesy, cooperation, and respect and no person shall direct abusive or threatening conduct toward them.
8. No owner, exhibitor, fitter, trainer and/or absolutely responsible person shall conspire with another person or persons to intentionally violate this code of ethics or knowingly contribute or cooperate with another person or persons either by affirmative action or inaction to violate this code of ethics. Violation of this rule shall subject such individual to disciplinary action.
9. The application of this code of ethics provides for absolute responsibility for an animal's condition by an owner, exhibitor, fitter, trainer or participant whether or not he or she was actually instrumental in or had actual knowledge of the treatment of the animal in contravention of the code of ethics.
10. The act of entering an animal is the giving of consent by the owner, exhibitor, fitter, trainer, or absolutely responsible person to have any disciplinary action taken by the fair or livestock show against such individuals published in any publication of the International Association of Fairs and Expositions, including *Fairs and Expositions* and any special notices to members.
11. The act of entering an animal in a fair or livestock show is the giving of verification by the owner, exhibitor, fitter, trainer, or absolutely responsible person that he or she has read the IAFE National Code of Show Ring Ethics and understands the consequences of and penalties provided for actions prohibited by the code. It is further a consent that any action which contravenes these rules and is also in violation of federal, state, or provincial statutes, regulations, or rules may be released and is also in violation of federal, state, or provincial statues, regulations, or rules may be released to appropriate law enforcement authorities with jurisdiction over such infractions.

EXHIBITOR ENTRY STATEMENT

I have read and understand, consent to, and agree to abide by the IAFE (International Association of Fairs and Expositions) National Code of Show Ring Ethics as stated in the premium list of this event. A copy may be obtained for your records on request from show organizer.

_____ _____

Exhibitor Date

(owner, exhibitor, fitter, trainer, or absolutely responsible person)

_____ _____

Guardian or Parent of the above Signator Date

Lesson 2

Antibiotic Use in Animal Agriculture

Dr. Jacqueline Jacob
Poultry Extension Associate
University of Kentucky
and
former Animal Scientist Poultry
University of Minnesota
and
Juanita Read-Boniface, Educational Consultant

Antibiotic Use in Animal Agriculture

BACKGROUND INFORMATION

Antibiotics are used to improve animal health and productivity. You, the animal caregiver, make important decisions about how antibiotics are used in food producing animals. Antibiotics should be used prudently to ensure they are effective, do not leave residues in food and will continue to benefit man and animals in the future.

What are antibiotics?

Antibiotics are compounds produced naturally by various living organisms, such as yeast or fungi. They have a natural ability to kill bacteria or control bacterial growth that causes infections. These naturally occurring compounds have been adapted for use in human and veterinary medicine. It is important to note that antibiotics do not work against viruses.

Antimicrobials are substances that include antibiotics but also include synthetic agents that are created in a laboratory and work in the same manner as antibiotics. Antibiotics and antimicrobials are both types of medication and the term antibiotic is often used to describe antibiotics and antimicrobials.

How do they work?

Antibiotics have different modes of action and are effective against some bacteria and not against others. The range of bacteria that are affected by an antibiotic is expressed as the antibiotic's spectrum of action. Antibiotics that will kill or inhibit a wide range of bacteria are said to be *broad spectrum*. If the antibiotic is effective against only a specific class of bacteria it is said to be *narrow spectrum*. If the antibiotic is effective against only a single disease or organism it is said to have *limited spectrum*.

Why Do we Use Antibiotics in Animal Health?

Antibiotics are used for disease treatment, disease prevention or to improve nutritional efficiency.

How are antibiotics used in food animals?

Antibiotics are often fed to food animals to control or prevent bacterial diseases. When antibiotics are included in the feed or water to treat a disease, they are being used at *therapeutic levels*. Lower amount of antibiotics are needed to prevent and control disease than are needed for treatment of a disease. When they are used to control or prevent, rather than treat, a disease they are being used at *sub-therapeutic levels*.

Because food animals are typically raised in groups, one sick animal exposes the others to illness. Antibiotics are used to treat the sick animals and to prevent and control the spread of disease within the herd or flock.

Antibiotics are also used to maintain the health of animals for better productivity. To do this, low does of antibiotics are added to the feed. The result is increased feed efficiency and increased average daily gain for more rapid and efficient growth.

Why are there concerns over the use of antibiotics in food animals?
For over 50 years antibiotics have been used in animal feed at low levels to promote growth and prevent illness. Because antibiotics have become a part of our daily existence, animal producers may no longer give much thought to their use, and this leads to situations where antibiotics may get misused. When misused, the consequences can be serious.

Two issues have developed as a result of this practice—*antibiotic residues and antibiotic resistance.* These are two distinct issues although many people including the media often confuse the two.

Antibiotic residues
The presence of antibiotic residues in meat, eggs or milk is a concern to antibiotic-sensitive individuals. For these people, an allergic response to an antibiotic can be life threatening. To avoid the possibility of these residues in food products, the U.S. Food and Drug Administration (FDA)

- establishes maximum antibiotic levels that can be used in animal feeds and a minimum time interval between the last use of antibiotics and the slaughter of treated animals (withdrawal period.) and
- develops acceptable tolerances for antibiotic residues in meat and other animal products sold for human consumption. These regulations allow for elimination of the antibiotic from the meat before animals are slaughtered. Similar regulations exist for milk and egg production.

Two agencies are responsible for controlling antibiotic residues in meat, poultry, and egg products: USDA's Food Safety and Inspection Service (FAIS) and FDA. As stated earlier, the FDA establishes maximum permissible levels for antibiotic residues and foods. The FSIS enforces these tolerances through its various control programs, including random testing of animals at slaughter. The FDA hands out penalties for infractions.

When you use a drug to treat your animal is your responsibility to make sure that the drug is withheld from the animal for the recommended period prior to slaughter or the sale of milk or eggs. If the drug is not approved by the manufacturer for use in food animals, specific withholding information is not available, and the drug should be used only as prescribed by a veterinarian. Involving your veterinarian when deciding when and how to use antibiotics will help ensure that you are making the proper medication decisions. This is a part of your VCPR plan.

USDA routinely inspects meat, poultry and egg products for residues that exceed tolerance levels. The inspectors seldom find residues that exceed safe levels. The controversy with the use of antibiotics in food animals involves antibiotic resistance of bacteria, not antibiotic residues.

Antibiotic resistance
Some bacteria are naturally more resistant to a particular antibiotic than others due to their genetic make-up. Whenever a population of bacteria is exposed to antibiotics, the susceptible bacteria dies (or does not grow) and the resistance bacteria will survive and multiply. The more a population of bacteria is exposed to an antibiotic, the greater the chance the population will develop resistance to that antibiotic. When bacteria develop resistance to certain antibiotics it becomes difficult to treat infections caused by these bacteria. A few species of bacteria have

already become resistant to many or all currently available antibiotics making treatment impossible and such infections can be fatal.

Many factors lead to antibiotic resistance. Some bacteria are naturally resistant to certain antibiotics and this resistance can be transferred from one type of bacteria to another. Bacteria naturally develop resistance over time by random changes in their genetic makeup (i.e., mutations).

Antibiotic resistance is a complex problem and currently there is no agreement in the scientific community on what role agriculture plays. There has been increased focus on the use of antibiotics as 'growth promotants' – the sub-therapeutic use of antibiotics to prevent or control infections so that food animals grow more efficiently. Use as a growth promotant usually means feeding the antibiotics to livestock at low levels for long periods. High levels of antibiotics used for short periods will kill more bacteria, including the slightly resistant ones. Low levels of antibiotics are believed to promote the survival of resistant bacteria, especially when fed to animals for long periods. Resistant bacteria can be transferred to humans through direct contact with livestock or through consuming contaminated meat or vegetable products (contaminated by manure spread as fertilizer). Some bacteria found in livestock that do not cause disease in humans can pass their resistant genes onto bacteria that do which allows the problem to spread more rapidly. Some people believe food passes resistant bacteria to humans.

Antibiotics are widely used in human medicine, fish, fruit and vegetable farming and personal health care products; therefore, animal agriculture is just one possible source. Disinfectants and antibacterial products may also contribute to the problem. As already stated, many of the resistance problems have been the result of the use/abuse of antibiotics in humans. Also, many of the resistant bacteria causing problems in humans are only found in humans and not in livestock.

In 1999, 10 federal agencies and departments, led by the Department of Health and Human Services, formed a task force to tackle the problem of antimicrobial resistance. Co-chaired by the Center for Disease Control (CDC), the FDA, and the National Institutes of Health, the task force developed a plan of action. The success of this plan--issued in 2001 and known as the Public Health Action Plan to Combat Antimicrobial Resistance--will depend on the cooperation of many entities, such as state and local health agencies, universities, professional societies, pharmaceutical companies, health-care professionals, agricultural producers, and the public.

LEARNER OUTCOMES

Participants will

- Be able to define antibiotics and how they work
- Understand reasons to use or not to use antibiotics when raising animals
- Understand the risks and concerns with the use of antibiotics when raising food animals
- Know alternatives to the use of antibiotics
- Identify the principles and guidelines for the responsible use of antibiotics.

SUPPLIES NEEDED

- Dry Erase Boards (EPR) and marking pens
- Tags from feed for a variety of different animals worksheets, one per participant
- Flip Charts and permanent markers.

TIME SCHEDULE

- 30-45 minutes

LESSON PLAN

I. Discovering what they know---

Introduce the topic of antibiotics. Use the following questions to discover what the participants already know and to reinforce definitions and principles.

. Have participants respond using the EPR whiteboards or standing if the answer is TRUE

1. Antibiotics are made from molds or bacteria (TRUE)

2. Antibiotics can be used in food animals to improve nutritional efficiency (TRUE)

3. Antibiotics can be used as a method of good management (FALSE) Antibiotics should be used to supplement good management.

4. Antibiotics can be given through food, water or injection (TRUE)

5. Antibiotics are only used for the treatment of illness. (FALSE) they are also used for disease prevention and for increasing feed efficiency.

6. What are two methods of delivering antibiotics? (Injection, Feed, Water)

7. Taking steps to ensure biosecurity can also help present illness or disease in your animals. (TRUE)

8. It is okay to treat all animals with antibiotics, even if they are not at risk.
   (FALSE) Limit antibiotic use to ill or at-risk animals.

9. It is okay to use human antibiotics for your livestock without justification.
   (FALSE) Such decisions should be consulted with your vet, along with careful review and justification.

10. It is all right if a healthy animal finds and eats medicated feed. (FALSE)
    Medicated feed should be stored in a place where animals cannot eat it.
    However, if healthy animals do eat medicated feed be sure to follow withdrawal times or test for medication residue if you are unsure of the withdrawal time and medication residue level.

11. Implementing biosecurity measures may decrease the need for antibiotics. (TRUE)

II. How are antibiotics used in animal production?

A. Introduction – The purpose of this activity is for the participants to become familiar with what antibiotics are, what antibiotics do and to determine whether or not they are using antibiotics in their feed. Pass out feed tag worksheets one per participant (if working by specie groups, use worksheet for that specie)

Have participants identify information on the feed label noting medicated feed ingredients.

1. Discussion
   - What are examples of antibiotics in the feeds?
   - What are they used for? (Distinguish between therapeutic and sub-therapeutic)
   - What species of animals routinely use sub-therapeutic levels of antibiotics in their feed (use feed tags as examples)

2. Background information on the antibiotics mentioned in the feed tags supplied:

- Oxytetracycline belongs to a group of antibiotics called tetracyclines. It is known as a bacteriostat since it inhibits the ability of bacteria to grow rather than killing the bacteria. Oxytetracycline has the ability to inhibit the growth of a wide variety of bacteria. It works by interfering with the production of proteins that the bacteria need to multiply and divide.
- Neomycin is an aminoglycoside. These antibiotics have the ability to kill a wide variety of bacteria. Neomycin works by binding to components in the bacterial cell involved in the production of proteins that are necessary for the bacteria's survival. This interference results in the production of abnormal proteins causing the death of the bacteria.
- Carbadox is an antimicrobial drug used in the feed of swine for growth promotion, improved feed efficiency, increased rate of weight gain and to control swine dysentery and bacterial swine enteritis. It was first approved in the 1970s but has since been shown to cause cancer in laboratory animals. When fed to swine Carbadox is metabolized or transformed over a relatively short period of time and it is on this basis that withdrawal periods were established. Carbadox remains in use in the U.S., but is banned in other countries (Australia and the EU).
- Monensin is an antiprotozoal agent produced by Streptomyces cinnamonensis. It is in the group of ionophores. This group of drugs is not used in human medicine. Monensin was first introduced as an aid in the prevention of coccidiosis in poultry. Today it is also used as a feed additive to promote increased feed efficiency in cattle.
- Zinc bacitracin is a dried precipitated fermentation product obtained by culturing Bacillus licheniformis on special media. Zinc bacitracin is found in a number of products used for human medicine, including Neosporin and Polysporin. Bacitracin is a drug used to increase the rate of growth and feed efficiency in poultry. Bacitracin has a gram-positive spectrum of activity. It does not have any effect on gram-negative bacteria that commonly cause

B. Review importance of reading labels and feed tags carefully. noting ingredients and withdrawal times. Remember to identify animals treated, accurately recording the

treatment, date and treatment dose, as well as following prescribed withdrawal times. Be sure to have a working relationship with a licensed veterinarian. Taking advice from anyone who is NOT highly acquainted with your operation and the proper use of animal health products could jeopardize your project and livestock.

III. Risks and concerns with the use of antibiotics when raising food animals?

A.Define and discuss antibiotic resistance and antibiotic residue.

- What is the difference?
- Why are these terms confused?
- How do we avoid antibiotic residues?

IV. Good Management and Antibiotic Use

The purpose of this activity is to have participants think about the importance of good management to minimize antibiotic use and to use antibiotics safely.

Divide the participants into groups, preferably by species.

The groups brainstorm, using flip charts to take notes, on what strategies they can use so that they can reduce or eliminate the need for antibiotics

Examples include: daily observation, biosecurity plans, proper hygiene, vaccinating, litter/bedding management, housing, nutrition, water, isolating sick animals.

Have groups come back together and report on what they discussed.

Teaching points:

- Have a herd health plan with a system of care to prevent common diseases
- When animals are sick, make an accurate diagnosis. This insures antibiotics will be used to treat the appropriate symptoms.
- Determine advantages/disadvantages of using antibiotics. Are they the most appropriate option?
- Use antibiotics only when benefits are measurable.
- Always use professional veterinary input (VCPR) as basis for all medication decision-making.
- Treat the appropriate animals. Limit therapeutic antibiotic treatment to those animals that are sick or are legitimately at-risk of becoming sick.
- Keep good records and follow treatment plan

V. Big ideas/Take Home Messages

A. Antibiotics are an important tool for animal well-being.
B. Follow responsible antibiotic use guidelines
C. Consult your veterinarian before using antibiotics
D. Implement a herd health plan to help reduce the need for antibiotics
E. Remember: It is your responsibility to use antibiotics properly.

SOURCES:

Youth Pork Plus, Lesson 3, National Pork Board, 2008

Irwin, Smith, Ebako, Ensley, Griffin, Wholers, Guidelines for the Prudent Use of Antibiotics in Food Animals, Nebraska Neb Guide, G 1485

Schott, Lori and Weddingham, Brian, "Antibiotic Use, Biosecurity, and Beef Quality Assurance", University of Minnesota Beef Home Study Course, Lesson 4., 2008

Ebner, Paul, Antibiotic and Hormone Use in Livestock Production, Purdue University, Livestock and Poultry Environmental Learning Center Webcast Series, 2008

ONLINE SOURCES OF INFORMATION

Animation of antimicrobial resistance:

www.fda.gov/cvm/antiresistvideo.htm.

Judicious Use of Antimicrobials for Beef Producers

www.fda.gov/cvm/fsi/JUBEEFPR.pdf

Judicious Use of Antimicrobials for Dairy Producers

www.fda.gov/cvm.fsi/JUDAIRYPR.pdf

Judicious Use of Antimicrobials for Pork Producers

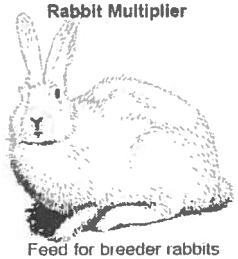
www.fda.gov/cvm/fsc/JURPORKPR.pdf

Judicious Use of Antimicrobials for Poultry Producers

www.fda.gov/cvm/fsi/JUPOULPR.pdf

YOUR NAME FEEDS

Rabbit Multiplier



Feed for breeder rabbits

Guaranteed Analysis

Crude Protein, minimum	18.0%
Crude Fat, minimum	2.0%
Crude Fiber, minimum	11.0%
Crude Fiber, maximum	16.0%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.85%
Salt, minimum	0.85%
Salt, maximum	1.35%
Vitamin A, minimum	2000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Forage Products, Roughage Products, Molasses Products, Dicalcium Phosphate, Monocalcium Phosphate, Salt, Manganous Oxide, Zinc Oxide, Ferrous Carbonate, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Riboflavin Supplement, Choline Chloride, Niacin, Biotin, Vitamin E Supplement, Cobalt Sulfate Folic Acid, Ethoxyquin (a preservative), Calcium Iodate, Artificial Flavor.

FEEDING DIRECTIONS

Feed as the complete ration to rabbits during gestation and lactation. Provide fresh water at all times.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Tennessee Jed's
Pasture Horse Mineral

For maintenance of horses

Guaranteed Analysis

Calcium, minimum	12.0%
Calcium, maximum	14.0%
Phosphorus, minimum	12.0%
Salt, minimum	4.5%
Salt maximum	5.5%
Copper minimum	860.0 ppm
Selenium, minimum	0.2 ppm
Zinc, minimum	3400.0 ppm
Vitamin A, minimum	80,000 IU/LB

Ingredient Statement

Calcium Carbonate, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Molasses Products, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Vitamin A Supplement, Processed Grain By-Products, Choline Chloride, Animal Fat, Ethoxyquin (a preservative), Sodium Selenite.

FEEDING DIRECTIONS

Feed free-choice at an approximate rate of 2 oz/head/day. Provide fresh water and white salt free-choice.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Duck Starter

A starter feed for ducks

Guaranteed Analysis

Crude Protein, minimum	22.0%
Crude Fat, minimum	4.0%
Crude Fiber, maximum	6.0%
Calcium, minimum	0.65%
Calcium, maximum	1.15%
Phosphorus, minimum	0.5%
Salt, minimum	0.35%
Salt, maximum	0.85%

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Animal Protein Products, Calcium Lignin Sulfonate, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), L-Lysine, Dl-Methionine, Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Vitamin E Supplement, Menadione Sodium Bisulfite Complex (source of Vitamin K Activity), Folic Acid, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite.

FEEDING DIRECTIONS

Feed as sole ration. Provide fresh water at all times.

Do not feed to cattle or other ruminants.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Tennessee Jed's Horse Feed

For maintenance of horses

Guaranteed Analysis

Crude Protein, minimum	12.0%
Crude Fat, minimum	3.0%
Crude Fiber, maximum	12.0%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.65%
Copper, minimum	20 ppm
Selenium, minimum	0.20 ppm
Zinc, minimum	40 ppm
Vitamin A, minimum	7000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Molasses Products, Calcium Lignin Sulfonate, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Vitamin E Supplement, Folic Acid, Ground Limestone, Dicalcium Phosphate, Copper Sulfate, Manganous Oxide, Magnesium Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Carbonate, Salt, Potassium Chloride.

FEEDING DIRECTIONS

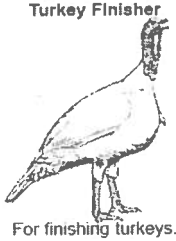
Feed 1/2 to 1 lb. of feed per 100 lbs. of body weight per day for the maintenance of horses.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Pilgrim's Choice
Turkey Finisher



For finishing turkeys.

