



Animal Agricultural Myths

Middle School Food and Agricultural Literacy Curriculum

Precepts

- D. Character
- D1. Live with integrity

National Standards

- AS.06.02.01.b. Discuss consumer concerns with animal production practices relative to human health.
- CS.01.04.01.c. Perform tasks with integrity.
- NL-ENG.K-12.4 – Communication Skills
- NL-ENG.K-12.12 – Applying Language Skills
- NS.5-8.6 – Science in Personal and Social Perspectives

Student Learning Objectives

- As a result of this **unit** the students will...
- Recognize the importance of animal product uses and consumer product awareness.
- As a result of this **lesson** the students will ...
- Dispel common animal agricultural myths.

Content Outline

- I. **Myth – A fiction or half-truth, especially one that forms part of an ideology**
 - A. **Myths** to be addressed
 - 1. Cloning results in severely damaged animals that suffer and continue to have health problems all their lives.
 - 2. Meat from cloned animals is already in the food supply.
 - 3. A vegetarian diet is healthier than a diet that includes meat, milk, and eggs.
 - 4. Farm animals in confinement are prone to disease, forcing farmers to routinely use antibiotics, hormones, and drugs to keep them alive. This jeopardizes animal and human health.
 - 5. Farmers care less for their animals than they do for the money animals bring them. Agribusiness corporations mislead farmers

Time

Instruction time for this lesson: 60 minutes.

Resources

Animal Agriculture and the Soybean Checkoff. (2009). Myths vs. facts. Retrieved July 27, 2009, from <http://animalag.org/facts.aspx> — Covey, S. (1998). The 7 habits of highly effective teens. New York: Franklin Covey Co. — Department of Health and Human Services. (2007). Key facts about avian influenza (bird flu) and avian influenza a (H5N1) virus. Retrieved July 27, 2009, from <http://www.cdc.gov/flu/avian/gen-info/facts.htm> — United States Department of Agriculture. (2009). Swine flu. Retrieved January 8, 2010, from http://www.usda.gov/documents/ARS_STUDY_H1N1_Pork_12-16-09.pdf. — myth. (n.d.). The American Heritage® dictionary of the English language (4th ed.). Retrieved July 27, 2009, from Dictionary.com website: <http://dictionary.reference.com/browse/myth> — National FFA Organization. (2003). LifeKnowledge Precepts and Signs of Success. — National FFA Organization. (2009). LifeKnowledge Online. Retrieved July 27, 2009, from <http://agedlearning.org>. — United States Department of Agriculture. (2007). Bovine spongiform encephalopathy: Mad cow disease. Retrieved July 27, 2009, from http://www.fsis.usda.gov/Fact_Sheets/Bovine_Spongiform_Encephalopathy_Mad_Cow_Disease/index.asp — United States Food and Drug Administration. (2009). Myths about cloning. Retrieved July 27, 2009, from <http://www.fda.gov/AnimalVeterinary/SafetyHealth/AnimalCloning/ucm055512.htm>

Tools, Equipment, and Supplies

- Overhead projector/transparencies
- Scissors
- Writing utensils
- Toy microphones or other objects to be used as a microphone
- MS.AS.4.1.AS.A – one per student
- MS.AS.4.1.TM.A —TM.I – one per teacher
- MS.AS.4.1.ASSESS.A – one per student

Key Terms

The following terms are presented in this lesson and appear in **bold italics**:

Myth

- into using production systems and drugs that mean profits at the cost of animal welfare.
- 6. Farm animals are routinely mutilated by beak trimming, tail docking, branding, dehorning, castration, and other practices to make it easier for the farmer.
- 7. Bovine spongiform encephalopathy (mad cow disease) infected tissue can be found in the human food supply.



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8. Coming in contact with any live poultry will give you avian influenza (bird flu).
9. You can get the Novel H1N1 virus (swine flu) from pork or pork products.

Interest Approach

When students enter class provide them with a copy of **MS.AS.4.1.AS.A.** Depending on the pace you need to set, have them cut the paper in half or have the papers cut prior to class. Each student should have a "fact card" and a "myth card." You will read the five statements below to the class. These statements/predictions were made based on what was relevant at that time. Have students vote whether they think the statement is fact or myth by raising the fact card or myth card. At the conclusion of each vote, explain the statement and where it originated.

It's great to see everyone today. It appears that our attention is locked in and our ears are tuned to listen.

Who has ever heard a story or comment and thought to yourself, "There's a little fact and fiction in that but I don't know what I should believe."