Guaranteed Analysis

Crude Protein, minimum	17.0%
Lysine, minimum	0.80%
Methionine, minimum	0.35%
Crude Fat, minimum	3.0%
Crude Fiber, maximum	4.0%
Calcium, minimum	3.0%
Calcium, maximum	4.0%
Phosphorus, minimum	0.65%
Salt, minimum	0.35%
Salt, maximum	0.85%

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Calcium Lignin Sulfonate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), L-Lysine, DI-Methionine, Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Vitamin E Supplement, Menadione Sodium Bisulfite Complex (source of Vitamin K Activity), Folic Acid, Ethoxyquin (a preservative), Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite

FEEDING DIRECTIONS:

Feed as the complete ration to turkeys greater than 16 weeks being fed for market.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

401's Special
SHEEP FEED

For breeding ewes

Guaranteed Analysis

Crude Protein, minimum	15.0%
(This includes not more than 3.5% equivalent crude protein from non-protein nitrogen)	
Crude Fat, minimum	2.0%
Crude Fiber, maximum	20.0%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.35%
Salt, minimum	0.35%
Salt, maximum	0.85%
Copper, minimum	5.0 ppm
Copper, maximum	10.0 ppm
Selenium, minimum	0.3 ppm
Vitamin A, minimum	7000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Roughage Products, Urea, Ammonium Sulfate, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Vitamin E Supplement, Copper Sulfate, Folic Acid, Ethoxyquin (a preservative), Calcium Carbonate, Dicalcium Phosphate, Monocalcium Phosphate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Potassium Chlorate, Sodium Selenite.

FEEDING DIRECTIONS:

Feed as the only source of grain to breeding ewes. Feed at a rate of 2-3 lbs per/head/day. Supplement with forages and free choice minerals

YOUR NAME FEEDS
City, State, Zip
NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Start-Her
Grower 2

Heifer Developer
Medicated

For dairy replacement heifers greater than 12 months old on pasture.

For increased rate of weight gain.

Active drug ingredient

Monensin	750 grams / ton

Guaranteed Analysis

Crude Protein, minimum	34.0%
Crude Fat, minimum	4.0%
Crude Fiber, maximum	4.0%
Acid Detergent Fiber, max	5.6%
Calcium, minimum	2.8%
Calcium, maximum	3.8%
Phosphorus, minimum	1.7%
Salt, minimum	0.35%
Salt, maximum	0.85%
Selenium, minimum	0.9 ppm
Vitamin A, minimum	70,000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Dried Whey, Calcium Lignin Sulfonate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), L-Lysine, Vitamin E Supplement, Folic Acid, Ethoxyquin (a preservative), Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite.

USE DIRECTIONS.

Do not feed undiluted. See reverse side for mixing and feeding directions.

CAUTION: See reverse side.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

USE DIRECTIONS

Mixing directions: Must dilute prior to feeding. Mix:

Corn	1400 pounds
Oats	200 pounds
Start-Her	300 pounds
2:1 Mineral	50 pounds
Bulky Sweet	50 pounds
total	2000 pounds

Resulting mixture will contain 56.2 mg/lb of monensin.

FEEDING DIRECTIONS:

For increased rate of weight gain, feed at a rate of 50 to 200 mg monensin/head/day in not less than 1 lb of feed or, after Day 5, feed at a rate of 400 mg/head/day every other day in not less than 2 lb of feed. Example: feed the 56.2 mg/lb monensin mixture at a rate of 3.5 lb/head/day to supply 200 mg monensin.

CAUTION: Do not allow horses or other equines access to feed containing monensin. Ingestion of monensin by horses has been fatal. Monensin medicated cattle feed is safe for use in cattle only. Consumption by unapproved species may result in toxic reactions. Feeding undiluted or mixing errors resulting in high concentrations of monensin has been fatal to cattle. Must be thoroughly mixed in feeds before use. Do not feed undiluted. Do not exceed the levels of monensin recommended in the feeding directions as reduced average daily gains may result. Do not feed to lactating dairy cows.

SIDE 2

YOUR NAME FEEDS

EGGO
Medicated

For laying hens.

For improved feed efficiency and increased egg production

Active drug ingredient

Bacitracin Zinc	20 grams / ton

Guaranteed Analysis

Crude Protein, minimum	18.0%
Lysine, minimum	0.75%
Methionine, minimum	0.35%
Crude Fat, minimum	2.0%
Crude Fiber, maximum	4.0%
Calcium, minimum	3.40%
Calcium, maximum	4.40%
Phosphorus, minimum	0.65%
Salt, minimum	0.35%
Salt, maximum	0.85%

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Calcium Lignin Sulfonate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), L-Lysine, Meat and Bone Meal, Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Vitamin E Supplement, Menadione Sodium Bisulfite Complex (source of Vitamin K Activity), Folic Acid, Ethoxyquin (a preservative), Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite.

FEEDING DIRECTIONS.

Feed as the complete ration to hens laying eggs for human food. Provide fresh water at all times.

Do not feed to cattle or other ruminants.

YOUR NAME FEEDS
City, State, Zip

YOUR NAME FEEDS

Big Pig No. 20
Medicated

Starter feed for pigs
For increased rate of weight gain
and improved feed efficiency.

Active drug ingredient

Carbadox	0.002% (20 grams / ton)

Guaranteed Analysis

Crude Protein, minimum	20.0%
Lysine, minimum	1.2%
Crude Fat, minimum	4.0%
Crude Fiber, maximum	4.0%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.65%
Salt, minimum	0.35%
Salt, maximum	0.85%
Selenium, minimum	0.1 ppm
Zinc, minimum	150 ppm

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Dried Whey, Calcium Lignin Sulfonate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), L-Lysine, Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Vitamin E Supplement, Folic Acid, Ethoxyquin (a preservative), Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite.

FEEDING DIRECTIONS

Feed as the complete ration to pigs weighing 11 to 44 pounds.

WARNING: Do not feed to swine within 42 days of slaughter.

CAUTION: Not for use in pregnant swine or swine intended for breeding purposes.

YOUR NAME FEEDS
City, State, Zip
NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Beefy T
Pasture Mineral

A mineral supplement for cattle on pasture

Guaranteed Analysis

Calcium, minimum	11.0%
Calcium, maximum	13.0%
Phosphorus, minimum	6.0%
Salt, minimum	20.0%
Salt, maximum	22.0%
Magnesium minimum	1.0%
Potassium minimum	2.0%
Copper minimum	460 ppm
Selenium, minimum	0.2 ppm
Zinc, minimum	2300 ppm
Vitamin A, minimum	100,000 IU/LB

Ingredient Statement

Dicalcium Phosphate, Monocalcium Phosphate, Salt, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Magnesium Mica, Cane Molasses, Copper Sulfate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Iron Oxide, Animal Fat, Choline Chloride, Biotin, Thiamine Mononitrate, Copper Oxide, Manganese Sulfate, Vitamin E Supplement, Mineral Oil, Sodium Selenite.

FEEDING DIRECTIONS

Feed free-choice at an approximate rate of 4 oz./head/day to beef cattle on pasture. Provide fresh water at all times.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Starter Calf Feed
Medicated

Starter feed for dairy replacement heifers

For control of coccidiosis caused by *Eimeria bovis* and *Eimeria zuernii*

Active drug ingredient

Lasalocid	30 grams /ton

Guaranteed Analysis

Crude Protein, minimum	16%
Crude Fat, minimum	4%
Crude Fiber, maximum	4%
Acid Detergent Fiber, max.	5.6%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.65%
Selenium, minimum	0.2 ppm
Vitamin A, minimum	7000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Urea, Calcium Lignin Sulfonate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Vitamin E Supplement, Folic Acid, Ethoxyquin (a preservative), Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite

FEEDING DIRECTIONS.

Each pound of Start-Her contains 15 mgs of lasalocid. Hand feed enough Start-Her to provide 1 mg per 2.2 pounds of body weight. (i.e. provide 4.5 lb. to a 150 lb. animal) Maximum rate of 350 mg per day.

CAUTION: The safety of lasalocid in unapproved species has not been established. Do not allow horse or other equine access to feeds containing lasalocid, as ingestion may be fatal.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Dairy Mineral

For lactating dairy cattle

Guaranteed Analysis

Calcium, minimum	9.1%
Calcium, maximum	10.9%
Phosphorus, minimum	3.2%
Salt, minimum	11.2%
Salt, maximum	13.4%
Sodium minimum	12.0%
Sodium maximum	14.0%
Magnesium minimum	4.0%
Potassium minimum	0.65%
Selenium, minimum	0.3 ppm
Vitamin A, minimum	100,000 IU/LB

Ingredient Statement

Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Calcium Lignin Sulfonate, Animal Fat, Molasses, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), L-Lysine, Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochlonde, Vitamin E Supplement, Folic Acid, Ethoxyquin (a preservative), Sodium Selenite, Sodium Bicarbonate

FEEDING DIRECTIONS

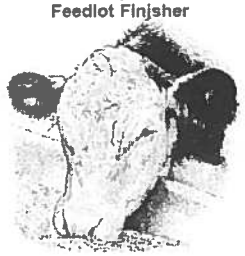
Hand feed 8 oz./head/day or mix with grain at a rate of 50 lbs./ton. Feed each cow 20 lbs. of grain mix/day.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

Beefy T
Feedlot Finisher



For feedlot cattle

Guaranteed Analysis

Crude Protein, minimum	12%
(This includes not more than 3.5% equivalent crude protein from non-protein nitrogen)	
Crude Fat, minimum	2%
Crude Fiber, maximum	10%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.65%
Salt, minimum	11.0%
Salt, maximum	13.2%
Potassium, minimum	6.40%
Vitamin A, minimum	10,000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Urea, Calcium Lignin Sulfonate, Animal Fat, Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Vitamin E Supplement, Folic Acid, Ethoxyquin (a preservative), Ground Limestone, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite.

FEEDING DIRECTIONS

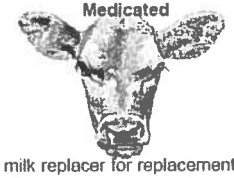
Feed as the complete grain ration.
Provide forages and fresh water.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

YOUR NAME FEEDS

20/20
Calf Milk Replacer
Medicated



Herd milk replacer for replacement calves
Aid in prevention of bacterial enteritis (scours)

Active drug ingredient

Oxytetracycline	50 grams /ton
Neomycin base	100 grams / ton

Guaranteed Analysis

Crude Protein, minimum	20.0%
Crude Fat, minimum	20.0%
Crude Fiber, maximum	0.2%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.65%
Vitamin A, minimum	35,000 IU/LB

Ingredient Statement

Dried Skimmed Milk, Dried Milk Protein, Whey, Animal Fat (preserved with Ethoxyquin), Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Vitamin E Supplement, Folic Acid, Biotin, Ascorbic Acid, Copper Sulfate, Manganous Oxide, Zinc Oxide, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Sodium Selenite, Sodium Silico Aluminate, Natural and Artificial Flavors.

FEEDING DIRECTIONS:

Provide calf with colostrum as soon as possible after calving. Mix only enough milk replacer for one feeding at a time. Mix 2 measures (8 oz of dry powder) with 2 quarts of fresh water, feed twice per day. Increase quantities of mixed feed with weight of calf.

WARNING: Withdrawal 30 days before slaughter.

Do not use in calves to be processed for veal.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

Customer Formula feed

Sugar Magnolia Feeds®
100 W. Mill Street
City, State Zip

Name of Customer: **Sold:** May 13, 2001

Dairy Ridge Farm
W234S3159 Ridge Rd.
City, State Zip

Feed Products: **Net Weight:** 4000 pounds

44% Soybean Meal	1700 LB
Brewers Dried Grain	800 LB
Corn Distillers Grain	700 LB
Whole Cotton Seed	300 LB
Ground Limestone	200 LB
Sugar Cane Molasses	150 LB
ABC White Salt	100 LB
Your Name Dairy Premix	50 LB

Directions for Use - (if required with the use of a drug or special purpose feed additive)

Brand Name

Product Name

Purpose Statement & (medicated claim if required)

Drug Guarantee

Guaranteed Analysis

Ingredient Statement

Use Directions

Precautionary Statement (if required)

Responsible Party's Name & Address

Quantity Statement

YOUR NAME FEEDS

Bucketful Dairy Concentrate

For lactating dairy cattle

Guaranteed Analysis

Crude Protein, minimum	38.0%
(This includes not more than 3.5% equivalent crude protein from non-protein nitrogen)	
Crude Fat, minimum	4.0%
Crude Fiber, maximum	4.0%
Acid Detergent Fiber, max	5.6%
Calcium, minimum	0.8%
Calcium, maximum	1.3%
Phosphorus, minimum	0.65%
Selenium, minimum	0.3 ppm
Vitamin A, minimum	7000 IU/LB

Ingredient Statement

Grain Products, Plant Protein Products, Processed Grain By-Products, Urea, Calcium Carbonate, Animal Protein Products, Dicalcium Phosphate, Salt, Copper Sulfate, Manganous Oxide, Zinc Oxide Vitamin A Supplement, D-Activated Animal Sterol (source of Vitamin D3), Monocalcium Phosphate, Riboflavin Supplement, Choline Chloride, Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Ethoxyquin (a preservative), Niacin, Ferrous Sulfate, Cobalt Carbonate, Calcium Iodate, Vitamin E Supplement, Sodium Selenite

FEEDING DIRECTIONS

Mix 400 lbs of Bucketful into 1600 lbs of shell corn, feed as sole grain ration, feed 14 lbs of this mixture to a 1200 lb cow.

YOUR NAME FEEDS
City, State, Zip

NET WT 50 LB (22.67 kg)

Activity 1 Answer Key
Feed Labeling

Medicated Feed Labeling

The following information must be included if the feed is medicated.

1. The word "Medicated" directly below the product name.
   - Printed in type no less that one-half the type size of the product name.

For example:

Calf Starter
Medicated

2. The medicated claim for each drug contained in the feed product.
   - This is a statement that clearly explains the purpose of each and every drug included in the feed.

For example:

"For increased rate of weight gain"

   - FDA must approve this claim for this specific drug, dose, species and class of animal.

3. The name and level of the active drug ingredients.
   - This must be the established, common or usual name. Not the drug trade or brand name.

4. The guaranteed level of active drug present in the finished feed product.

For example:

"Lasalocid Sodium .....100g/ton"

5. If an antibiotic is present in a quantity less than 2000 grams per ton, the drug guarantee should be expressed in "grams per ton."

6. If an antibiotic is present in a quantity greater than 2000 grams per ton, the drug guarantee should be expressed in "grams per pound" or as a percentage

7. Milligrams per pound may be used for drugs or antibiotics in lieu of a percentage, when indicated dosage on label is in mg/pound.

8. Directions for safe and effective use
   - See page 13 for specific requirements for use directions and precautionary statements for medicated feeds.

   - For specific information regarding medications and their specific uses see the following resources:

     1. 21 CFR Section 558, Federal Food and Drug Administration
     2. Feed Additive Compendium, Miller Publishing Minnetonka, MN 55343
     3. Feed label of medicated ingredients used to manufacture your specific feed.
     4. FDA's Center for Veterinary Medicine web site: http://dil.vetmed.vt.edu/

Lesson 3

Biosecurity

Eric Sonnek
Technical Advisor, Agriculture Production Systems
University of Minnesota
&
Juanita Reed-Boniface
Educational Consultant

Biosecurity

BACKGROUND INFORMATION

All livestock producers should be concerned with biosecurity. The goal of biosecurity is to protect animals from disease. This is accomplished through disease resistance and preventing, minimizing or controlling cross-contamination of body fluids (feces, urine, saliva, respiratory secretions, etc. either directly animal to animal or indirectly-such as animal to feed to animal or from animal to equipment to animal. Biosecurity management practices are designed to prevent the spread of disease by minimizing the movement of biologic organisms, such as viruses, bacteria, rodents, etc. within (internal biosecurity) or onto (external biosecurity). Biosecurity can be very difficult to maintain due to the complex relationships between management, biologic organisms and biosecurity.

Infectious diseases can be spread between livestock operations by:

A. Introduction of animals that are
   - diseased
   - recovering from diseases but are now carriers
   - healthy but incubating disease

B. Other animal and pests
   - Non-livestock animals such as horses, dogs, cats
   - Wildlife and pests such as rodents, birds, and insects. Rats and/or mice can carry many diseases.
   - Feral livestock

C. People (including visitors and employees) and their clothing/shoes, etc. who move between farms/ranches
   - Vehicles and equipment –disease pathogens may be present on vehicles or equipment, for example borrowing a scale from your neighbor or sharing show equipment
   - Carcasses of dead livestock that have not been disposed of properly
   - Feedstuffs, especially high-risk feedstuffs, which could be contaminated with feces
   - Impure water
   - Air– wind and air movement transmits some pathogens.

Biosecurity has five major components:

A-RITS

1. Assessment 2. Resistance 3. Isolation 4. Traffic Control 5.Sanitation

When these five components are effectively managed one of the principle biosecurity objectives – prevention or minimization of cross contamination of body fluids directly from animal to animal, or indirectly such as animal to feed to animal or animal to equipment to animal is met.

Assessment-involves a general evaluation for the potential for contamination of livestock from outer/outside livestock, wild animals, pests, contaminated feedstuffs, equipment, etc.

Resistance-refers to an animal's ability to reject or contend with an infectious agent. An animal's resistance involves proper nutrition and minimizing stress as well as selecting and administering appropriate vaccines.

Isolation-means prevention of contact between animals within a controlled environment. The most important first step in disease control is to minimize comingling and movement of livestock.

Traffic control-includes traffic entering an operation and traffic patterns within an operation. Traffic includes more than vehicles. All people, animals, (domestic and feral) including horses, dogs, cats, wildlife, birds and pests such as rodents and insects are part of traffic control.

Traffic control may include individual animal testing, or herd testing, for some diseases, purchasing animals from herds that have a verifiable quality vaccination program would be important.

Design traffic control within the operation to stop or minimize contamination of animals, feed, feed handling equipment and other equipment used with livestock on the farm.

Clean and disinfect vehicles and employees who travel from the mortality/dead livestock area.

Sanitation addresses the cleaning and disinfection of materials, people and equipment entering the operation and their cleanliness on the operation. Remove organic matter, especially feces, to prevent contaminants from entering the oral cavity of livestock.

Equipment or feed which may contact livestock's oral cavity should be a special target. Any equipment used that goes into the mouth should be cleaned, before use. Keep loaders used for manure or mortality handling cleaned and disinfected before using with feedstuffs.

No matter the size or scope of a livestock operation, a biosecurity plan—a set of steps to prevent the spread of infectious agents in your animals—needs to be in place.

Youth with only 4-H or FFA animals, may question the need for a biosecurity plan.

Project animals are constantly moving between groups. Animals are placed in a building and possibly share the same watering area, washing area, and showing area. Co-mingling can occur in transport or at shows. Members need to be aware of biosecurity issues and use good production management practices to protect animals from disease.

LEARNER OUTCOMES

Participants will be able to:

- Define biosecurity
- Identify major components of biosecurity
- Identify appropriate biosecurity management practices and procedures
- Develop a biosecurity plan for their 4-H project

SUPPLIES NEEDED

- Blackboard or Easel with Paper
- Copies of Biosecurity Case Studies one for each group of 4 participants
- Copies of Biosecurity Plan Worksheets one for each participant
- Management Practice Cards-one set for each group of 4 participants
- PowerPoint (download from http://www.fourh.umn.edu/programs/AnimalScience/):, computer and projector
- Dry erase boards and markers (EPR)

LESSON PLAN

I. Introduction

Using the dry erase white boards, ask participants the following questions---

1. Biosecurity includes keeping diseases from entering a herd, or keeping a disease already in one or more animals from intensifying or spreading to other animals.

   T/F ANSWER TRUE
2. Vehicles and equipment can be involved in the spread of pathogens and disease from one farm to another.

   T/F ANSWER TRUE
3. Limiting on farm visitors and cleaning and disinfecting equipment are two biosecurity measures.

   T/F ANSWER TRUE
4. Rodent control is not a part of biosecurity.

   T/F ANSWER FALSE
5. Individual ID's are essential from a biosecurity standpoint?

   T/F ANSWER TRUE

Explain that all of these elements are part of biosecurity basics and a biosecurity plan.

II. Biosecurity Basics

A. Define biosecurity—set of preventative measures taken to reduce the risk of diseases introduction or transmission.
B. Ask youth what are some of the diseases that are of concern—examples: avian influenza, Johne's disease, pneumonia, pseudorabies, TB, etc.
C. How are these infectious diseases spread between operations? (See background information)
   1. Avian influenza –an infection cased by a virus. Spread by contact with secretions from other animals or surfaces of equipment and water.
   2. Johne's (yo-knees) disease-contagious, chronic infection affects small intestine of ruminant animals. Spread from diseased animals and infected manure
   3. Pneumonia—a multifactor disease caused by environment, stress, overcrowding, animal's immunity.
   4. Pseudorabies-viral disease most common in swine, spread by contact with infected animals or equipment.

5. Tuberculosis-caused by bacteria, spread by contact with infected animals both domesticated and wild and feedstuffs.

D. Use the PowerPoint to discuss the five major components of biosecurity –A-RITS How do they apply to their 4-H/FFA projects?

III. Activity Identifying management practices

A. Divide youth into groups of 4. Give each group a set of management practice cards. Ask them to read each management practice and determine which major component it relates to:

A. - Assessment

R - Resistance

I - Isolation

T - Traffic Control

S - Sanitation

B. Processing questions—

- Do all of these practices apply to your project?
- Are their other things you do or could do to improve biosecurity?
- Which practices are most important and why?

IV. Biosecurity Plan Case Study

Continuing in the groups of 4 or by species, develop a biosecurity plan for the case study. Encourage use of actions identified in previous activity.

V. Reflection

Have students briefly discuss what they learned.

- What are some good management practices?
- Is biosecurity important with 4-H animals? Why?
- What is one thing you are going to try to do at home to improve biosecurity with your project animal?

VI. Optional Activities

- Youth can develop a biosecurity plan for their home livestock operation. This could be done as a display for a project or demonstration at the fair.
- Set up a committee to develop a biosecurity plan for the county fair. Be sure to include different partners like the county fair board and local veterinarian.

VII. Summary

- Biosecurity means actions taken to prevent spread of infectious disease.
- Biosecurity plans are important for all livestock producers and 4-H livestock members.
- Practicing good management practices are key to any biosecurity plan.

RESOURCES

Animal and Plant Health Inspection Services

- http://www.aphis.usda.gov/index.html

Center for Infectious Disease Research & Policy

- http://www.cidrap.umn.edu/cidrap/content/biosecurity/ag-biosec/

Farm and Ranch Bio-Security

- http://www.farmandranchbiosecurity.com

Minnesota Board of Animal Health

- http://www.bah.state.mn.us

MN Pork Board
151 Saint Andrews Court, Suite 810
Mankato, MN 56001
http://www.mnpork.com

OTHER SOURCES

1. Youth PQA Plus, Youth Manual, National Pork Board 2007.

2. Beef Quality Assurance, Train the Trainer Manual, National Cattlemen's Beef Association 2007

3. "Biosecurity for Livestock Shows and Fair," CD, Colorado State University, 2008.

WELCOME TO

LQA&E PROGRAM Level II

Biosecurity Lesson

A Joint Project Of

MINNESOTA 4-H

UNIVERSITY OF MINNESOTA EXTENSION

Minnesota Livestock Breeders Association

AGSTAR FINANCIAL SERVICES, ACA

MINNESOTA PORK BOARD

frac FOUNDATION FOR RESPONSIBLE ANIMAL CARE

Biosecurity Defined:

Set of preventative measures taken to reduce the risk of disease introduction or transmission

Diseases of Concern

How Are Diseases Spread?

- Diseased animals
- Other animals and pests
- People
- Vehicles and equipment
- Carcasses
- Feedstuffs
- Impure water
- Air

A - RITS

The Five Components of Biosecurity

A - ASSESSMENT

What are potential points of contamination?

R - RESISTANCE

Animal's ability to reject or contend with an infection

- Nutrition
- Stress

I- ISOLATION

Preventing contact, commingling

T – TRAFFIC CONTROL

Vehicles, people, animals, wildlife, rodents, insects

S - SANITATION

Cleaning, disinfecting, removal of organic matter

Cleaning out a pen between groups of animals.	Removing sources of food that can attract and maintain rodent populations.
Purchase animals from healthy and reputable herds or breeders.	Washing the calf feeding equipment regularly.

Designate a quarantine area for animals coming on to the farm.	Clean & spray a pen with bleach after one animal leaves & before the next comes in.
Clean the livestock trailer after hauling the neighbor's cow to the veterinarian.	Dispose of waste feed that might be contaminated with manure.

Monitor extreme heat and cold conditions.	When working with animals avoid loud noises and make your animals aware of your approach.
Providing proper nutrition that is a balanced feed ration for your animal.	Separate livestock by age and/or production groups.

Move calmly, deliberately and patiently when working with animals.	Have an insect control program in place.
Follow labels on disinfectant packages.	Do not allow foreign visitors on the farm until they have been in the country for 5 days.

Test new animals for disease (BVD, Johne's, TB).	Purchase feed from reputable sources.
Minimize fence/pen line contact with neighboring animals.	Keep records of all disease occurrences.

Cleaning and disinfecting equipment such as feed pans and show sticks after they are taken to a show.	Washing your footwear after cleaning the maternity area on the farm.
Make a list of the potential disease organisms that could affect your livestock.	Asking all on-farm visitors to wear plastic boots over their footwear.

Case Study 1 – Johne's Disease

Henry Holstein has an excellent dairy operation. Five years ago he decided to expand his dairy operation and purchased some replacement heifers to build his herd to the level he wanted. He then had an animal test positive for Mycobacterium Paratuberculosis or Johne's disease.

Upon diagnosis of the animal with Johne's disease, Henry did some investigating to learn more about the disease. He learned that the disease is caused by bacteria and is transmitted between animals through manure to mouth contact as well as through milk from an infected animal to a newborn. Calves are the most susceptible to the disease. A symptom of Johne's disease is persistent diarrhea in an older cow. She will continue to eat but not gain weight and become increasingly thin and weak. One of the problems with the disease is that an animal might not show clinical signs but still be shedding the disease for other animals to contract. A cow that is showing no clinical signs of diarrhea can still pass it on to other animals by shedding the bacteria in their milk, manure, or even possibly through bloodstream of a calf that has not been born. It affects both diary and beef operations.

Some of his current calf-rearing practices include feeding calves waste milk. He removes the calves from their dam when he gets around to it, sometimes as long as twelve hours after the calf is born. The diagnosis of the disease along with the news headlines in regards to the Foot and Mouth Disease in Europe has made Henry decide to develop a Bio-Security plan for his operation.

Using the A-RITS formula, what are some management practices Henry could use?

A- Assessment

R- Resistance

I- Isolation

T- Traffic Control

S- Sanitation

Activity 3 / Case Study 2

Case Study 2 – Disease Free Broilers

Charlie Chicken owns a large broiler farm. He has two broiler houses but both receive chicks on the same day so that the farm only has a single age group at one time. Charlie has an off-farm job working in the local Fleetfarm store. With the national poultry industry being negatively impacted by Avian Influenza outbreaks on both the East and West Coasts and the Exotic Newcastle Disease outbreak in California, Charlie asked his local Extension Educator for recommendations on how to be sure his farm is kept disease-free. Ernie the Extension Educator recommended Charlie develop a Biosecurity Plan for his farm. Both Avian Influenza (bird flu) and Exotic Newcastle Disease are highly contagious diseases affecting a wide variety of poultry species. There is no treatment for either disease - and regional control measures often require complete de-population of all birds on the farm, thorough cleaning and disinfection of the premises, and a 'rest' period during which no birds are placed on the farm. Both diseases are caused by a virus. Sources of the infection include contact with infect birds (including wild birds) or contaminated equipment/clothing.

Using the A-RITS formula, what are some management practices Charlie could use?

A- Assessment

R- Resistance

I- Isolation

T- Traffic Control

S- Sanitation

Activity 3 / Case Study 1

Case Study 3

Freddy the 4-Her takes many animals to the county fair. He shows poultry, swine, and cattle. For many years the animals just came directly home from the fair and were put right back into the pens with the rest of the animals. Freddy's dad has since realized that animals can pass diseases between themselves when they are at the fair. The animals are in contact with other animals while in the show ring, on the wash rack or in the watering areas.

Freddy's dad has since decided that they should have a plan in place to limit the possibility of passing the diseases like ringworm or warts to other animals on the farm once the fair animals return home.

Using the A-RITS formula, what are some management practices Freddy could use?

A- Assessment

R- Resistance

I- Isolation

T- Traffic Control

S- Sanitation

Activity 3 / Worksheet 1

What are some of the diseases that the farmer should be concerned about? (Assessment)

What are some ways that disease can enter the farm?

What are ways that the farmer can prevent diseases between his current animals and his purchased animals? (Resistance/Isolation)

Activity 3 / Worksheet 1 (cont'd)

How can traffic be directed and controlled? (Traffic Control)

What sanitation steps can be taken to prevent disease from transferring between animals already on the farm? (Sanitation)

Any other ideas or practices to help the biosecurity on the livestock operation?

Activity 3 / Answer Key

Bio-Security Worksheet (Case Study Possible Answers)

Assessment: Diseases that the Johne's should be concerned about?

Johne's Disease is the main one. Others include Foot and Mouth Disease, pneumonia, and scours. These diseases can all pass between cattle easily. When dealing with replacement cattle dairy producers should also look at other udder health issues like strep-ag mastitis, staph mastitis, and mycoplasma. These can pass between cows in the herd through the milking equipment.

Disease Free Broilers-

Both Avian Influenza and Exotic Newcastle Disease – they are highly contagious and have no treatment

Assessment: Ways that disease can enter the farm?

Buying replacement animals opens the farm up to more possible diseases because the animals were raised on other dairy operations and could have diseases that they have there. The incoming animal can bring the disease in their system. It can also pass through manure that is on visitor's shoes and clothes, especially when working with younger animals.

Disease Free Broilers

Contact with infected birds: contaminated equipment/clothing

Isolation

Have a quarantine area available for animals coming into the herd or fair animals returning home. If he or she is buying new animals have them tested for the diseases that the producer is concerned about. Mycoplasma mastitis is a problem; have a milk culture done on those cows that might be entering the herd. If Johne's disease is a concern do a blood test for results.

Broilers-

Quarantine new chicks – in a cleaned and disinfected area

In regards to fair animals, it is best to quarantine the animals for a period of time and watch for signs or symptoms of a health concern like off-feed, snotty nose, or cough. These animals can then be treated accordingly.

Resistance

In all cases, purchase healthy animals from a reputable herd/breeder. Ask for health records. Provide proper feed and fresh clean water. Minimize stress by providing ventilation, heat control, and adequate space.

Traffic Control:

Salesmen, feed delivery people, and other visitors should be directed to a meeting place on a farm. Sometimes this can be the house, a shop, or possibly the milk room of the barn. This way the owner of the operation can regulate where the visitors go and prevent them from entering somewhere they should not be. This also protects the visitors because they might not be aware of all of the dangers on a farm.

Displaying signs that say "All Visitors please report to the Milk Room" or even displaying a designated parking area can direct traffic and people to where they should go to meet with the owner of the farm.

Sanitation:

Washing all equipment with soap and bleach to kill as many of the pathogenic organisms as possible. This also includes the truck and trailers used to transport animals. It may not be reasonable to clean and sanitize after each use but to keep it within reason.

Any other ideas or practices to help the biosecurity on the livestock operation?

One may also develop a closed-herd policy where no outside animals are allowed on the farm. For the expanding farmer this would take extra planning to get up to the number of animals you want eventually and as quickly as possible for cash-flow.

In the example of the broilers – giving the area where the chicks are housed a 'rest' between times chicks are replaced.

For the fair animal example, the animals can be housed in a separate facility or go to market at the completion of the fair or show. This may seem extreme but some do follow this policy.

Lesson 4

Food Safety

Trudy Wasweet, Education Director
Minnesota Pork Board
and
Shirley Doering
Extension Educator
University of Minnesota

Food Safety

BACKGROUND INFORMATION

The safety of this nation's food supply—as well as food supplies around the globe—has become a top priority for consumers, government agencies, producers, and processors. In light of the challenges to the food supply in recent years (such as highly publicized food recall incidents), it has become especially important for food producers to consider food safety issues as they relate to how food is produced on their farms and how their production practices align with consumer preferences and demands. Additionally, food producers should be cognizant of policies and programs that monitor the safety of our domestic food supply.

In Level I of the Livestock Quality Assurance and Ethics curriculum, participants discovered how Best Management Practices contribute to the production of healthy, wholesome food. Level I lessons utilized simple activities to address proper handling of livestock, injections, nutrition, and medication labels and usage—all of which contribute to the quality and safety of food. As part of the Level II curriculum, this lesson will focus more on conceptual aspects of food safety. Participants will engage in discussion of current issues, regulation of the food industry, consumer perception and producer responsibility.

LEARNER OUTCOMES

Participants will be able to:

- Debate who holds the responsibility for food safety.
- Identify three hazard types.
- Understand the concept of a HACCP plan
- Describe the functions and responsibilities of the United States Department of Agriculture and Food Safety Inspection Service.
- Identify the measures already in place at their respective farms to contribute to a wholesome, safe food supply.
- Discuss current food safety issues.

TIME SCHEDULE

- This lesson can be completed in 35 minutes (not including optional activities).

SUPPLIES NEEDED

- What Part of Oink Don't You Understand CD kit (provided by Minnesota Pork Board) and computer with CD capabilities—*optional*
- Poster paper or flipchart
- Notebook or scratch paper
- Dry Erase whiteboards (EPR) and markers
- Markers or pens
- Tape
- Copies of the Hazard Hunt worksheet — one for each participant
- Copies of the study guide – Government Agencies -- one per participant

- Copies of the case studies selected for discussion in this lesson (at least one copy for each small group) —*optional*

LESSON PLAN

I. Introduction

Present the "Food Fight: A Battle You Can Win!" lesson (as found in the resource, What Part of Oink Don't You Understand?). This lesson discusses the continuum of food safety in the food chain—producer, processor, government, and consumer. Point out that pork is the feature product but principles apply to all meat products. (Viewing the entire unit on the CD will require estimated 10 minutes.)

Have members respond to the quiz questions using the dry erase white boards (EPR).

II. Discussion

Divide the group into several smaller groups (4-5 people). Provide them with a poster paper/flipchart and markers. Ask the groups to discuss the following question:

- Who is responsible for food safety—the producer, processor, consumer, or government?

Allow the groups approximately 4-6 minutes to discuss the question. Ask them to write down their group's response—highlighting especially the reasons for their point of view. Bring the small groups back together and ask each group to appoint a spokesperson to share their answer(s) with the larger group. Display the posters according to their response (for example: producer answers on the left side of the room, consumer answers on the right side). Possible add to the discussion that in comparison, Americans tend to see food safety as the producer's responsibility, while in Europe the consumer is left at their own risk for the wholesomeness of their food.

III. What is HACCP?

A. HACCP is a program designed to prevent food safety problems in meat packing plants. It is called Hazard Analysis and Critical Control Points. HACCP is designed to prevent problems before they happen.

- A HACCP plan identifies where and how problems may occur and how to prevent those problems.
- Most hazards in meat products can be classified into one of the three main categories: chemical, biological, or physical.
- Chemical hazards refer to volatile residues. These may result from the use of animal health products (such as antibiotics) pesticides or other products.
- Biological hazards indicate contamination with a virus, bacteria, protozoa, mold or parasite that could cause a food borne illness.
- Physical hazards are any foreign objects or matter in a food item that may cause illness or injury to a person consuming the product. One example would be a broken needle.
- Identify examples of each type hazard. Read each hazard and using the dry erase white boards have participants classify the following objects in meat as biological, chemical, or physical by writing the first letter on their boards, ex: Biological, Physical, Chemical.

Salmonella Bacteria
Broken Needle
Pesticide residue
Pathogenic E.*Coli* Bacteria
Wood chips
Oil and grease residue
Listeria bacteria
Razor blade
Piece of plastic
Trichinella spiralis parasite
Gasoline residue

Hazard Hunt

Divide group into teams of three to five youth. Give each team a Hazard Hunt worksheet. Team members read their scenario and answer the questions on each sheet. Ask for the groups to share their answers.

Questions for discussion:

- The first part of the activity demonstrates hazard analysis. Where could something go wrong?
- The second part demonstrates critical control points. What things do we need to do to prevent a problem from occurring?
- Can you prevent problems that happen either before or after your role in the food supply continuum?
- What are some things that you could do as a consumer to ensure food safety?
- In this example, we used the pork industry, how would these questions/answers apply to other species?

IV. Study Guide

Several government agencies oversee efforts to maintain the safety of the country's food supply. These agencies are described in the worksheet at the end of this lesson. As a large group, review the fact sheet and discuss as necessary. *(See fact sheet.)*

V. Self Assessment

On a piece of paper, ask each participant to respond to these questions:

- What measures do you take on your farm or with your animal project to insure food safety?
  Possible Responses: following withdrawal times, records of medication use, no antibiotics, etc.
- What kinds of educational or quality assurance programs do you participate in?
  Possible Responses: Livestock Quality Assurance & Ethics, Pork Quality Assurance, Beef Quality Assurance, etc.
- How do these things reflect the importance you—a food producer—place on food safety?

- How do these actions or programs fit into the food supply continuum (producer, packer, processor, retailer, consumer)?

Discuss the responses of a few participants. Emphasize points such as quality assurance programs (Pork Quality Assurance, Beef Quality Assurance, Trucker Quality Assurance, etc.) that help packing plants meet government food safety regulations.

VI. Case Studies--*optional*

Divide the participants into the same small group (4-5 people) as in the previous discussion activity. Present each group with copies of one of the case studies listed below *(reproducible versions at end of lesson)*. Ask each group to react to the situation—they should record their thoughts on a piece of paper.

- Case Study #1—E. coli O157:H7 Outbreak
- Case Study #2—Salmonella Outbreak
- Case Study #3—Antibiotic Residue
- Case Study #4—Bovine Spongiform Encephalopathy

Bring the small groups back together. Discuss each of the case studies covered with the groups, noting responses and comments from the small groups. Conclude by asking the participants what lessons from these case studies could they apply to their own livestock projects?

VII. Activity--*optional*

Create a consumer education campaign:

- Divide the participants into smaller groups (3-4 each) and provide them with poster paper and markers. Ask them to develop a consumer education campaign related to food safety.

Their campaign should include the following aspects:

- Message(s) or theme
- Specific audience—consider location (rural, metro, suburban), age, family status (such as married with children or single), etc.
- Delivery method—print, radio, television, etc.

REFERENCES AND ADDITIONAL RESOURCES

The following agencies served as resources for development of this lesson.

United States Department of Agriculture (USDA)

- www.usda.gov

Food Safety and Inspection Service (FSIS)

- www.fsis.usda.gov

Animal and Plant Health Inspection Service (APHIS)

- www.aphis.usda.gov

Minnesota Department of Agriculture

- www.mda.state.mn.us

STUDY GUIDE—GOVERNMENT AGENCIES

The agencies described in this fact sheet contribute to state and federal efforts to monitor the United States food supply and protect consumers.

United States Department of Agriculture:

The United States Department of Agriculture (USDA) is responsible for the safety of meat, poultry, and egg products. Among the USDA's several agencies are two that contribute significantly to the regulation and monitoring of the nation's food supply.