Pause for students to raise hands.

Stories we watch on the news are good examples of this. The newscasters report on the events that happened but sometimes they exaggerate the details to make the story seem more tragic, exciting, or urgent than it really is. Therefore, the story is a mixture of both fact and fiction.

You might reference a current and local news story.

Today we will ask ourselves some critical questions when it comes to stories we have heard. After hearing each statement that I read, the task is to decide if each statement is a fact or a **myth**. We will take a class vote by raising one of the two cards you have: fact or **myth**. What questions are there? Let's begin.

Number one: "Television won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night."

Allow students to vote whether this is fact or myth.

This became a **myth**. Said by Darryl F. Zanuck, Head of 20th Century-Fox in 1946.

Number two: "Everything that can be invented has been invented."

Allow students to vote whether this is fact or myth.

This became a **myth**. Said by Charles H. Duell, U.S. Commissioner of Patents, in 1899.

Number three: "The telephone has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us."

Allow students to vote whether this is fact or myth.

This became a **myth**. In 1876 this statement was published on a Western Union internal memo.

Number four: "There is no reason for any individual to have a computer in their home."

Allow students to vote whether this is fact or myth.

This became a **myth**. Kenneth Olsen, President and Founder of Digital Equipment Corporation, stated this in 1977.

How many of these four statements were fact?

Students should answer, "None."

Absolutely right!

At the time these statements were made many people believed that the current state of the world would be the future state of the world – not many changes would happen. After time, however, the original ideas were proven wrong in some way. This also happens in animal agriculture.

We will discover how easy it is for facts to be mixed with **myths**...which leads to many misguided perceptions, or the wrong idea about agriculture. Let's keep our attention to detail locked as we dispel some **myths** in animal agriculture and challenge our classmates to a game of fact vs. **myth**.



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Summary of Content and Teaching Strategies

Objective 1. Dispel common animal agricultural **myths**.

Deepen the level of students' understanding of what a myth is and how numerous myths have been and are being dispelled in animal agriculture. Provided are 10 animal agricultural myths on **MS.AS.4.1.TM.A** thru **MS.AS.4.1.TM.I**. You can use all the issues or pick the ones that you feel are most relevant to your students.

Divide students into no more than 10 groups and have them become the experts on the issues. Give each group an animal agricultural myth sheet (**MS.AS.4.1.TM.A** thru **MS.AS.4.1.TM.I**) to study. The task is to come up with two statements, based on the sheet that describes their issue, that are fact and two statements that are fiction.

They will then pose the four statements to the class and the class must vote whether they think each statement is fact or myth using their fact and myth cards from before.

At the conclusion of the voting, the expert group should explain why the statement is fact or myth. Allow for some time at the end of each group's presentation for questions to further understand the animal agricultural myth.

A **myth** is an idea, thought, or story that is fiction or half-truth. When many of the people made the previous statements they probably thought what they said was true. But over time we realized many of them weren't even half true. Animal agriculture has been faced and continues to be faced with **myths** or ideas that may not be completely true. What questions do you have about the meaning of a **myth**?

Answer student questions.

Divide class into groups based on its size and number of myths you want to address. Count off by numbers or group students by proximity, hair color, shirt color, etc.

Let's form our groups...

Now that we're in our groups, let's continue. The task is to become the expert on the issue that the group is given. Each group will receive a sheet that describes an animal agriculture **myth** with the real facts.

When you hear the word BEGIN, you will have 15 minutes to read the sheet and develop four statements about the issue. Two of the statements

should be true and two should be false, or a **myth**. Write these statements on a separate piece of paper. What questions do you have? BEGIN!

Circulate around the room to help students develop their statements as necessary. Remind the students they are now the experts on their issue and will need to transfer this information to their fellow classmates. This may include answering questions at the conclusion of the fact vs. myth statements. Announce the remaining time for students at four minutes, two minutes, and one minute.

Time is up! Wow! There are some very good ideas waiting to be heard...

Each group will have the opportunity to challenge other groups. One person from each group will stand and read the statements the group developed to the class. After the statements are read, the other groups will vote if those statement are fact or **myth** using the same cards as before. What questions do you have?

When I point to each group, one group member will read each of the four statements one at a time. Make sure to explain each statement upon completion so that others gain the same knowledge you now hold as an expert.

Point to groups and have each share their statements and new knowledge. Thank each group for sharing.