Food Safety and Inspection Service (FSIS)

This agency is responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged. The FSIS accomplishes this mission by placing more than 7,600 inspectors and veterinarians in plants and ports-of-entry to prevent, detect, and respond to food safety issues, as well as monitoring movement in distribution.

FSIS (renamed in 1981) began its duties with the passage of the Federal Meat Inspection Act (FMIA) in 1906. The FMIA requires domestic inspection of all meat and meat food products through daily organoleptic (sight, smell, touch) inspection in slaughterhouses to detect unsanitary conditions and adulterated products. Mandatory poultry inspections began in 1957 with the Poultry Products Inspection Act. Eggs were included in this routine inspection process with the Egg Products Inspection Act of 1970.

The most important responsibility of the FSIS emerged in 1996 when the Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) rule was published. The HACCP rule requires all slaughter and processing plants to adopt a system of process controls to prevent food safety hazards. Roles of industry and government were clarified in the rule:

- **Industry**—accountable for producing safe food.
- **Government**—responsible for establishing food safety standards, maintaining vigorous inspections to encourage compliance, and maintaining a strong enforcement program to deal with rule infractions.

The HACCP rule consists of the following four elements:

1. All slaughter and processing plants are required to adopt a system of process controls (HACCP) to prevent food safety hazards.
2. Slaughter plants are required to conduct microbial testing for generic E. coli to verify that their control systems are working as intended to prevent fecal contamination.
3. Plants must meet pathogen reduction performance standards set by FSIS for their raw products.
4. All plants must adopt and implement a written plan (Sanitation Standard Operating Procedures) for meeting its basic sanitation responsibilities.

Plant inspections conducted by FSIS include the following aspects:

- Antemortem (live) inspection (down, disabled, diseased or dead)
- Postmortem (dead) inspection (head, viscera, carcass, condemnations)

- Re-inspection during processing (facilities, handling/storage, etc.)
- Sanitation (floors, walls, equipment, personnel, water, etc.)
- Facilities and equipment
- Labels and standards (label information, special label claims, etc.)
- Compliance (contamination, counterfeit inspection stamps, etc.)
- Pathology and epidemiology
- Residue monitoring

Animal and Plant Health Inspection Service (APHIS)

This agency has a basic charge of "protecting American agriculture." As an agency under the umbrella of the USDA, APHIS provides leadership in ensuring the health and care of animals and plants. APHIS also improves agricultural productivity and competitiveness and contributes to the national economy and public health.

The major program areas of APHIS are:

- Plant Protection and Quarantine
- International Services
- Veterinary Services
- Animal Care
- Wildlife Services

Related to food safety, the most important duties of APHIS include:

- Monitoring borders for foreign pests.
- Combating domestic animal diseases (including cattle and swine brucellosis, bovine tuberculosis, pseudo rabies in swine, and scrapie in sheep and goats).
- Working cooperatively with foreign locations to control or eradicate disease (example: foot and mouth disease).
- Ensuring that veterinary biologics (vaccines, diagnostic kits, etc.) are pure, potent, and effective.
- Providing laboratory testing and diagnostic services to aid disease tracking and identification.

Minnesota Department of Agriculture (MDA):

The MDA's Dairy Food and Meat Inspection Division enforces state laws and regulations related to the production, processing and sale of milk and other dairy products, processed foods, meats, beverages, eggs, poultry and poultry products. The division also investigates reports of food contamination, working in concert with health officials to determine the cause of outbreaks of food-borne illnesses.

Inspections are made at farms, grocery stores, convenience stores, and food processing facilities to verify quality, condition, labeling, and sanitation of premises, equipment and vehicles used in the sale, storage or distribution of foods and beverages.

Worksheet Food Safety

HAZARD HUNT

Scenario 1: You are a livestock producer. You raise meat animals for a living. You breed, birth, and finish all your animals.

- What food safety problems could happen on your farm?

- How/where might your meat become contaminated?

- What can you do to prevent these problems?

Scenario 2: You run the largest meat harvesting facility in the country. You harvest and sell the products to grocery stores.

- What food safety problems could happen in your plant?

- How/where might your meat become contaminated?

- What can you do to prevent these problems from happening?

Scenario 3: You are that manager of the Super Food Stores meat department. You purchased boxed wholesale cuts from the The Big 10 Packing Company. Your store staff further cut and package beef and pork into retail cuts to sell to consumers.

- What food safety problems could happen in your store?

- How/where might your meat become contaminated?

- What can you do to prevent these?

Case Study 1

E.COLI O157:H7 OUTBREAK

Beginning in late November 2001, the Minnesota Department of Health (MDH) began to receive complaints of illness following consumption of ground beef purchased from Cub Foods grocery stores. In response, the MDH investigated the complaints and also conducted routine surveillance. In total, forty (40) suspected cases of E. coli O157:H7 were confirmed by culture testing.

The Minnesota Department of Agriculture (MDA) and United States Department of Agriculture, Food Safety Inspection Service (USDA-FSIS) cooperatively worked to conduct meat testing and traceback to determine the source of the contaminated meat. Officials analyzed distribution records from a Cub Foods supply warehouse in Hopkins and learned that the most likely source of the outbreak was the primary supplier of the ground beef to Cub Foods—a Wisconsin distributor named American Foods Group. American Foods Group supplies product to the Hopkins warehouse, which in turn services 45 Cub Foods stores. In the month prior to the outbreak, all 45 Cub Foods stores serviced by the Hopkins warehouse received ground beef from the American Foods Group.

Ground beef from several sources was submitted to MDA and USDA-FSIS for testing. Test samples included remaining ground beef from case-patients, warehouse product, and packages of ground beef returned to stores. Quality assurance employees, warehouse employees, and store meat managers were interviewed to determine standard operating procedures for handling, grinding, and packaging ground beef. Shipping and receiving records were evaluated; store meat department grind records were assessed for details on time of grind, lean content, meat processor, and production date of the meat ground. Observations from these interviews and records implicated that the sources of E. coli O157:H7 were positive-tested retail product from American Foods Group.

On December 1, the Cub Foods parent company issued a voluntary recall of all ground beef sold at Cub Foods serviced by the Hopkins warehouse that had received American Foods Group product during the previous month. On December 4, American Foods Group issued a voluntary recall of all ground beef produced in its plant on specified dates in November.

Consider these questions:

- Who might be targeted for blame/fault in the incident?

- Were proper actions taken in response to the situation?

- What steps could have been taken to prevent the incident?

Case Study 2

SALMONELLA OUTBREAK

In November 2003, the Minnesota Departments of Health and Agriculture investigated a food borne illness outbreak related to *Salmonella enterica* serotype Enteritidis in shell eggs. The investigation began after receiving two separate reports of Salmonella infections from school nurses. One case-patient was a school cook and the other was a student who worked at a local restaurant. An infection control practitioner for an area hospital reported to the Minnesota Department of Health additional suspect cases seen at the hospital. Interviews of confirmed cases revealed that all case-patients had patronized the same restaurant.

Following an environmental assessment by state health officials, the restaurant was closed for cleaning, disinfection, and disposal of food items. Restaurant workers were interviewed about recent gastrointestinal illnesses and tested for *Salmonella*. Additionally, names of patrons who had eaten at the restaurant during the previous month were obtained from credit card receipts. Through this surveillance and complaint process, officials identified 27 confirmed cases of *Salmonella*.

Cases had eaten a variety of foods at the restaurant, but the statistical implications indicated that eating French toast was associated with illness.

Assessment of the restaurant environment revealed that the prep-line refrigerator was storing foods at an unacceptable 50° F. Among the problems in food preparation was the method for making large batches of French toast egg wash—eggs were pooled and distributed to working containers. These containers were likely never emptied and washed between batches but possibly carried over from day-to-day in the cook line refrigerator.

Eggs remaining at the restaurant tested negative for *Salmonella*. Further egg trace-back investigation focused on the sources of the shell eggs. At Farm A, samples tested negative for the *Salmonella* serotype. At Farm B, testing revealed positive samples in 8 of the 11 layer barns. Based on these results, Farm B was required to halt sales of eggs as shell eggs and follow a more intensive testing process for a minimum of 8 weeks. The affected barns were to be depopulated and tested at set intervals throughout the depopulation process. Additional interventions included vaccinating pullets for *S.* Enteritidis, increased rodent control efforts, and modification of forced molting procedures.

Consider these questions:

- Who might be targeted for blame/fault in the incident?

- Were proper actions taken in response to the situation?

- What steps could have been taken to prevent the incident?

Case Study 3

ANTIBIOTIC RESIDUE

A 300 cow Minnesota dairy recently received a warning letter from the United States Department of Agriculture (USDA) indicating that a cull cow the dairy had sent for slaughter was found to have a drug residue. The letter indicated that penicillin was found in the cow's kidneys. The carcass was condemned and the dairy did not receive payment for the cow.

As a result of the drug residue, USDA visited the farm to determine the potential cause of the violation. During the farm visit, USDA officials discovered that the herdsman had treated the cow for a uterine infection with penicillin five days prior to her being shipped to slaughter. The farm had written treatment protocols detailing what drugs were used for specific conditions. The farm had worked with their veterinarian to develop the protocol, which included a meat withdrawal for penicillin of 14 days (to address the use of penicillin at a dose higher than that on the bottle).

Investigation revealed miscommunication between the herdsman and owner on whether or not the cow had been treated by antibiotics. Because the farm had adequate treatment protocols, USDA took no further action. However, officials recommended that the farm maintain better treatment records.

Consider these questions:

- Who might be targeted for blame/fault in the incident?

- Were proper actions taken in response to the situation?

- What steps could have been taken to prevent the incident?

Lesson 5

Environmental Stewardship

Shirley Doering
Extension Educator
University of Minnesota

Environmental Stewardship

BACKGROUND INFORMATION

An important part of animal production is being aware of environmental concerns and the programs and practices that address those concerns. This section will cover information to aid both the producer in the understanding of his/her responsibility, improved practices and developing good relationships with neighbors/ community members. Persons in the training may have only one type of experience with livestock. That may be with feedlot or confinement production. It may be necessary to define *feed lot, confinement and free range and/*or *grazing production.*

LEARNER OUTCOMES

Participants will be able to:

- Identify environmental concerns
- Be aware of state regulations related to the raising of livestock
- Identify ways in which grazing animals and confinement animals are contributors to environmental programs

TIME SCHEDULE

Time planned is for a forty minute session. This will be dependent upon size of group, the current knowledge of the group and if optional activities are used to enhance the session and the experience/expertise the presenter can contribute to the program.

SUPPLIES NEEDED

- News articles that attest to how livestock production impacts on our environment.
- Two or more samples of animal manure, corn silage, wool or bedding that animals have been on, or common household products: vinegar, onion, orange or ammonia.
- FeBreeze or other air freshening product.
- Copies of local zoning regulations/ordinances related to livestock – one per participant or one per small group.
- Oil Spill Demonstration (optional)
  3 baby food jars with lids or other clear containers
  light oil (baby oil or a light cooking oil), motor oil and water
  small cake pan
  wool felt fabric cut in 4: x 4: pieces
  eye dropper

LESSON PLAN

Introduction

Producing more with less, while improving the environment are primary aims of animal agricultural businesses. Many producers do a poor job of communicating to their neighbors and consumers the positive effects that animal agriculture has on our social and physical environment. Publicity often picked up by the media is based on two groups struggling over an environmental issue where good communications never happened. Many of these are social environmental issues. Why should youth be concerned with the impact livestock production has on the environment? Whether or not you will be raising livestock in your future, you will have a role in developing environmental policies. Your livestock background and environmental awareness will be a valuable tool in these decisions.

I. Environmental Concerns

A. Group Activity – **Generating Environmental Concerns that Producers need to Address**

1. Divide the group into several smaller groups of five to six. Have members generate a listing of impacts that animal agriculture has on our environment. (Answers will vary, but will likely include negative and positive impacts.) Have each group share two or three items from their list with the large group. Write these on flip chart paper or white board. (One may need to prompt the group with some of the suggestions given below, may also need to differentiate between fact and perceptions.)

- Animal manure stinks and pollutes our air.
- Animals or animal waste is contributing to the contamination of our water supplies.
- Other "hot" environmental issues in your area, which might include accidental spills from animal waste holding systems, issues raised over rural, non-farm homes being built in livestock production areas and the effect this has on livestock expansion, or local regulations that seem to limit livestock expansion.

2. Identify how those listed have an effect on Environmental Concerns.

Promote discussion on each item listed as to what state regulations or producer Good Production Practices (GPP's) are.

- (Listed later in the lesson are some additional physical environmental impacts that grazing animals have.)

Teacher Helps

News articles that attest to ways livestock production impacts our environment

(Optional) ***Livestock byproducts are used to improve environmental conditions.***

- Manure from livestock is used to help clean up soil contamination caused by leaking underground storage tanks. (Sheep) Microbes in the manure and oil digest the petroleum product, leaving harmless carbon dioxide and water
- Wool serves as a "sponge" to absorb petroleum based products in spills, absorbing 12-44 times its weight in oil (See Activity Grades 6-8 at the end of Lesson)
- A reduction in the burden on the nation's overflowing landfills from feeding crop residues, grass clippings and food processing byproducts.

(Optional) ***Physical Environmental Advantages of Grazing Animals***

Environmental management practices using *Grazing* Animals

1. Grazing animals are being used to control <u>weed growth</u>
    - Animals graze leftover stalks and seeds after crops have been harvested
    - Grazing controls weeds in ditch banks, roadsides and pastures, cutting down the need for chemical herbicides
    - Grazing has *suppressed brush growth* for wildfire control by promoting grass growth and suppressing woody vegetation resulting in more effective controlled burns. Also used to control brush invasion on ski slopes.
    - Grazing has been effective in weed control in new forest plantings.
2. Grazing animals impact the *nutrient cycle* by harvesting the land, aerating the soil with their hooves, helping natural grass to grow by pressing seed into the soil, recycling vital nutrients back to the soil in the form of manure and providing man with nourishment and shelter
3. *Insect Control.* Free Range Chickens have been used in open feed lots and pastures to control fly larvae. They eat the larvae in livestock feces, reducing the fly hatch.

Use of multi-species grazing has had the following benefits to the environment

1. Use of one species that are resistant to toxic plants of another species is used to neutralize the plant toxins in the environment. (Example: goats and sheep eat leafy spurge which is poisonous to other species.)
2. Resources used more uniformly which enhances the ecosystem stability, often controlling the brushy plant species and allowing the return of grassy species. Reduction of the brushy plant growth promotes perennial grasses that improve soil hydrology, enhances watersheds (and a beneficial vegetation root base for better water retention), reducing soil erosion and promoting greater soil infiltration.

Enhancement of wildlife habitats.

B. <u>Group Activity - ***Is this odor offensive?***</u>

One of the most common concerns raised about animal agriculture is the odor of the animals. This odor is generated from many sources. It is an issue for both producers and the general public. When people can detect a smell they find offensive, they assume there is an environmental problem. Odor can be managed by reducing sources of odor. Its offensiveness might be reduced through public education that the animal smells are the result of many things, including feed ration and animal metabolism. Other contributing factors include partial degradation of organic matter occurring as a result of how manure is stored and decomposing feed and/or carcasses. This exercise will help members understand that each of us has our own perceptions of what "stinks" based on our experiences.

SUPPLIES NEEDED:

- Two or more samples of animal manure, corn silage, wool or bedding animals have been on.
- FeBreeze or other air freshening product.

If using animal manure, it is recommended that you dip an absorbent material, such as dairy filters in the liquid manure. Place the sample in a sealable freezer bag. Place this in a second sealable freezer bag. Freeze. When ready to use, partially open the bags. Number the bags, A, B, etc. As the contents unfreeze, it becomes stronger. *Suggestion: Place samples in metal pie pans or other disposable, water proof containers. Samples may be frozen several times for future use.*

1. Have participants pass by the tables on which the samples are spread out.
2. Have them identify which of the odors was the most offensive to the least offensive.
3. Discussion:
   a. Were all identified the same? Most offensive to least offensive?
   b. Why or why not? *Our backgrounds and surroundings help us determine what we find offensive. What might be most offensive to one person, may not be to another. The same is true of livestock odors.*
   c. When might livestock odors become an environmental issue? *When a housing development is built on what was previously zoned agriculture land. When a producer seeks to expand his operation, using more land for animal agriculture. When animal waste is being spread on fields. When improper dead animal disposal methods are being used.*
   d. What can agriculture livestock landowners and community partners do to overcome disagreements on environmental issues dealing with livestock odors? *Education about management practices to improve attitudes of both the producer and the "neighbor", as an individual producer and state regulatory board. Producer sharing with neighbors what management practices he/she follows including letting neighbors know when manure is going to be spread and follow proper land application procedures, being aware of wind conditions and location of sensitive neighbors. Apply in morning.*
   e. What enhances good communications?
      - *Attitudes and behavior*
      - *Attempts to improve public's understanding of industry*
      - *Emphasis of positive behaviors and actions of producers*
      - *Compliance of local and state regulations*

Optional Activity

If your meeting location or your access to animal waste is limited, you could use common household products such as vinegar, onion, orange or ammonia to illustrate the point. Place samples of each in small drink cups (sniffing containers). This experiment works best if you blindfold the volunteers so they can not see what is in the cup.

a. Prepare four "sniffing" containers for experiment on odors. (two each of vinegar, onion, orange, mouthwash). Do not let participants see this ahead of time.

b. Blindfold three or four members to take the odor test.

c. Select one volunteer for each of the blindfolded members. These members will be waving the four "sniffing" containers in front of their partner, allowing them to get a whiff of the product in the container. ***Coach them so they do not hold containers directly under the nose of blindfolded members.***

d. Ask each of the blindfolded members to identify which of the odors was the most offensive to the least offensive.

e. Use same discussion questions as above.

C. Identification of Good Production Practices (GPPs) that reduce odors.

(Can be done as a group discussion or in game format by dividing group into teams, giving each team a sheet of paper and pencil. When instructed to begin [three minutes] they write down all the GPP's that they think of related to ways to reduce odors.)

Examples:

- Cleaning of alleyways regularly
- Draining shallow pits of manure storage to enhance air quality in buildings
- Maintaining proper ventilation of buildings
- Following proper land application procedures to make sure odor isn't a problem
- Disposing of carcasses properly and in a timely manner according to state regulations
    - Keeping carcasses in an enclosure that prevents access by dogs, cats or wildlife.
    - Using composting to dispose of dead animals.
- Using landscape/windbreaks to reduce the perception of smell
- Exploring and adopting air quality management tools (example use of Bio-filters for manure pits)
- Attending Environmental Assurance Programs (EAP)
- Having an emergency plan
- Knowing how and when to immediately report manure spills to Minnesota Pollution Control (MPC) and the local environmental agency
- Other

D. Both Social and Natural Environmental Management practices need to be considered in feedlot and/or confinement structure and feeding and manure handling.

1. Confinement Barns and Feed Lot sites consider
   - Social and legal considerations
     - Distance to neighboring residences or populated areas
     - Reaction to adjacent property owners
     - Building codes and zoning regulations
     - Air and water pollution restrictions
     - Image, the facility should satisfy the owner, create a favorable impression and encourage neighboring operations to achieve a similar level of quality, including ornamental (yet functional) tree or shrub placement.
   - Natural environment considerations
     - Topography - shape and slope of land
     - Drainage – both above and below ground
     - Soil Characteristics – effects on both vegetation and construction
     - Prevailing winds – direction and intensity at different times of year
     - Precipitation – both rainfall and snow

2. Manure handling

Every species of animal makes manure and this needs to be managed properly. This is a part of Livestock Management. It doesn't matter the size of livestock operation (1 to infinity), a manure management plan is necessary.

While it is important to have a facility with ample storage, it is most important to be aware of environmental considerations for land application. They include:

a. Having a Manure Management Plan that addresses the incorporation of manure into the ground is based on
   - soil types and characteristics
   - soil erosion potential
   - distance to ground water and surface waters
   - amount of precipitation
   - temperatures
   - wind direction
   - manure storage capacity
   - manure storage type in relationship to manure nutrient analysis

b. Practicing Manure Management Etiquette
   - *Keeping neighbors informed when animal waste will be spread/injected*
   - *Being sure not to overload the spreader*
   - *Closing manure gates before leaving the livestock site*
   - *Practicing road courtesy and safe driving habits when hauling manure on roadways.*

Producers and Commercial Applicators who overload the spreader/tank or don't close the gates and leave manure deposits on the roadway are giving livestock production a bad name. *John Q. Public* ***doesn't*** *have a positive attitude toward livestock producers when he drives through a manure spill on the highway and the odor lingers on his vehicle.*

E. Livestock Mortality Disposal

There are several approved methods of livestock mortality disposal. Animals will die, and carcass disposal is part of livestock production.

Common disposal methods include:

1. Burial
    - Generally done on site and is the responsibility of the producer.
    - Producer must be aware of regulations affecting the depth of the hole in relation to the seasonal high water level and the amount of dirt needed to cover the carcass.
    - Is seasonal
    - Little cost
2. Burning
    - Generally done on site and is the responsibility of the producer.
    - Producer must be aware of temperature of the burn to kill off pathogens
    - Producer must be aware of proper disposal of resulting ash.
    - Little cost
3. Rendering
    - Producer must be aware of which species can and can not be disposed of through rendering plants
    - Rendering may not be a viable disposal method in all parts of the state, depending upon where plants are located
    - Producer may not want to use this method as it increases the chance of disease spread since the trucks go from farm to farm
    - A second biosecurity concern is wild and domesticated animals eating dead animals and roaming to/from other farms.
    - Cost associated with pick up.
    - Producer needs to be aware of the social environmental issue of public perception related to rendering boxes not properly covered. The adage of "out of sight, out of mind" plays true here. (What is the public's image of seeing several dead animals piled and waiting for pick-up?)
4. Composting

    Composting might be the most viable for the larger producer, but not for the producer that has only a few animals. Advantages include:
    - It's Bio-secure
        - allowing year-round disposal of carcasses so that disease does not spread
        - preventing the need for off-farm vehicles that could bring in disease

        - high temperatures kill off pathogens.
    - It's environmentally sound
        - giving off little odor and does not harm or affect groundwater.
        - helping complete the nutrient cycle (recycles nutrients, turning waste into beneficial fertilizer and soil amendment.)
        - utilizing readily available organic materials
    - It's cost effective
        - has minimal operating costs and low start up costs
        - requires only good management and minimal training

(Optional) Check with your U of MN Extension Service, the MN Pork Board or your County Environmental Agency for information on disposal methods including composting,

II. Federal, State & County Regulations

Background information

Producers are regulated in many different ways from federal to state and county regulations. Private citizens also can work to impose restrictions on producers.

- Federal Regulations

Many of our **Federal** regulations deal with water quality. The ***Federal Water Pollution Control Act*** (commonly called the Clean Water Act) prohibits the discharge of pollutants into a waterway unless authorized by permit from the appropriate agency. Violators of the Clean Water Act are subject to fines of $25,000 per day.

- State and Local Regulations

States are free to develop their own regulations meeting the minimum standards of Federal Regulations. Most state and local regulations are in the form of zoning ordinances that dictate land use.

1. What is the role of the MN Pollution Control Agency?
2. What is the role of your local environmental agency?
3. Who is your local environmental agency?

- Nuisance Laws

A nuisance law is based on the right of landowners to be free from unreasonable interference with the enjoyment of their property. Nuisance claims often stem from odor problems, dust, noise or manure spills. It is important that the producer has a manure management plan and keeps good records.

Activity – Local Regulations

A. Obtain a copy of local regulations. Highlight three to five points. Have youth discuss the merits of these regulations.

B. The following Animal Agriculture terms are defined in County and State Regulations. Find and define these terms in your County Regulations. (Term definitions will vary from county to county.)

- *Animal Feedlot*
- *Animal Unit*
- *Hazardous Waste*
- *Pollution Hazard*
- *Others*

III. Conclusion

Talk it over

- Review what they did.
- Why was this lesson important? *The above address common environmental concerns of animal agriculture. As responsible producers we must stay abreast on current issues and regulations that have an impact on both the social and natural (physical) environment.*
- Generalize to life
- Apply what was learned. *Every producer has an important role in Environmental Stewardship.*

IV. Optional Activities The following optional activities with little or no modifications could be used as *Science Fair exhibits and/or Animal Related 4-H Exhibits*.

A. *Oil Spill Demonstration* (Grades 6-8)

The purpose of this activity is to demonstrate positive environmental impacts that products of animal agriculture provide:

You may or may not remember in 1989 when the Exxon Valdez slammed into a rock reef in the Gulf of Alaska and spilled nearly 42 million liters of crude oil into Prince William Sound in less than 5 hours. The volume and the rapid rate of the spill caused waves of oil one meter high to form on the surface of the water. The oil continued to spread down the coast and in a month was found all along the beautiful and fragile coastline. What followed was a huge clean up project.

Materials needed:

Three Baby Food jars with lids or other clear containers.

Light oil (baby oil or a light cooking oil), Motor oil and Water.

Small Cake Pan

Wool felt fabric cut in 4" X 4" pieces

Eye dropper

Preparation:

Fill one jar half full with equal amounts of light oil and water. Fill the second jar to the same level with just water. Fill the third jar to the same level with motor oil.

Observe:

In Jar 1, where is the oil in relation to the water? *Oil floats on the water.*

Experiment:

Shake the jar that has the oil and water mixture. (Be sure lid is on tight.) Does the water and oil mix? *No* Why do you think the oil is sitting on the water? *It has less density than the water.*

Observe:

Look at Jars 2 (water) and 3 (motor oil). Which do you think is heavier? *Even though the motor oil looks heavier, it is less dense than the water. It too will float on water.*

Experiment:

Fill the cake pan half full of water. Using an eye dropper, drop light oil in various locations on the water surface. What do you see? *The oil continues to float on the water, but spreads out to cover the entire surface.*

Weigh the 4 x 4 pieces of fabric.

Lay one or more pieces of the fabric on the surface of the water. Weight the 4 x 4 pieces again. Share what has happened. *The fabric soaked up the oil.*

Process: When an oil spill occurs, scientists and others work quickly to try to clean it up. Wool fiber has been processed into vast sheets and has shown to be effective in helping clean up oil spills. The fabric can be washed and used up to seven times in this process.

What are some other ways that animal products are being used to clean up environmental blunders?

(Adapted from **Wonderwise** *curriculum, the sea otter biologist activity)*

B. *Farm Plans and Bio-filters* (Grades 9-12)

Develop an Environmentally sound farm plan for your farm. Include one or more of the following in your plan

- Manure Management Plan
- Composting plan
- Air Quality plan
- Emergency report plan
- Federal, State and County Regulations

Build a Bio-filter Model and explain how it works

ADDITIONAL RESOURCES

4-HCCS Animal Science Curriculums, To review 4HCCS products or to order online, visit www.fourhccs.org

County Soil & Water Conservation District and local Natural Resources Conservation Service

Minnesota Board of Animal Health, Orville L. Freeman Building, 625 Robert St. North, St. Paul, MN 55155. (651) 296-2942. 1-800-627-3529. www.bah.state.mn.us

MN Pollution Control Agency – to find the regional office closest to you contact the MPCA at 520 Lafayette Road North, St. Paul, MN 55155. (651-296-7327)
www.pca.state.mn.us/about/regions/index to find the regional office closest to you.

MN Pork Board – 151 St. Andrews Court, Suite 810, .Mankato, MN 56001. (507/345-8814)
www.mnpork.com

National Pork Board – P.O. Box 10383, Des Moines, IA, 50306. (555/233-2606) www.nppc.org

Lesson 6

Managing for Animal Care and Well-Being

Juanita Reed-Boniface
Educational Consultant
Minnesota Foundation for Responsible Animal Care

Managing for Animal Care and Well-Being

BACKGROUND INFORMATION

Daily Observations

An experienced cattle producer once said, "The most important thing to assure animal care and well-being is to get up in the morning, check the weather conditions and go check your livestock." That statement reflects the importance of daily observation to address animal health, nutrition, and suitability of facilities. Daily observation helps ensure that sick or low producing animals do not go unnoticed and that animal caretakers are doing their job.

Careful observation can provide clues as to how well animals are being managed. Things to keep in mind when observing:

- Health—Do all animals appear healthy, active and alert?
- Skin and extremities—Are there wounds? Do they walk with an equal weight on all legs?
- Behavior—Do they show signs of fear? Restlessness or agitation?
- Body condition-Do animals show good condition scores? Are animals in good condition? Body condition provides clues to the adequacy of the nutrition program and identifies animals that may need additional attention. Each species has guidelines for body condition scores range from under conditioned (underweight) to over conditioned (overweight) usually a score that is mid-to upper range is preferred.
- Maternal instincts—Do mothers "own" their offspring and provide adequate milk?

ANIMAL CARE GUIDELINES

While each species may have their own specific set of best quality management practices for their own species, Minnesota 4-H follows the animal care guidelines suggested by Minnesota Foundation for Responsible Animal Care (MnFRAC) These guidelines are generic for all species.

- Provide food, water, shelter and care necessary to protect the health and well –being of animals.
- Implement disease prevention practices that protect animal health, including access to veterinary care.
- Provide facilities that allow safe, humane and efficient movement and restraint of animals
- Provide humane euthanasia methods when required for culling and food processing.
- Provide training for and monitoring of employees who work with animals
- Provide transportation that avoids undue stress caused by overcrowding, improper handling and excess time in transit.
- Encourage all livestock owners and producer groups to develop, promote and use best quality management practices for their own species.

Mistreatment of Animals by Anyone Will Not be Tolerated.

RECORD KEEPING

Why do we emphasis record keeping in livestock management? Let's answer that question first and foremost. When people hear the word "audit" they tend to get excited about what is going to happen next. And when they prepare for an audit, they usually start sorting and organizing all their records. Records get people out of trouble, not into trouble. Proper documentation can be used to fulfill requirements of legislation as is the case with the Country of Origin Labeling (COOL), can determine when livestock can be shipped to harvest, can be a tool for producers to plan and manage breeding, feeding and marketing programs and protocols.

Below are six examples of situations and/or requirements for quality assurance programs that were covered in Level I Livestock Quality Assurance & Ethics. When you see words like track, records, account, obtain and use, proper withdrawal times, establish plans, etc. it should trigger a thought that a record is needed to fulfill the requirements.

- Identify and Track all Treated Animals
- Maintain Medication and Treatment Records
- Properly Store, Label and Account for all Drug Products and Medicated Feeds
- Obtain and Use Veterinary Prescription Drugs only based on a Valid Veterinarian /Client/Patient Relationship
- Proper Administration Techniques and Withdrawal Times
- Establish an Efficient and Effective Health Management Plan

Livestock producers are continuously addressing diseases that affect the well-being of livestock. Their success with managing disease has greatly improved over time, but the likelihood of a disease outbreak still exists. Many of the diseases that livestock producers face are managed at a herd level. These diseases tend to affect a few animals in a herd and proper management and treatment will correct the problem and may even prevent these diseases from occurring in the future.

There area few diseases that are much more severe to the livestock industry and the safety of our food supply. These types of diseases not only harm the well-being of livestock but also affect food safety and livestock trade. Examples of these types of diseases are tuberculosis, brucellosis, pseudo rabies, and foot and mouth disease. These diseases are not only addressed at the producer level, they are managed by government animal health agencies as well.

To address and minimize the effects of a disease threat, animal health agencies must find the answers to 3 basic questions:

Where has the infected animal been?

What other animals have been exposed?

What additional animals are at risk of exposure?

The ability of animal health responders to answer these questions will determine the size and scope of the disease outbreak. The faster these responders can obtain accurate information, the

more likely the disease will be controlled and its negative effects to animal well-being, food safety and the livestock industry minimized.

Livestock producer's records hold much of the information needed by animal health responders to answer those three basic questions. Knowledge of where an animal came from prior to entering the herd assists in determining where the animal has been and what other animals may have been exposed. Records that show where animals have been sent will help the responder determine what additional animals are at risk.

To assure that an effective and efficient response to a disease threat occurs; partnerships must be built and maintained between the animal health responder and the livestock producer. Basic knowledge of where livestock facilities are located and how to contact livestock producers prior to a disease threat becomes critical for animal health agencies ability to limit the negative effects of an outbreak. This information assists the responder in preparing for potential outbreaks by allocating resources where they are most likely needed. It also helps the responder to quickly contact producers that maybe at risk after an outbreak has occurred. The responder can then rapidly provide important information to help producers protect their animals.

Along with basic animal management and movement records, livestock producers are encouraged to keep updated contact information with their animal health agency. Together the livestock producer and animal health responder can minimize the effects of disease threats to food safety and animal well-being.

Breeding Records. These records will help outline the paternal and maternal lines of the animal, which are necessary for managing breed registration databases and programs. Keeping accurate and timely records assures that registration information is correct and that you can track the pedigrees of cattle back through the system. While ethics is discussed in a separate section of the training, it is important to understand that honest, detailed and accurate information in breeding records is vital to assure correct ownership and to assure accurate pedigree information.

Carcass Quality Records. The final product of many of the livestock programs is a carcass—beef carcasses, lamb carcasses, or pork carcasses just to name a few. And, with all of these come the potential to capture data such as fat thickness, loin eye or rib eye areas, marbling scores, and yield and quality grades. Packers may also provide bruise incidence and condemnation incidence on their summery sheets.

LEARNER OUTCOMES

Participants will:

- Understand the importance of observation and interaction when providing animal care
- Recognize animal care guidelines and identify management practices involved
- Understand the importance of record keeping to animal agriculture and gain skills in record keeping

SUPPLIES NEEDED

- PowerPoint (download from http://www.fourh.umn.edu/programs/AnimalScience/): with sample records from Level I.
- Copies of MnFRAC Animal Care Guidelines Poster one for each participant. Order from MnFRAC website www.mnfrac.org.
- Animal Traceback Activity 3 Worksheet 1-one per participant
- Animal Traceback Activity 3 Worksheet 2-one per participant
- Breeding Record Activity 4 Worksheet 1 one per participant
- Breeding Record Activity 4 Worksheet 2-one per participant
- Breeding Record Activity 4 Worksheet 3 one per participant
- Flip chart sheets and markers

TIME TABLE

A. 30-40 minutes

LESSON PLAN

I. INTRODUCTION

Explain to the participants that this lesson will be an overview and application of the good production practices that they have learned in Levels I and II. They will also be doing some activities related to record keeping and animal trace back.

II. OBSERVATION

Have you ever heard a producer say he/she was "going to check the cows" or "check the sheep" or "check the birds'?

- What does that mean? Why are they doing it?
- What do we look for when we are "observing" livestock?

Activity I

Have participants work in pairs. Ask them to make a list of things that they need to observe when they are "checking their animals". Set a time limit; see who can make the longest list in the time

Share the lists as a group, discuss each item. See list in background section of this lesson; be sure that all of these items are listed.

III. ANIMAL CARE GUIDELINES

4-H follows the management practices suggested by MnFRAC, a statewide non-profit, agriculture-based organization that supports the livestock industry. MnFRAC works to promote responsible animal care in production, processing and research.

Activity 2

Divide into species groups. Provide each group with a poster and flip chart sheets and markers.

Option 1: Ask each group to read each guideline and as 4-H'ers list the specific management/production practices they would do with their project animals (s) to meet each guideline

Examples: Devise a daily time chart for checking on the animals. Example: Feed and water at 7:30 a.m. and 5:30 p.m. or exploring with the feed representative the best feed/concentrate for desired growth in animal, etc.

Option 2: Provide the groups with this scenario—"Yours friends from the city come to your farm for the day. When you take them to see your project animals, they notice this poster hanging in your barn and ask you what it means? What would you tell them?

What are the specific management/production practices that you do to meet these guidelines? "

Discussion and Teaching Points

- Review feed ration principles, medicated feed issues, clean water, facilities.
- Stress the importance of the VCPR, (VETERARANIAN/CLIENT/PATIENT/RELATSIONSHIP)
- Review animal handling principles
- Humane euthanasia—this is the first time this has been introduced in the lessons be sure participants know what it means, discuss safe and approved methods, and proper disposal of animals.

  Euthanasia is defined as a humane death occurring without pain or distress. It is inevitable in every livestock production system; animals will become ill or injured in such a way that euthanasia will be necessary. Situations that may require euthanasia are:

  - Loss of production and quality of life
  - Inability to stand or walk—fractures, deformed legs
  - Diagnostic- e.g. potential for human disease, such as rabies)
  - Cost of treatment prohibitive and poor prognosis
  - Extended withdrawal time for sale of meat
  - Severe injury in transit, at auction yards
  - Natural or man-made disasters (flood, fires, earthquakes)

  Decisions to euthanize an animal should be made in consultation with the veterinarian to ensure that if an animal's life is to be taken, it is done with the highest degree of respect and with an emphasis on making the death as painless and stress free as possible. According to the AVMA Guidelines on Euthanasia, euthanasia techniques should result in rapid loss of consciousness followed by cardiac or respiratory arrest and the ultimate loss of brain function. A veterinarian with appropriate training and expertise for the species involved will ensure that proper procedures are used.

  Euthanized animals should be disposed of immediately using accepted environmentally safe methods.

- Training and monitoring of employees—most members will not be in a situation where they have other employees involved with their project animals, however they may have occasion to be on a vacation or a week-end trip and someone else is caring for their animal. Or they might ask another exhibitor to care for their animal at a fair or show. Who might they ask to be a caretaker? What instructions/information would they leave for that person? What training might they have to give them?
- Discuss loading, unloading animals, size of trailers, distances traveled, etc.
- Mistreatment of Animals by Anyone Will Not Be Tolerated—what if it is your parent or older sibling? What would you do?

IV. RECORD KEEPING

A. Review Record Keeping in Level I and II (A Snap Shot from Level I)

Using an overhead or Power Point show the following:

1. Feed tags, especially a medicated one with a withdrawal time prior to slaughter as a reminder to record when fed and withdrawal times.
2. Example of record book health/treatment page
3. Example of calendar page
4. Sample product labels and where this information is recorded
5. Copy of Veterinarian/Client/Patient Relationship statement
6. Extra Label Use statement

Discussion: Review how each of these is used, their importance and items to be recorded. Remind youth that these are all examples of good record keeping and quality livestock management.

B. Record Keeping for Animal Traceback and Carcass Records

Tracking animals from producer site to processing is becoming more important as packers work to minimize their waste; consumers demand more information about the source of their food and producer's biosecurity procedures.

Tracking animals involves individual identification, good farm/ranch records and packer reports

Activity 3

Animal Trace back

Hand out the map of farm/locations/premise numbers and the carcass sheet from the packer. The farm records and the packer report indicate animal movements and quality defects with carcasses sent to the packer. Have the participants utilize the farm map/handouts/records to traceback animals from the packing plant to the farm of origin. Identify quality challenges and track those challenges back to the premise from which those cattle derived.

The recent Bovine Tuberculosis outbreak in Minnesota has been more easily resolved due to the records that the owner of the diseased herd kept. As a result the Board of Animal Health was able to trace back to the exact herd and owner where the disease originated. They were also able to track forward to the places that cattle from the diseased herd had

been sold. Good record keeping and cooperation on the part of the producer have saved critical resources of time and money.

If time permits- discuss other information on the packer report: Quality Grade CQG) and Yield Grade (YG). What are carcass quality grades based on? What are the five quality grades? What are the differences between a U.S. Prime and a U.S. Choice animal? What is yield grade? What factors are used to determine yield grade? How are yield grades figured?

Activity 4

Breeding Records (optional)

Using the breeding records and the blank Breed Association Registration form, have the students complete the registration form and then discuss the importance of having accurate information in breeding records to complete the registrations.