Review/Summary

Use an Eye Witness News e-Moment® to review the information covered during class. Lead into the e-Moment by discussing the importance of being honest and showing integrity in life. Have students work in pairs and assume the roles of a news reporter and an interviewee. Students will report live about what they have learned. Allow 30 seconds for the interview and then have students switch roles so that each student has the chance to summarize and talk about what they learned.

You have just learned about several myths related to animal agriculture and the facts behind them. When we hear or read news on television, the Internet, or in the newspaper, we trust the people sharing the information. We trust that they will provide the facts and show integrity in what they report. We should be honest and show integrity in everything that we do. By showing integrity we, too, will become trusted individuals in our schools, homes, and communities.



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We will have a chance to show integrity through a news report that only delivers the honest facts about the issues we just learned about. When you hear INVESTIGATE, you will have three minutes to work with a partner within your group to create a 30-second news report. Determine what questions will be asked during the interview and who will be the news reporter asking questions and who will be interviewed. After three minutes, each group will go "live" with their report for the other members of the group. What questions are there? INVESTIGATE!

Monitor this process and give students additional time if needed to develop questions and practice.

Prep time is over and it is time to go to the field for a breaking new report. Raise your hand if you are the reporter.

Allow students to raise their hands to make sure all groups are ready to proceed.

Reporters get the microphone ready because we will be going live in three, two, and one.

Allow 30 seconds for the interview.

Three, two, and one! We are off to commercial. Now switch reporters. New reporters get ready to go live when the commercial is over. The commercial is almost over... Live to you in three, two and one!

Allow 30 seconds for the second interview.

Three, two, and one, we are off to the weather report. Let's give ourselves a hand for our television news debuts.

Lead applause.

Thank you for becoming the experts today and keeping the fact straight. It's important to remember that when we hear something we must listen for the facts and remember that everything isn't always what it seems to be...and it's always worth doing a little investigation.

Application

Extended classroom activity:

Have students search current newspapers or websites in an attempt to find issues that they think might be questionable. Once an issue is found have students put together a plan of action of how they would determine if the issue is credible or a myth. The activity is more about the process of making a sound decision with respect to an issue rather than if the found issue is real or a myth.

FFA activity:

Have students put together a fact or myth brochure that could be given out at community events. The brochures could also be used within the school to promote agricultural awareness throughout the school.

SAE activity:

Have students interview a professional in the animal industry who may have been affected by an agricultural myth in the past. Have the professional explain the myth, the positive or negative effects of the myth, and the results of the myth once factual based information was presented.

Evaluation

MS.AS.4.1.ASSESS.A.

Answers to Evaluation

1. False
2. True
3. True
4. False
5. False
6. False
7. False
8. True
9. True



Fact

-----Cut on Dotted Line

Myth



Myth: Cloning results in severely damaged animals that suffer and continue to have health problems all their lives.

Fact: The vast majorities of swine and goat clones are born healthy, grow normally, and are no more susceptible to health problems than their non-clone counterparts. During the early days of what is known as assisted reproductive technologies in livestock, veterinarians noticed that some calf and lamb fetuses grew too large during pregnancy and had serious birth defects. This set of abnormalities is referred to as “large offspring syndrome,” or LOS. These same abnormalities have also been seen in calf and lamb clones, and have received a lot of attention because they occur at what appear to be higher rates than observed with other assisted reproductive technologies. The syndrome seems to be related to processes that take place outside the body (during the in vitro phase). As producers understand more about the cloning process, the rate at which LOS is observed in calf and lamb clones has been decreasing. The same kind of decrease in LOS rates was observed as people who used technologies such as in vitro fertilization in cattle learned more about the process. LOS has not been observed in swine or goat clones.

Most clones that are normal at birth become as strong and healthy as any other young animals. Calf and lamb clones with abnormalities at birth may continue to have health problems for the first few months of life. But after the age of six months, they are completely indistinguishable in appearance and blood measurements from conventionally bred animals of the same age.

Excerpt Taken From: United States Food and Drug Administration. (2009). Myths about cloning. Retrieved July 27, 2009, from <http://www.fda.gov/AnimalVeterinary/SafetyHealth/AnimalCloning/ucm055512.htm>



Myth: Meat from cloned animals is already in the food supply.

Fact: The Food and Drug Administration (FDA) asked clone producers and breeders to voluntarily keep milk and meat from clones out of the food and feed supplies until they finish assessing their safety. To the best of their knowledge, producers have done this. After years of detailed study and analysis, FDA has concluded that meat and milk from clones of cattle, swine, and goats, and the offspring of clones from any species traditionally consumed as food, are as safe to eat as food from conventionally bred animals. The FDA does not expect food from clones to enter the food supply in any great amounts any time soon, as these animals will be used for breeding.