Discussion

Show participants examples of your own records-breeding, birthing, herd records, medication, feedlot records, etc. Share your methods for record keeping. Point out computer generated record systems.

V. REFLECTION/SUMMARY

A. What are the key or "big" ideas learned today?
B. How will you put them to practice in your project or on your farm/ranch?
C. Why is record keeping an important skill to learn?

SOURCES:

- National Pork Board, *Youth PAQ Plus*, Lesson 10, 2008
- Radintz, Ted, Minnesota Department of Agriculture/Minnesota Board of Health
- VanOverbeke, Deb, *Keeping and Managing Animal Records*, Minnesota 4-H LQA&E Level II, 2004.
- American Veterinary Medical Association (AVMA) Guidelines in Euthanasia, June 2007
- Practical Euthanasia of Cattle, Animal Welfare Committee of American Association of Bovine Practitioners

WELCOME TO

LQA&E PROGRAM Level II

Managing for Animal Care and Well-Being Lesson

A Joint Project Of

MINNESOTA 4H

UNIVERSITY OF MINNESOTA EXTENSION

Minnesota Livestock Breeders' Association

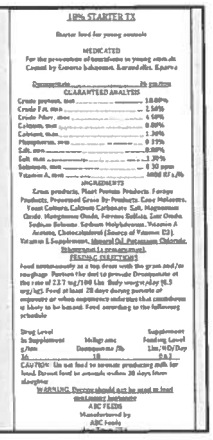
AGSTAR FINANCIAL SERVICES, ACA

MINNESOTA PORK BOARD

frac

Animal Feed and Treatment Recordkeeping

Feed Tag, especially medicated ones with a withdrawal time prior to slaughter as a reminder to record when fed and withdrawal times



18% STARTER TX

Starter feed for young animals

MEDICATED

For the prevention of tetrafluoro in young animals
Caused by Eimeria bilineata, Eimeria alleta, E.parva

Decomposition ..... lb per ton

GUARANTEED ANALYSIS

Crude protein, min	18.00%
Crude Fat, min	2.50%
Crude Fiber, max	4.50%
Calcium, min	0.80%
Calcium, max	1.30%
Phosphorus, min	0.75%
Salt, min	0.80%
Salt, max	1.30%
Selenium, min	0.30 ppm
Vitamin A, min	4000 IU/lb

INGREDIENTS

Grain products, Plant Protein Products, Forage Products, Processed Grain By-Products, Cane Molasses, Yeast Culture, Calcium Carbonate Salt, Magnesium Oxide, Manganese Oxide, Ferrous Sulfate, Zinc Oxide, Sodium Selenite, Sodium Molybdenum, Vitamin A Acetate, Chlorocalcium (Source of Vitamin D3), Vitamin E Supplement, Mineral Oil, Potassium Chloride, Ethoxyquinol (a preservative).

FEEDING DIRECTIONS

Feed continuously as a top dress with the grain and/or roughage. Portion the diet to provide Decoquinate at the rate of 2.5 T mg/100 Lbs. Body weight/day (6.5 mg/kg). Feed at least 28 days during periods of exposure or when experience indicates that conditions is likely to be heated. Feed according to the following schedule

Drug Level In Supplement g/ton	Milligrams Decoquinate /lb	Supplement Feeding Level Lbs./HD/Day
36	18	0.63

CAUTION: Do not feed to animals producing milk for food. Do not feed to animals within 30 days from slaughter.

WARNING: Decoquinate should not be used in food containing bacitracin

ABC FEEDS

Manufactured by
ABC Feeds

Animal Feed and Treatment Recordkeeping

Health/Treatment Record Book Page Example

PEN/INDIVIDUAL ANIMAL TREATMENT RECORDS

Unit Location/Farm: Raleigh Producer

Treatment Date/Time	Animal ID	Product	Amount	Route	Name of Who gave treatment	Instructed Withdrawal Time	Withdrawal Completed	If this is an Extra Label or Rx drug list the veterinarian's name, address and phone number of who prescribed or directed the drug used
7/11	36-7 #16091	Baymycin	15cc	SQ	Initial treatment by Vet Bruce Loan	7 days		

Animal Feed and Treatment Recordkeeping

Use Calendars

February 2009

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 Increase Pro-tein % for Sows	3	4	5 Inoculate Pen 6	6	7
8	9	10 Move Breeding heifers-calf barn	11	12	13 Dry cows—to west pasture	14
15	16 Sold Patsy & Thomasina	17	18	19	20	21
22	23	24	25 Clean Milk par-lor	26	27	28

Animal Feed and Treatment Recordkeeping

Sample Prescription/Product Label

Where this information is recorded

Bruce E. Loan, D.V.M.
100 Quality Avenue
Hometown, USA 00000
000-999-7777

OWNER: Raleigh Producer
Date: July 11, 2001
INDICATIONS: Pneumonia
ANIMAL ID: 36-7, Ear tag 16091
DIRECTIONS: Give 15 ml (cc) subcutaneously on July 12
PRECAUTION: Use care in injections to avoid infections
WARNING: USE OF THIS DRUG MUST BE DISCONTINUED FOR 7 DAYS BEFORE SLAUGHTER OR MARKETED FOR FOOD.
PRODUCT/ ACTIVE INDGREDIENT(S): Baymycin
EXPIRATION DATE: August 1, 2002
Keep this medication refrigerated.

Minnesota Foundation for Responsible Animal Care believes that livestock producers take pride in their responsibility to provide proper care for their animals and endorses the following:

Animal Care Guidelines

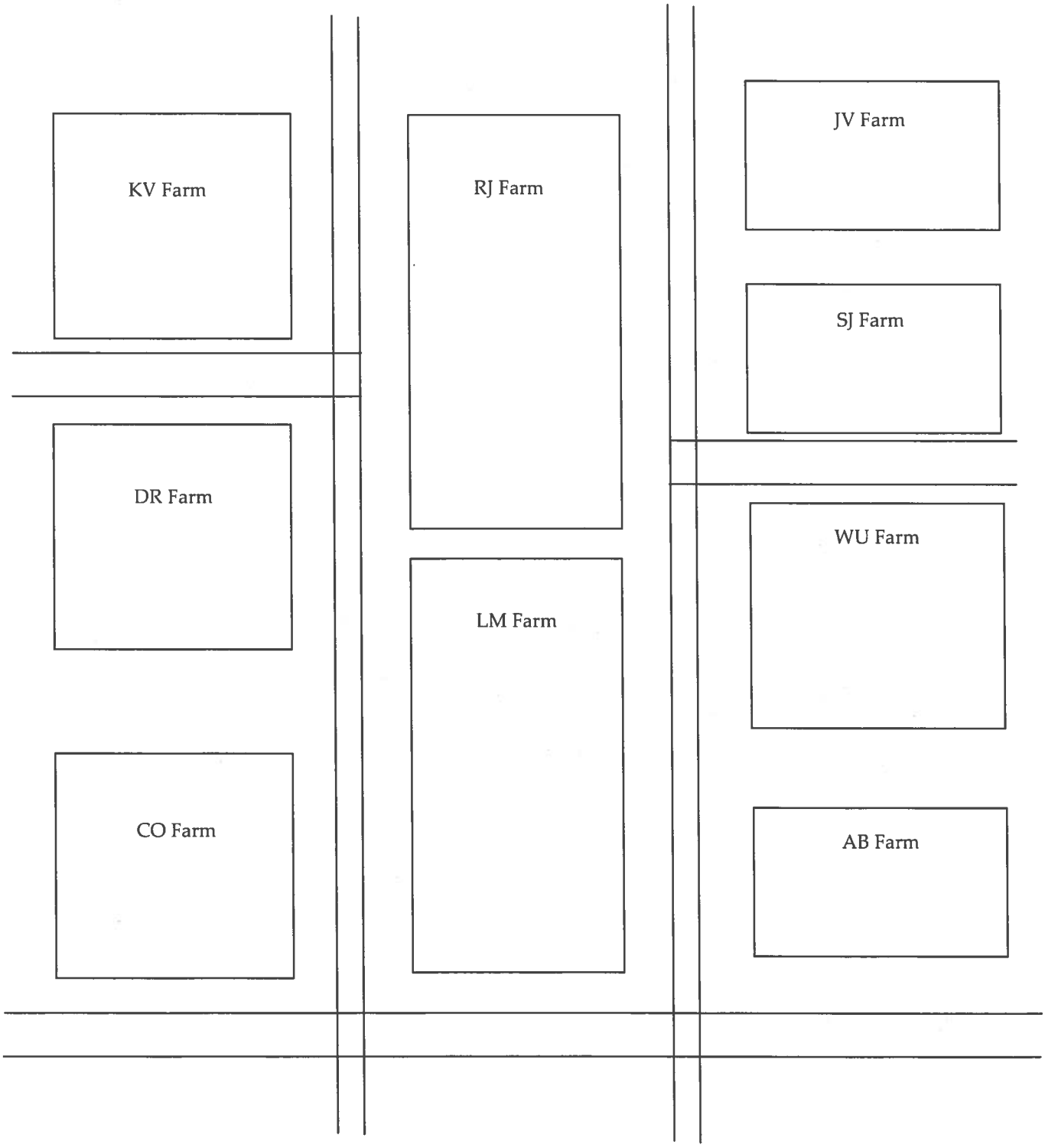
- **Provide food, water, shelter and care necessary to protect the health and well-being of animals.**
- **Implement disease prevention practices that protect animal health, including access to veterinary care.**
- **Provide facilities that allow safe, humane and efficient movement and restraint of animals.**
- **Provide humane euthanasia methods when required for culling and food processing.**
- **Provide training for and monitoring of employees who work with animals.**
- **Provide transportation that avoids undue stress caused by overcrowding, improper handling and excess time in transit.**
- **Encourage all livestock owners and producer groups to develop, promote and use best quality management practices for their own species.**

MISTREATMENT OF ANIMALS BY ANYONE WILL NOT BE TOLERATED.

Minnesota Foundation for Responsible Animal Care
www.mnfrac.org

Activity 3 / Worksheet 1

Animal Traceback Activity – Mosquito County, MN



Activity 3 / Worksheet 2

Animal Traceback Activity—Farm Records

Premise RJ Farm – Feedlot Producer A Premise LM Farm – Feedlot Producer B

Cow-Calf Premise:

KV Farm DR Farm CO Farm JV Farm SJ Farm WU Farm AB Farm

Producer Transfer Records:

Premise RJ Farm: Feedlot Producer A

Transfer From	Transfer To	Date	Comments
KV Farm	RJ Farm	111508	10 head
DR Farm	RJ Farm	111108	5 head
CO Farm	RJ Farm	111508	27 head
DR Farm	RJ Farm	111508	35 head
CO Farm	Packer	052809	77 head

Premise LM Farm: Feedlot Producer B

Transfer From	Transfer To	Date	Comments
JV Farm	LM Farm	111508	10 head
SJ Farm	LM Farm	111108	3 head
WU Farm	LM Farm	111508	20 head
AB Farm	LM Farm	111508	15 head
XY Farm	LM Farm	111508	90 head—truck blew tire
NO Farm	Packer	052809	138 head

Packer Report: Premise XL 132

Premise	QG	YG	Comments
RJ Farm	CH	3	
RJ Farm	CH	2	
RJ Farm	PR	3	
RJ Farm	CH	2	
RJ Farm	CH	2	
RJ Farm	CH	2	
LM Farm	SEL	2	BRUISE
LM Farm	SEL	1	BRUISE
LM Farm	STN	1	BRUISE
LM Farm	SEL	3	BRUISE
LM Farm	CH	1	BRUISE
LM Farm	SEL	2	BRUISE

The above records indicate that the six cattle reported to LM Farm all had bruises. You would like to let the original producer(s) know how their cattle performed so that they can take appropriate measures to improve the quality in the future. Which farm premise(s) should be notified about the bruises that were identified by the packer? Whose farm did the bruised cattle likely come from and explain your answer.

Activity 4 / Worksheet 1

Breeding Record Activity

Breeding records are important as they will allow for accurate completion of registration forms for producers. Use the following data to complete the breed registration form for the current year's calf.

Producer: Bug Farm, Mosquito County, MN

Dam	Sire	AI/Natural	Calving Date	Calf
Lady Gopher	Spike	AI	February 10, 2000	Ms Minnesota Gold
Wild Lady	Wild Goal	AI	January 5, 2000	Twin Slugger
Ms Minnesota Gold	Gopher Power	AI	March 15, 2002	Badger
Ms Minnesota Gold	Viking Dust	AI	March 1, 2003	Packer Pride
Ms Minnesota Gold	Twin Slugger	AI	March 1, 2004	Home Run

Registry Number: 54752

Animal's Name _____ Sex _____ Birth Date _____

Breeder _____ Member Code A-456789

First Owner _____ Member Code A-456789

	Production EPDs					Carcass EPD			Ultrasound Body Compositiion EPD	
	BW	WW	MILK	YW	SC	CW	MARB	RE	%IMF	%RP
IND	+4.1	+32	+20	+55	+.62				+.01	+.09
SIRE	+6.2	+32	+26	+66	+.95	+2	-.20	+.34	-.02	+.05
DAM	+.5	+16	+3	+25						

As of 10/2002

SIRE

MR MILKY WAY _____

MS SWEETTART _____

CRACKER JACK _____

ALMOND JOY _____

DAM

REESES _____

PEPPERMINT PATTY _____

HERSHEY _____

BUTTERFINGER _____

Name and Location of Recorded Owner _____

100% Registered Holstein Ancestry (RHA-NA)

Animal's Name: _____

Animal Number: _____ 100% RHA-NA

Producer Name: _____

Address: _____

Phone: _____

PTA +1748M# +50F# +59P# 34%R
PTA +2.0PL# 2.94SCS#
PTA +1.48t# 1.61UDC# +1.04FLC# 31%R

SIRE

USA 23321546 100%RHA-NA
BIRTH DATE _____
MACE YIELD & TYPE EVALUATION
PTA +1688M# +60F# +59P# 34%R
PTA -0.5PL# 2.94SCS#
PTA +1.58t# 1.61UDC# +1.04FLC# 31%R

DAM

USA 65645654 100%RHA-NA
BIRTH DATE _____
MACE YIELD & TYPE EVALUATION
PTA +1748M# +50F# +59P# 34%R
PTA +2.0PL# 2.94SCS#
PTA +1.48t# 1.61UDC# +1.04FLC# 31%R

Wild Goal

USA 656546541 100%RHA-NA
BIRTH DATE _____
MACE YIELD & TYPE EVALUATION
PTA +1748M# +50F# +59P# 34%R
PTA +2.0PL# 2.94SCS#
PTA +1.48t# 1.61UDC# +1.04FLC# 31%R

Wild Lady

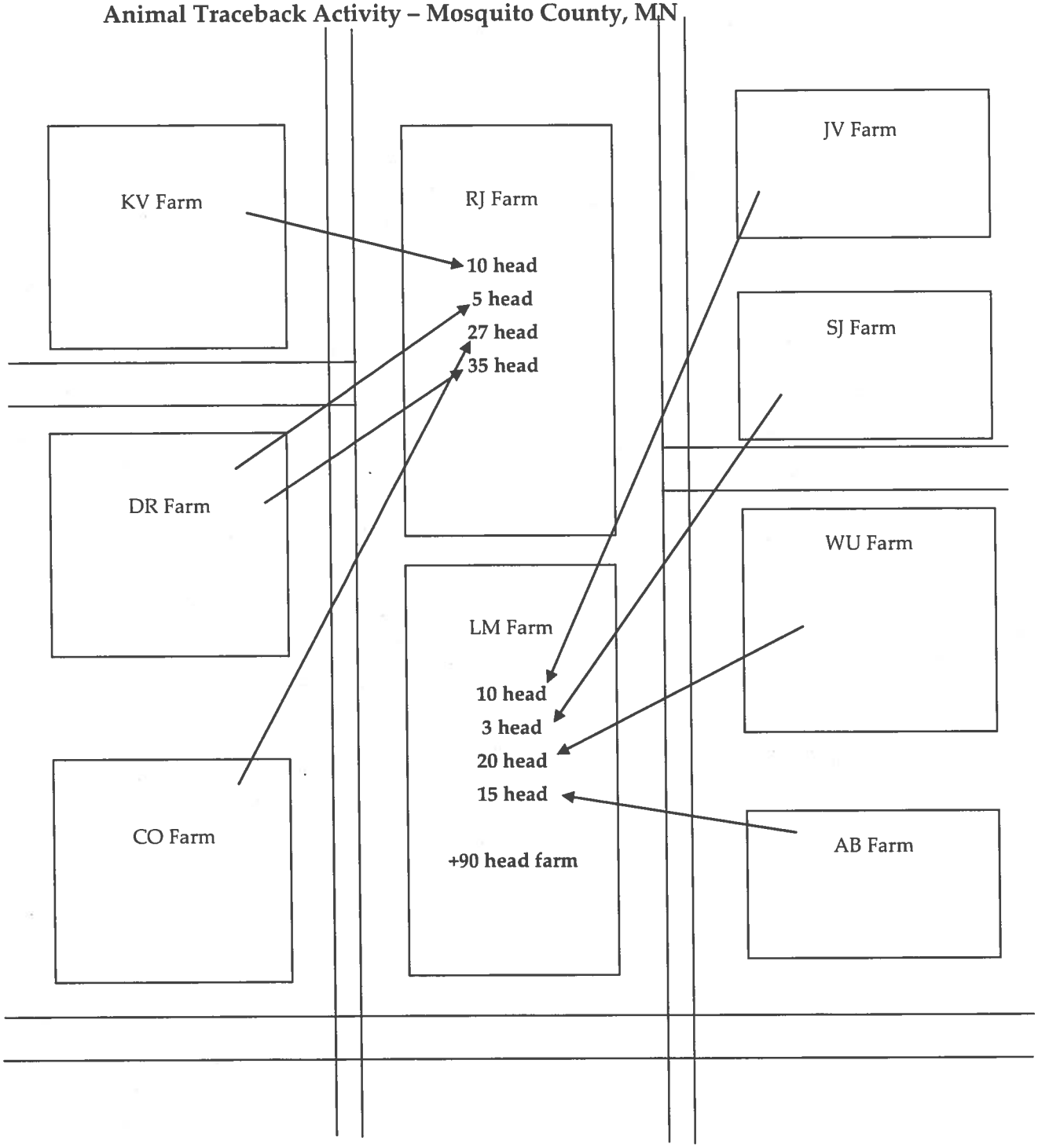
USA 656546541 100%RHA-NA
BIRTH DATE _____
MACE YIELD & TYPE EVALUATION
PTA +1748M# +50F# +59P# 34%R
PTA +2.0PL# 2.94SCS#
PTA +1.48t# 1.61UDC# +1.04FLC# 31%R

USA 6546547861 100%RHA-NA
BIRTH DATE _____
MACE YIELD & TYPE EVALUATION
PTA +1798M# +50F# +59P# 34%R
PTA +2.0PL# 2.94SCS#
PTA +1.48t# 1.61UDC# +1.04FLC# 31%R

USA 457821136 100%RHA-NA
BIRTH DATE _____
MACE YIELD & TYPE EVALUATION
PTA +1748M# +50F# +59P# 34%R
PTA +2.0PL# 2.94SCS#
PTA +1.48t# 1.61UDC# +1.04FLC# 31%R

Activity 3 / Answer Key 1

Animal Traceback Activity – Mosquito County, MN



Activity 3/ Answer Key 2

Animal Traceback Activity—Farm Records

Premise RJ Farm: Feedlot Producer A

Premise LM Farm: Feedlot Producer B

Cow-Calf Premise:

KV Farm DR Farm CO Farm JV Farm SJ Farm WU Farm AB Farm

Producer Transfer Records:

Premise RJ Farm: Feedlot Producer A

Transfer From	Transfer To	Date	Comments
KV Farm	RJ Farm	111508	10 head
DR Farm	RJ Farm	111108	5 head
CO Farm	RJ Farm	111508	27 head
DR Farm	RJ Farm	111508	35 head
CO Farm	Packer	052809	77 head

Premise LM Farm: Feedlot Producer B

Transfer From	Transfer To	Date	Comments
JV Farm	LM Farm	111508	10 head
SJ Farm	LM Farm	111108	3 head
WU Farm	LM Farm	111508	20 head
AB Farm	LM Farm	111508	15 head
XY Farm	LM Farm	111508	90 head—truck blew tire
NO Farm	Packer	052809	138 head

Packer Report: Premise XL 132

Premise	QG	YG	Comments
RJ Farm	CH	3	
RJ Farm	CH	2	
RJ Farm	PR	3	
RJ Farm	CH	2	
RJ Farm	CH	2	
RJ Farm	CH	2	
LM Farm	SEL	2	BRUISE
LM Farm	SEL	1	BRUISE
LM Farm	STN	1	BRUISE
LM Farm	SEL	3	BRUISE
LM Farm	CH	1	BRUISE
LM Farm	SEL	2	BRUISE

The above records indicate that the six cattle reported to LM Farm all had bruises. You would like to let the original producer(s) know how their cattle performed so that they can take appropriate measures to improve the quality in the future. Which farm premise(s) should be notified about the bruises that were identified by the packer? Whose farm did the bruised cattle likely come from and explain your answer.