The U.S. Department of Agriculture (USDA) believes that it is unlikely that products from these animals would enter the meat supply for several years. Meat and milk products from the progeny of animal clones will not be available for several years. USDA will convene stakeholders to discuss efforts to provide a smooth and orderly market transition, as industry determines the next steps with respect to the existing voluntary moratorium.

Excerpt Taken From: United States Food and Drug Administration. (2009). Myths about cloning. Retrieved July 27, 2009, from <http://www.fda.gov/AnimalVeterinary/SafetyHealth/AnimalCloning/ucm055512.htm>



Myth: A vegetarian diet is healthier than a diet that includes meat, milk, and eggs.

Fact: Both the federal government and the American Heart Association contend that a diet containing meat, milk, and eggs follow their dietary guidelines. Health benefits can be derived by non-vegetarians who follow a prudent diet that is low in fat, sodium, sugar, and alcohol. Just as there are non-vegetarian diets that are unhealthy, so are there poorly planned vegetarian diets. The key to a healthy diet is moderation. One tip from Amy Barr, a registered dietitian in Boulder, Colorado, is “don’t eliminate whole food groups. Don’t, for example, drop dairy from your diet.” “A lot of people, especially women, give up milk because they think it’s fattening,” says Anne Fletcher, a registered dietitian and author of *Thin for Life*. But milk is one of the best sources of calcium in the diet, “which is important for preventing osteoporosis and possibly for warding off colon cancer.”

Excerpt Taken From: Animal Agriculture and the Soybean Checkoff. (2009). Myths vs. facts. Retrieved July 27, 2009, from <http://animalag.org/facts.aspx>



Myth: Farm animals in confinement are prone to disease, forcing farmers to routinely use antibiotics, hormones, and drugs to keep them alive. This jeopardizes animal and human health.

Fact: Animal scientists, veterinarians and on-farm experience show animals kept in housing are no more likely to get sick than animals kept in the open. In fact, they're generally healthier because they are protected. However, farm animals do sometimes get sick. To prevent illness and to ensure that an animal remains healthy all of its life, farmers will take preventive measures, including the use of animal health products. These products are generally given to the animal in a scientifically formulated feed best suited to the animal's needs. This is the simplest way to ensure each animal gets the care it needs. Animal health products include animal drugs and vaccines, in addition to vitamins, minerals, and other nutrients the animal needs in a balanced diet. All animal health products are approved and regulated by the U.S. Food & Drug Administration (FDA) prior to being given to animals.

Excerpt Taken From: Animal Agriculture and the Soybean Checkoff. (2009). Myths vs. facts. Retrieved July 27, 2009, from <http://animalag.org/facts.aspx>



Myth: Farmers care less for their animals than they do for the money animals bring them. Agribusiness corporations mislead farmers into using production systems and drugs that mean profits at the cost of animal welfare.

Fact: Farmers and ranchers are neither cruel nor naive. One of the main reasons someone goes into farming or ranching is a desire to work with animals. A farmer would compromise his or her own welfare if animals were mistreated. Agriculture is very competitive in the United States. It's a career that pays the farmer a slim profit on the animals he cares for. Farmers are always looking for ways to improve their farms to ensure animal welfare and the economics of production. It is in the farmer's own best interest to see the animals in his charge are treated humanely, guaranteeing him a healthy, high-quality animal, a greater return on his investment, and a wholesome food product. No advertising campaign or salesman can convince a farmer to use a system or product that would harm an animal.

Excerpt Taken From: Animal Agriculture and the Soybean Checkoff. (2009). Myths vs. facts. Retrieved July 27, 2009, from <http://animalag.org/facts.aspx>



Myth: Farm animals are routinely mutilated by beak trimming, tail docking, branding, dehorning, castration, and other practices to make it easier for the farmer.

Fact: To the inexperienced viewer, some routine farm animal handling practices necessary to the welfare and health of the animal and the insurance of quality food may appear brutal, just as some lifesaving human surgical and medical practices may seem brutal to the casual observer. All of these practices are done in a professional manner to ensure the welfare of the animal. Beak trimming and dehorning are done for the safety of the animals and their handlers. Tail docking is done to reduce manure build-up on the animal which can lead to disease and sickness. Castration is done to reduce levels of testosterone in the male animals which can lead to unwanted flavor in meat and to reduce the aggressiveness and potential harm to other animals.

Excerpt Taken From: Animal Agriculture and the Soybean Checkoff. (2009). Myths vs. facts. Retrieved July 27, 2009, from <http://animalag.org/facts.aspx>



Myth: Bovine spongiform encephalopathy (mad cow disease) infected tissue can be found in the human food supply.

Fact: BSE stands for bovine spongiform encephalopathy, and it is widely referred to as “mad cow disease.” It is a chronic degenerative disease that affects the central nervous system of cattle. BSE is named because of the spongy appearance of the brain tissue of infected cattle examined under a microscope.

Cattle affected by BSE experience progressive degeneration of the nervous system. Affected animals might display changes in temperament, such as nervousness or aggression, abnormal posture, loss of coordination and difficulty in rising, decreased milk production, or loss of body weight despite continued appetite. Beef found in the human food supply is considered safe from mad cow disease by the United States Department of Agriculture. Tissues that would potentially carry the BSE agent (spinal cord tissue) are completely removed at slaughter and not used in meat cuts or products that are consumed by humans. With respect to milk and dairy products, there is no scientific evidence to suggest that those products carry the agent that causes BSE.

Excerpt Taken From: United States Department of Agriculture. (2007). Bovine spongiform encephalopathy: Mad cow disease. Retrieved July 27, 2009, from http://www.fsis.usda.gov/Fact_Sheets/Bovine_Spongiform_Encephalopathy_Mad_Cow_Disease/index.asp



Myth: Coming in contact with any live poultry will give you avian influenza (bird flu).

Fact: Avian influenza is an infection caused by avian (bird) influenza (flu) viruses. These influenza viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys sick. Infected birds shed influenza virus in their saliva, nasal secretions, and feces. Domesticated birds may become infected with avian influenza virus through direct contact with infected waterfowl or other infected poultry, or through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with the virus.

Avian Influenza A (H5N1) virus does not usually infect people, but infections with these viruses have occurred in humans. Most of these cases have resulted from people having direct or close contact with H5N1-infected poultry or H5N1-contaminated surfaces. Most cases have occurred in children and young adults and have resulted from direct or close contact with H5N1-infected poultry or H5N1-contaminated surfaces. In general, H5N1 remains a very rare disease in people. The H5N1 virus does not infect humans easily, and if a person is infected, it is very difficult for the virus to spread to another person.

Excerpt Taken From: Department of Health and Human Services. (2007). Key facts about avian influenza (bird flu) and avian influenza a (H5N1) virus. Retrieved July 27, 2009, from <http://www.cdc.gov/flu/avian/gen-info/facts.htm>



Myth: You can get the Novel H1N1 virus (swine flu) from pork or pork products.

Fact: You cannot get the Novel H1N1 virus from eating pork or pork products. A study conducted by the U.S. Department of Agriculture (USDA) scientists provided additional confirmation that meat and tissue from pigs exposed to two strains of the 2009 novel pandemic H1N1 virus did not contain virus. These findings about the safety of pork from pigs previously infected with the 2009 novel pandemic H1N1 virus support recommendations of the World Health Organization that pork harvested from swine that had been infected previously and had recovered from the virus can be safely handled or eaten, following basic hygiene practices for handling of meat.

Excerpt taken from: Harless, A. United States Department of Agriculture. (2009, December 17). USDA Study Confirms Pork from Pigs Exposed to H1N1 Virus Is Safe to Eat. Retrieved July 9, 2009 from http://www.usda.gov/documents/ARS_STUDY_H1N1_Pork_12-16-09.pdf



Name: _____

Directions: Circle the word true or false to describe the statement listed.

- | | | | |
|------|-------|----|---|
| True | False | 1. | Cloned animals suffer and continue to have health problems all their lives. |
| True | False | 2. | Meat from cloned animals is not currently in the food supply. |
| True | False | 3. | A vegetarian diet is not always healthier than a diet that includes meat, milk, and eggs. |
| True | False | 4. | Farm animals in confinement are prone to disease, forcing farmers to routinely use antibiotics, hormones, and drugs to keep them alive. |
| True | False | 5. | Farmers care less for their animals than they do for the money animals bring them. |
| True | False | 6. | Farm animals are routinely mutilated. |
| True | False | 7. | Bovine spongiform encephalopathy (mad cow disease) infected tissue can be found in the human food supply. |
| True | False | 8. | Coming in contact with infected poultry might give you avian influenza (bird flu) but is very rare in humans. |
| True | False | 9. | You cannot get H1N1 (swine flu) from eating pork or pork products. |