Activity 3 / Answer Key

Animal ID Activity

Whose farm premises should be notified about the bruises that were identified by the packer? Whose farm did the bruised cattle likely come from and explain your answer.

You should notify LM Farm who sent the cattle to the packer. LM Farm should notify everyone that sent them cattle because the report from the packer does not trace the product back to a specific ear tag of any kind that he can transfer back to the original owner. As such he should notify JV Farm, SJ Farm, WU farm, AB Farm and premise XY.

The bruised cattle likely came from premise XY. Premise XY delivered 90 head to LM Farms on November 15, 2008 and on the way to the feedlot LM Farm, the truck blew a tire. It can be predicted that the truck that blew the tire resulted in injury to cattle on the truck and that those bruises potentially carried over to the carcass quality of those cattle.

Registry Number: 54752

Animal's Name
KEY-- Home Run

Sex
Not given

Birth Date
1-Mar-04

Breeder
Bug Farm, Mosquite County, MN

First Owner
Bug Farm, Mosquite County, MN

Member Code
A-456789

Member Code
A-456789

	Production EPDs					Carcass EPD			Ultrasound Body Compositiion EPD	
	BW	**WW**	**MILK**	**YW**	**SC**	**CW**	**MARB**	**RE**	**%IMF**	**%RP**
IND	+4.1	+32	+20	+55	+.62				+.01	+.09
SIRE	+6.2	+32	+26	+66	+.95	+2	-.20	+.34	-.02	+.05
DAM	+.5	+16	+3	+25						

As of 10/2002

SIRE

MR MILKY WAY
Wild Goal
MS SWEETTART
Twin Slugger
CRACKER JACK
Wild Lady
ALMOND JOY

DAM

REESES
Spike
PEPPERMINT PATTY
MS Minnesota Gold
HERSHEY
Lady Gopher
BUTTERFINGER

Name and Location of Recorded Owner
Bug Farm, Mosquito County, MN

100% Registered Holstein Ancestry (RHA-NA)

Animal's Name: **KEY -- Home Run**

Animal Number: **Not available** 100% RHA-NA

Producer Name: **Bug Farm**

Address: **Mosquito County, MN**

Phone: **Not available**

PTA	+1748M#	+50F#	+59P#	34%R
PTA		+2.0PL#	2.94SCS#	
PTA	+1.48t#	1.61UDC#	+1.04FLC#	31%R

SIRE
Twin Slugger
USA 23321546 100%RHA-NA
BIRTH DATE **1/5/2000**

MACE YIELD & TYPE EVALUATION

PTA	+1688M#	+60F#	+59P#	34%R
PTA		-0.5PL#	2.94SCS#	
PTA	+1.58t#	1.61UDC#	+1.04FLC#	31%R

DAM
MS Minnesota Gold
USA 65645654 100%RHA-NA
BIRTH DATE **2/10/2000**

MACE YIELD & TYPE EVALUATION

PTA	+1748M#	+50F#	+59P#	34%R
PTA		+2.0PL#	2.94SCS#	
PTA	+1.48t#	1.61UDC#	+1.04FLC#	31%R

Wild Goal
USA 656546541 100%RHA-NA
BIRTH DATE **NA**

MACE YIELD & TYPE EVALUATION

PTA	+1748M#	+50F#	+59P#	34%R
PTA		+2.0PL#	2.94SCS#	
PTA	+1.48t#	1.61UDC#	+1.04FLC#	31%R

Wild Lady
USA 656546541 100%RHA-NA
BIRTH DATE **NA**

MACE YIELD & TYPE EVALUATION

PTA	+1748M#	+50F#	+59P#	34%R
PTA		+2.0PL#	2.94SCS#	
PTA	+1.48t#	1.61UDC#	+1.04FLC#	31%R

Spike
USA 6546547861 100%RHA-NA
BIRTH DATE **NA**

MACE YIELD & TYPE EVALUATION

PTA	+1798M#	+50F#	+59P#	34%R
PTA		+2.0PL#	2.94SCS#	
PTA	+1.48t#	1.61UDC#	+1.04FLC#	31%R

Lady Gopher
USA 457821136 100%RHA-NA
BIRTH DATE **NA**

MACE YIELD & TYPE EVALUATION

PTA	+1748M#	+50F#	+59P#	34%R
PTA		+2.0PL#	2.94SCS#	
PTA	+1.48t#	1.61UDC#	+1.04FLC#	31%R

Lesson 7

Speaking Up for

Animal Agriculture

Juanita Reed-Boniface
Educational Consultant

VII. Speaking Up for Animal Agriculture

Juanita Reed-Boniface, Educational Consultant

BACKGROUND INFORMATON

Livestock producers whether they are adults, 4-H members or FFA members need to become advocates for their business. With only 2% of our population in production agriculture and the Internet making it easer to spread anti-agriculture propaganda, it's more important than ever for producers to be vigilant. Producers are the best industry spokespersons to tell the story of how animals are raised, the care that farmer/ranchers give their animals and why they practice good management procedures.

Livestock exhibits are one of the most popular places to visit at most fairs. Often billed as the "picture window" of the livestock industry, shows are the perfect place to showcase our best management practices, to provide positive images of our industry and to inform the public by "speaking up for animal agriculture".

LEARNER OUTCOMES

At the completion of the lesson participants will:

- Understand what constitutes a first impression.
- Be able to analyze ways to make a good first impression at the fair, in the show ring and on farm/ranch.
- Identify the information needed about an audience and ways to gather this information.
- Gain skills in planning a presentation, and shaping the message for success.
- Be familiar with industry jargon and its limitations
- Understand the current issues and challenges in animal agriculture and strategies being used to meet these challenges

SUPPLIES NEEEDED

- flip chart or white board
- pictures of exhibitors at fair
- markers
- hand-outs/worksheets enough for each participant
- PowerPoint (download from http://www.fourh.umn.edu/programs/AnimalScience/): computer and projector

TIME SCHEDULE

- Introduction – 5 minutes
- First Impression –15-20 minutes
- Getting to Know Your Audience – 10 minutes
- Shape your Message for Success – 10 minutes
- Planning your Presentation – 15-30 minutes
- Industry Jargon & Positives to Promote – 10 minutes
- Issues and Opportunities – 20 minutes

Total Time 85-110 minutes

LESSON PLAN

I. Introduction

A. Question: How many live on a farm? How many have school friends that live on a farm? How many of your school friends live in town or the city?

B. As a livestock producer, you have an opportunity to help others – your friends, relatives, teachers, other boys and girls and adults learn about farm animals. As fewer and fewer people live on farms and work with livestock, there are more and more people who do not know how animal are raised and the care they get from their owners.

C. Let's think about the county fair – are the livestock barns one of the most popular places to visit? Why? For some people this is their first and only place to see farm animals and watch them be cared for. As exhibitors we give first and lasting impressions of the livestock industry.

D. Today we are going to do some activities that will help us think about the impressions we give and leave with fairgoers. We will also be helping you to be an animal agriculture spokesperson-learning to give positive messages that will help others know about our industry.

The Power Point gives an outline of main points.

II. First Impressions

A. What comes to mind when you think of a "first impression"? What was your first impression of me? What was your first impression of a teacher, salespersons? Why is a first impression important? Was your first impression a lasting impression?

B. First impressions are powerful; they influence our thoughts and behavior toward someone or something. A negative first impression is hard to undo!! First impressions happen everywhere—with a new person we meet, how we handle our animals at the fair, and how we keep our farms ranches.

C. Activity

1. Divide into groups; give each group a set of the pictures and the discussion sheet. Have them study the pictures and answer the questions. Then share in total group discussion.
2. Teaching points to emphasize:
   - Each picture represents a first impression – what impression are we giving about ourselves, 4-H, livestock?
   - Body language is powerful. We can encourage or discourage questions/discussion by our body language.
   - Getting animals ready for show does create a "mess", but how can we minimize the mess and give the public a good "first impression"?
3. Generalize – How do we create good "first impressions" on our farms/ranches? What can you do?
4. Review main points, "take home" messages from this activity.

III. Telling the Story

Now let's think about becoming spokespersons for animal agriculture.

A. **Getting to Know Your Audience (group discussion, draw on own experiences)**
Whenever we are going to tell somebody something, the first thing we have to know is who the audience is.

Let's pretend we are all at the county fair and think about these questions.

- Who comes to the fair?
- Who comes to see you in the livestock barn?
- What do they know about your animal?
- What will they want to know?
- What might be some of their concerns?

(Write questions on flip chart, discuss each one as a total group, or if the group if large, break down into smaller groups. If it is an intergenerational audience, be sure groups have a cross-section of age groups; ask youth leaders or adults to work with groups who have more younger participants).

Other situations: (1) You are giving a report on your 4-H or FFA animal project in your school classroom. (2) You have been asked to speak to a local non-agricultural community group about your livestock project or enterprise (Kiwanis, Rotary, PTA, church group).

B. Shaping Your Message for Success

1. **S** is for the Style you give your message.
   - Be yourself
   - Use personal experiences
   - Keep it simple
   - Example – For example, if you were asked the question: Where did you get your steer? You might say, he was home raised, his mother was medium sized black cow, he was a frisky calf and I thought he might be hard to train. Or if you were asked how did you get into dairy? – Tell about your interest as a child, growing up with live stock, and/or opportunities that came your way to be in the business.

2. **H** is for the honesty you convey
   - Be honest, be sincere
   - Don't fake answers – have the facts or say I don't know

3. **A** is for the Assertive way you deliver your message.
   - Be confident, comfortable, practice, practice.

4. **P** is for the positive statement you make
   - Make positive statements. Example: "Americans can trust American meat products." "Farmers care about their animals and the environment."

5. **E** is for the enthusiasm you have
   - Smile, be friendly, be warm and open.
   - Body language and voice tone impact 93% of your message.

C. Planning your Presentation (activity and practice)

OPTION I

1. There are many opportunities to give presentations; one opportunity is at the State Fair. As part of the 4-H State Fair herdsmanship program 4-H exhibitors have been challenged to become more effective in communicating one on one with fair visitors and to develop educational/promotional activities during specific times during livestock weekend.

2. Key messages that we want to communicate are:
   - Put a face on the animal 4-H'er background, family, etc.
   - My animal is raised for food and fiber
   - The food this animal produces is nutritious and wholesome (safe)
   - This animal is taken care of using the best management practices
   - Different management practices are used, but all the food is nutritious and wholesome (safe)

3. *One on one communication*

   Using the worksheet, have participants work in pairs, each group select a fair visitor i.e. young child, teenager, young parent, young career person, retired person. What are questions this person might ask? How would you answer them and communicate one or more of the key messages?
   Follow with discussion, strong points, other things that could be included, use of words, things that might be applicable to one species and not another.

   Remember to keep answers *Clear, Concise, Consistent and Compelling.*

4. *Consumer Education/Promotion Plan*

   Group members by species and in small groups have them brainstorm educational/promotional activities that they could develop to showcase in their tack area. Encourage them to use the key messages or principles of quality assurance and ethics they have learned in the LQA&E program.

   Discuss advantages of "hands-on" activities vs. static posters. Practice ways to engage the audience.

   Show examples that have been used at county or state fair. Evaluate the examples. Does the activity create an inviting environment? Are props well used to help enhance consumer and understanding and education? Is subject matter current, accurate and relevant?

OPTION II

1. Using worksheet, have participants work in pairs, each group select audience – or you may want to assign the audience/situation (i.e. county fair or other show, radio program, school presentation, etc).

2. Have each group present their message. Follow the presentation with discussion about strong points, other things that could be included, use of words and other things that might be applicable to one species and not another.

D. Build Bridges to Your Audience

1. When we know a subject well we tend to use words that are common to us, but not to others. For example: farm operation, working cattle.

2. It is important to choose our words carefully so we communicate what we really mean. Think about building bridges from our world with its slang and jargon to the public's world.

3. Jargon to avoid – (Involve group to make list of common words used in the industry on flip chart, then list preferred words).

- Working cattle *vs* weighing, vaccinating, sorting by age
- Fat steer or fat hogs *vs* market ready, lean
- A.I. *vs* artificial insemination
- Drugs *vs* animal health care products, prescription medicine
- Operation *vs* farm/ranch business
- Slaughter *vs* process or harvest

4. Positives to promote
   - Explain abbreviations, for example: Average Daily Gain, heifer, steer, or breed names which may be uncommon –a glossary may be helpful, or at the beginning of the presentation indicate words that will be used and their definitions.

E. Animal Agriculture Issues and Opportunities

1. Animal agriculture is not without its challenges today. Consumers are demanding more quality control and more information about the food they eat. Animal activist groups and environmentalists challenge proven methods of animal care. Agriculture spokespersons need to be aware of these issues, and know and articulate the facts in such a way that they give a positive picture of animal agriculture.

2. Activity – (using worksheet Animal Agriculture Issues and Opportunities). In small groups by species, have participants identify and list:
   a. Facts or key messages about their species that they want people to know.
   b. Issues or challenges in the industry today
   c. Strategies that are being used to meet those challenges

IV. Talking it Over

A. Sharing
- What did you learn about being a spokesperson?
- What do we need to know about our audience?
- Why is it important to choose the right words?

B. Process what's important
- Why do we need to "speak up for animal agriculture?"
- What are things to keep in mind?

C. Generalize to your life
- How can you use the facts or skills we learned today in your everyday life?

D. Apply what you learned
- Are there other situations where you need to be a "spokesperson"?

SOURCES

National Cattlemen's Beef Association Spokesperson Development Program, National Cattlemen's Association, 5420 South Quebec St. P.O. Box 34069, Englewood, Colorado 80155, ph 303-694-0305

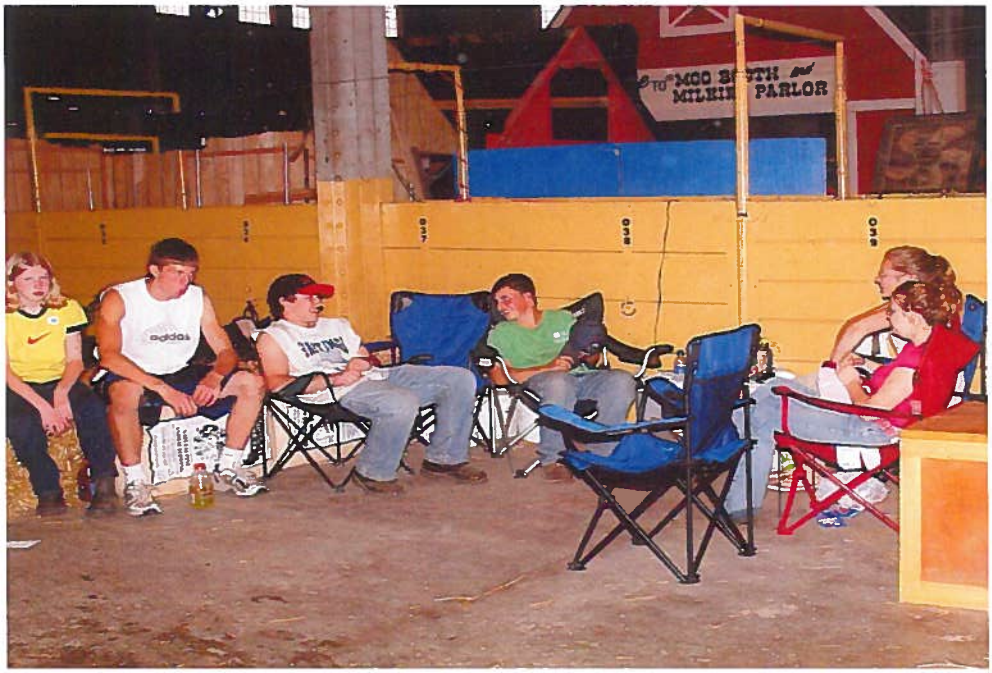
Training Trainers to Teach, Selected Units: Lessons: Audience Needs Assessment, Presentation Skills, Simple Visuals, National 4-H Council, 7100 Connecticut Ave, Chevy Chase, MD 20815

ADDITIONAL RESOURCES

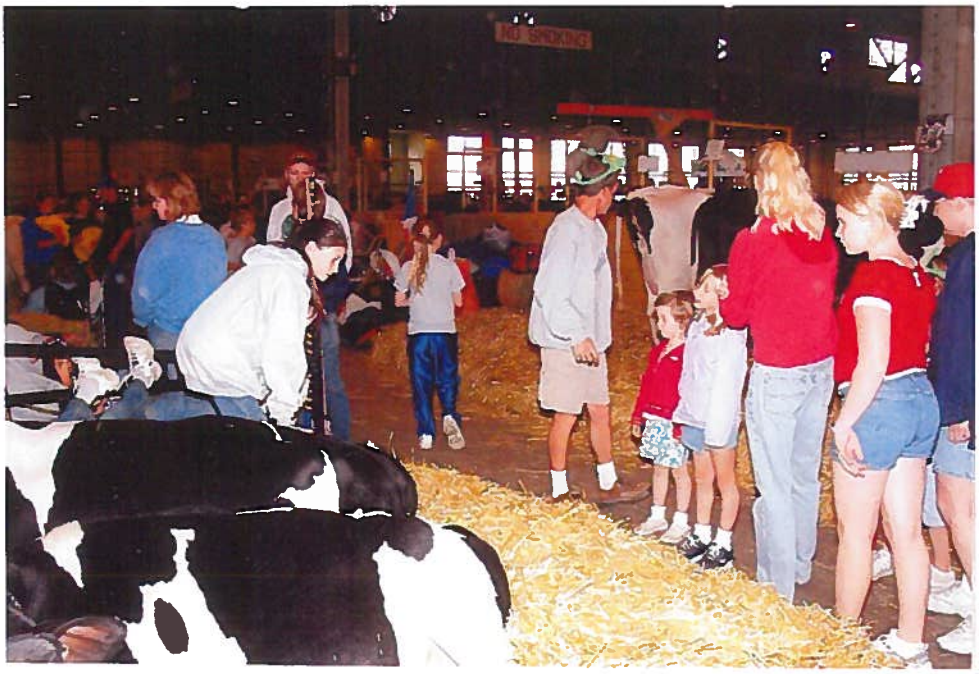
4-H Animal Science Series
4-H CCS BU – 6369 Leading the Flock, Chapter 4 "Sheep Issues"
4-H CCS BU – 6370 Sheep Helpers Guide, Chapter 4 "What's Your Opinion?"
4-H CCS BU – 6368 Shear Delight, Chapter 4 "Practicing Ethical Decision Making"
4-H CCS BU – 6352 Here's the Beef, Chapter 2 "Becoming Ethically Enlightened Forever"
4-H CCS BU – 6354 Beef Helper's Guide, Chapter 1 "Front and Center"

A.

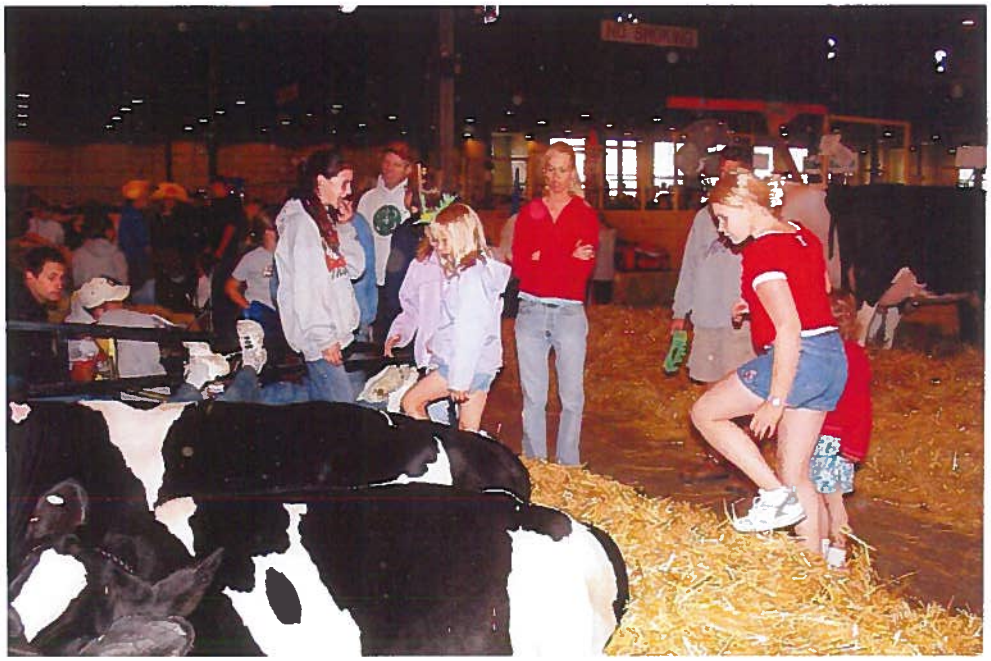
B.



C.



D.



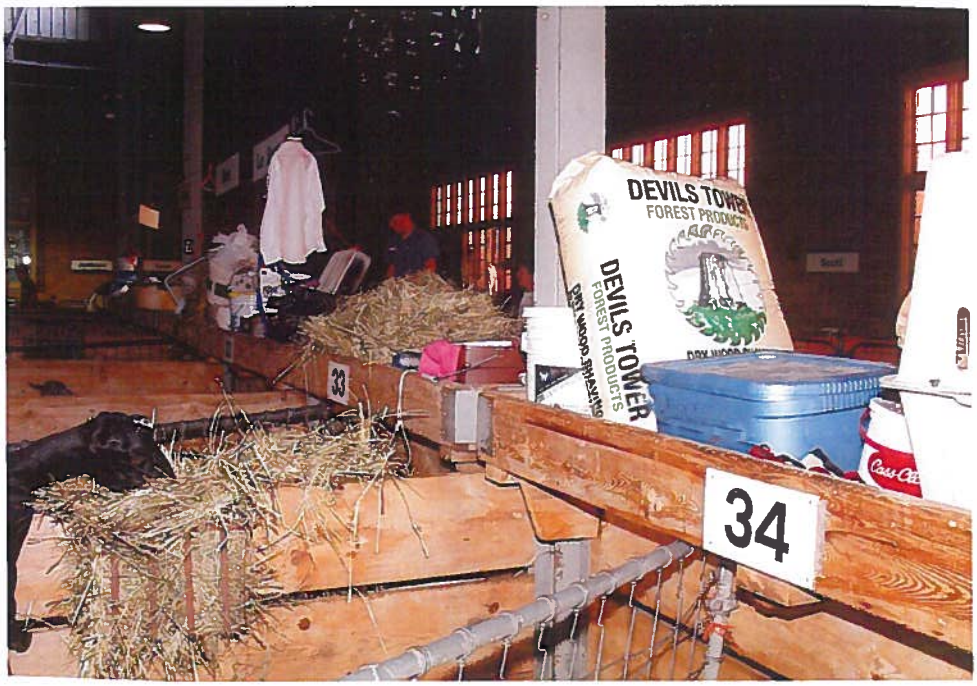
E.

F.

G.

240

H.


DEVILS TOWER
FOREST PRODUCTS
DEVILS TOWER
FOREST PRODUCTS
33
34

I.

J.

FIRST IMPRESSIONS WORKSHEET

As a group study the pictures and discuss the following questions:

1. What is your first impression of this group of photos?

2. Which pictures show positive interaction with children and adults? In what ways?

3. Compare the seating arrangement in picture A and B. If you were a fairgoer and wanted to ask some questions, which group seems more welcoming or open to questions?

4. What impressions are given in pictures E and F? How could these impressions be changed?

5. Compare the herdsmanship in pictures G and H. Which one gives the best first impression? How could the exhibitors in picture H improve?

6. When was the picture J likely taken? How can we do a good job grooming without looking like a "total mess" to the public?

7. List ways to make a good "first impression" when exhibiting at fairs and shows. Why is this important?

8. What can we do on our farms/ranches to give a good impression to visitors who come to our place?

WELCOME TO

LQA&E PROGRAM Level II

Speaking Up for Animal Agriculture Lesson

A Joint Project Of

MINNESOTA 4-H

UNIVERSITY OF MINNESOTA EXTENSION

Minnesota Livestock Breeders Association

AGSTAR FINANCIAL SERVICES ALA

MINNESOTA PORK BOARD

frac

First Impressions

- What are they?
- Why are they important?

Telling the Story, Becoming a Spokesperson

Know Your Audience

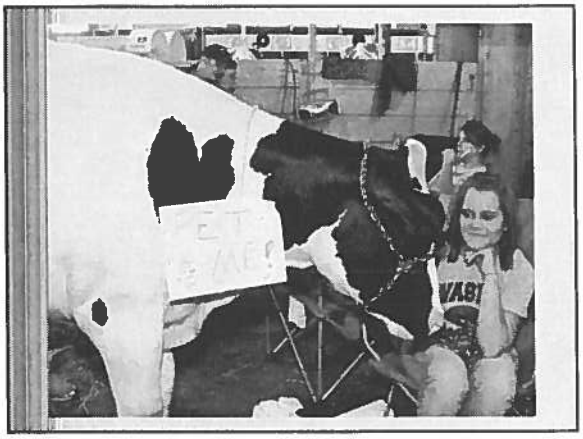
- Who comes to fair?
- What do they know?
- What will they want to know?
- Concerns?

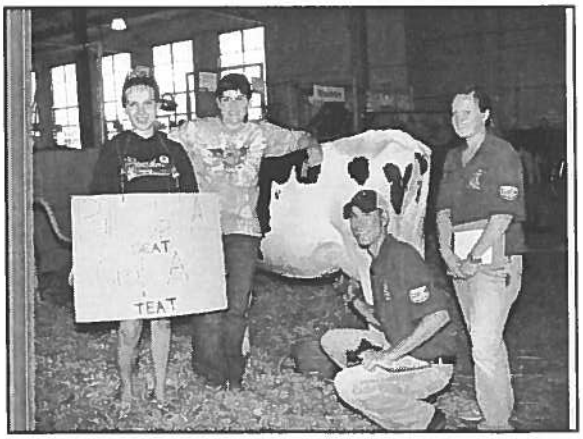
Shape Message for Success

S - Style
H - Honesty
A - Assertive
P - Positive Statement
E - Enthusiasm

Planning Your Presentation ~ Key Messages

- Put a face on the animal – 4-Her's background, family, etc.
- My animal is raised for food and fiber
- The food this animal produces is nutritious and wholesome (safe)
- This animal is taken care of using the best management practices
- Different management practices are used, but all the food is nutritious and wholesome (safe)





Build Bridges

- Jargon to Avoid
- Positives to Promote
- Abbreviations

Issues and Opportunities

- Facts/Key messages
- Issues/Challenges in Industry
- Strategies to meet challenges

Speaking Up For Animal Agriculture

Juanita Reed-Boniface,
Educational Consultant

Get to Know Your Audience

The first step to prepare your presentation or message is to "begin with the end in mind." Who is your audience? In order to target your message you need to gather a general understanding of your audience and what they expect from their speaker.

1). Do audience members expect to be informed, entertained, or called to action? What is their general knowledge level about the topic or issue you plan to address?

2). What attitudes and opinions do audience members hold, as they relate to your topic?

3). What issues and concerns are top-of-mind to this audience?

H.O. – 1

Shape Your Message For Success

S – Is for *Style* you give your message.

Be yourself
Use personal experiences.
Use descriptive language.
Make your words paint pictures.
Keep it Simple

H - Is for the *Honesty* you convey.

Be honest.
Be Sincere.
If you do no know the answer, do not fake it.
Do not overstate your point.
Show concern, when appropriate.

A - Is for the *Assertive* way you deliver your message.

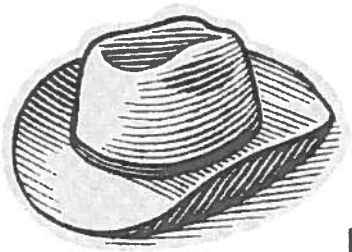
Be confident.
Be comfortable.
Practice, Practice, Practice.
Preparation builds confidence.
Don't tell the audience you are underprepared or nervous...keep it a secret.

P - Is for the *Positive* statement you make.

Make positive statements.
Avoid answering in the negative.
Keep your goals in mind.
Stick to your communication goals with positive responses.
Know your facts.

E - Is for the *Enthusiasm* you have.

Remember to smile.
Use your hands and body language.
Be animated and friendly.
Be warm and open.
Let your voice, tone and pace vary.



Planning Your Presentation

Who is your audience? _____

What is their knowledge level about your topic?

What is their attitude towards your topic?

What do you want your audience to learn, think or feel?

What ONE message do you want them to remember about you and your exhibit?

What might you say to them?

H.O. – 3

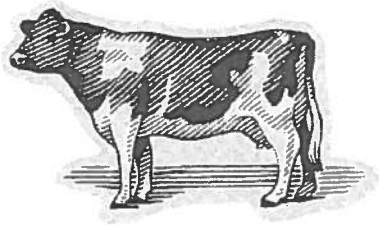
Build Bridges to Your Audience

When choosing your words, remember your audience. Be careful not to talk in your own jargon or lingo. Think of positive ways to communicate messages. Imagine you are building a bridge from your world (of jargon) to the public's world.

Industry Jargon to Avoid:

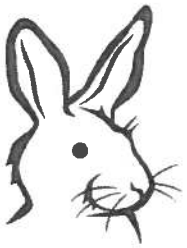
Positives to Promote:

H.O. – 4



Animal Agriculture Issues and Opportunities

H.O.—5



Animal Welfare

Animal Rights

*Animal Well-Being: Caring for animals in a manner that ensures kindness, prevents cruelty and minimizes suffering.

*Animal Rights: Treating animals as if they had equal rights with human beings. Based on the belief that because animals have a nervous system similar to that of humans, animals are capable of suffering and are entitled to have certain moral and individual rights.

Animal Well-Being	Animal Rights
Humane treatment of animals	Humans and animals have the same basic rights.
Responsible care and management of animals.	Stop all use of animals for human need.
Prevent cruelty and unnecessary suffering.	No animals used for food or clothing.
Support programs caring for abandoned pets, animal shelters and animal adoptions.	No animals used for sports or medicine.
Encourage educational programs for pet owners and livestock producers.	No animals used for research.
Teach humane procedures for handling livestock.	No livestock shows, zoos, or pets.

H.O. – 6

Facts on the Animal Rights Movement

* Animal rights movement today is defined by the Humane Society of the United States. PETA continues to be the noise maker; while the Farm Sanctuary operates as an independent subsidiary of the Humane Society of the U.S.

*Animal rights groups spend millions of dollars every year to promote their cause.

*Animal rights groups are taught to promote their causes to legislators at state and national levels.

*Animal rights groups tend to associate themselves with two popular beliefs most Americans hold: kind and humane treatment of animals and saving the Planet Earth and other environmental issues.

*Most animal rights groups are nonviolent and prefer to utilize peaceful methods to promote their cause. However there have been violent situations at research labs, livestock auctions, on farms, ranches and other animal facilities.

*Animal rights groups ultimate goal is to have the entire world become vegetarians.

*Animal rights groups use the media to sensationalize events, make gross exaggerations and inflammatory statements, and sometimes destroy property to gain notoriety and name recognition.

Facts on the Animal Well-Being Movement

*Initially, reacted to animal rights group. Now, proactively addressing animal welfare issues, benefits of animal agriculture and safe wholesome food products.

*Animal welfare groups learned more about the concerns of consumers and are developing educational and promotional campaigns to address those concerns.

*Programs for animal welfare groups have been developed: spokesperson training, blogs, legislative "watch dogs", etc.

*Teach demonstrations and workshops promoting best management practices in animal care and well-being.

*Share with decision makers and community groups the benefits of youth being responsible for livestock: developing and nurturing the livestock as well as the life skills for youth.

*All segments of the agriculture industry are coming together to speak with one voice: no-tolerance of animal rights attacks and bad legislation.

Appendix

DiConstanzo, Alfredo and Eustice, Ron, "Beef Quality Assurance" Lesson 6 in **Minnesota Beef Education Series, Health Management,** University of Minnesota Extension Service.

4-H Animal Science Project materials published by 4-H Cooperative Curriculum System and available from National 4-H Council, 7100 Connecticut Avenue, Chevy Chase, Maryland 20815-49999 or from Minnesota Extension Educators.

4-H CCS BU 8161 Dairy 1: Cowabunga
4-H CCS BU 8162 Dairy 2: Mooving Ahead
4-H CCS BU 8163 Dairy 3: Raising to the Top
4-H CCS BU 8164 Dairy Helpers Guide

4-H CCS BU 6351 Beef 1: Bite Into Beef
4-H CCS BU 6352 Beef 2: Here's the Beef
4-H CCS BU 6353 Beef 3: Leading the Charge
4-H CCS BU 6354 Beef Helpers Guide

4-H CCS BU 8065 Swine 1: Incredible Pig
4-H CCS BU 8066 Swine 2: Putting Oink in Pig
4-H CCS BU 8067 Swine 3: Going Whole Hog
4-H CCS BU 8068 Swine Helpers Guide

4-H CCS BU 6367 Sheep 1: Rams, Lambs and You
4-H CCS BU 6368 Sheep 2: Shear Delight
4-H CCS BU 6369 Sheep 3: Leading the Flock
4-H CCS BU 6370 Sheep Leaders Guide

4-H CCS BU08352 Dairy Goat 1 Getting Your Goat
4-H CCS BU 08353 Dairy Goat 2 Stepping Out
4-H CCS BU 08354 Dairy Goat 3- Showing the Way
4-H CCS BU 08355 Dairy Goat 4 Helpers Guide

4-H CCS BU 07909 Meat Goat 1-Just Browsing
4-H CCS BU 07910 Meat Goat 2 Get Growing with Meat Goats
4-H CCS BU 07011 Meat Goat 3 Meat Future
4-H CCS BU 07912 Meat Goat 4-Helpers Guide

4-H CCS 06363 Poultry 1-Scratching the Surface
4-H CCS BU 06364 Poultry 2-Testing Your Wings
4-H CCS BU 06365 Poultry 3- Flocking Together
4-H CCS BU 06366 Poultry 4-Helpers Guide

4-H CCS BU 08080 Rabbit 1-What's Happening
4-H CCS BU 08081 Rabbit 2- Making Tracks
4-H CCS BU 0882 Rabbit 3 All Ears
4-H CCS BU 08083- Rabbit 4 Helpers Guide

Ron Eustice, Beef Quality and Safety Assurance Workshops, Minnesota Beef Council, Suite 426, 2850 Metro Drive, Minneapolis, MN 55425, ph. 952-854-6980

Goodwin, Dr. Jeff, **The Jeff Goodwin Series of Educational Videos** on Livestock Ethics, for information and prices: CEV Multimedia, P.O. Box 65265, Lubbock, TX 79464, www.cevmultimedia.com, ph. 800-922-9965

Grandin, Temple, ED. Livestock Handling and Transport, CAB International, U.S. Distributor Oxford University Press, Customer Service Department, 2001Evans Road, Cory, North Carolina 27513, credit card orders: 1-800-445-9714, fax: 919-677-1303.

Missouri Show Me Quality Assurance, Marcia Shannon Associate Professor Extension – Swine Nutrition Specialist, S 133 Animal Science Research center, Division of Animal Sciences, Columbia, MO 65211, ph 573-882-7859, CarlsoM@missouri.edu

National Institute for Animal Agriculture, 1910 Lyda Drive, Bowling Green, KY 42104-5809, phone: 270-782-9798, fax: 502-732-0188, www.animalagriculture.org.
Educational Training Kits:
Beef Cattle Handling
Dairy Cattle Handling
Swine Handling and Transportation

Nebraska Assuring Quality Programs, Contact: Donald Levis, Northeast Research and extension center, University of Nebraska, ph. 402-370-4016, dlevis@unl.edu

Ohio Youth Food Animal Quality Assurance Program, contact: Paul Kuber, Assistant Professor, Department of Animal Science, ph 614-247-8305, kuber.2@osu.edu Order from: Michelle Milligan_2029 Fyffe Court, 221 A Animal Sciences Building, Columbus, OH 43210, ph 614-292-7374, milliga.4@osu.edu

Texas Quality Counts, contact: Dr. Josi Sterle, Assoicate Projessor & Extesnion swine Specialist, Rm 410 Kleberg 979-845-3560, j-sterle@tamu.edu

Organizations with Additional Resources on Animal Welfare/Ethics and Quality Assurance

American Sheep Industry Association, 9785 Maroon Circle, Suite 360, Centennial, CO 80112, ph. 303-771-3500, www.sheepusa.org

Broiler and Egg Association of Minnesota, 108 Marty Drive, Buffalo, MN 55313, ph. 763-682-2171, www.minnesotaturkeys.com

Midwest Dairy Association, 2015 Rice Street, St.Paul, MN 55113, ph. 651-488-0261, www.midwestdairy.com

Minnesota Beef Council, 2950 Metro Drive #102, Bloomington, MN 55425, ph. 952-854-6980 www.mnbeef.org

Minnesota Farm Bureau, P.O. Box 64370, St. Paul, MN 55164, ph. 651-905-2100, www.minnesotafarmbureau.org

Minnesota Federated Humane Society, 6613 Penn Ave South, St. 100, Richfield, MN 55423. Contact: Tim Shields ph. 612-866-8663

Minnesota Foundation for Responsible Animal Care, P.O. Box 393, Farmington, MN 55024, ph. 612-810-5091, www.mfrac.org

Minnesota Pork Board, 151 Saint Andrews Court, St. 810, Mankato, MN 56001, ph. 507-345-8814, website: www.mnpork.com

Minnesota Turkey Research and Promotion Council, 108 Marty Drive, Buffalo, MN 55313, ph.763-682-2171, www.minnesotaturkeys.com

National Cattlemen's Beef Association, 91101 Nichols Ave # 300 Centennial, CO 80112, ph. 303-694-0305, website: www.beef.org

National Pork Producers Board, P.O. Box 10383, Des Moines, IA 50306, ph. 515-223-2600, www.nppc.org

University of Minnesota Animal Science Department, 205 Haecker Hall, 1364 Eckles Ave., St.Paul, MN 55108, ph. 612-624-9742, www.ansci.umn.edu