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# 4-H Beef Heifer/Cow Record Guide



*Check Project Taken:*

Bite into Beef

Here's the Beef  
 On the Mooove

Leading the Charge

Your Animal's Photo Here!

Year 20\_\_ \_\_

Name \_\_\_\_\_ Club \_\_\_\_\_

County \_\_\_\_\_ Address \_\_\_\_\_

Age \_\_\_\_\_ Years in 4-H \_\_\_\_\_ Date project completed \_\_\_\_\_

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## Introduction

The Beef Heifer / Cow Project is designed for 4-H club members who want to raise replacement animals for the beef industry's cowherd. Good breeding, feeding, and management are necessary to produce livestock successfully. To understand these principles and to carry them out effectively, requires not only careful study and observation, but also a strong desire to be responsible for the welfare of the animal.

### Project Requirements

A club member who carries this project must own at least one calf, heifer, or cow. The heifers in this project may be purebred and registered with a breed association, or they may be crossbred. Registered animals must be registered in the name of the 4-H member or the members' family farm name. The 4-H'er must care for the project animal during the year. Animals chosen for this project must be selected and managed specifically for breeding purposes in the member's own herd or for sale to another prospective breeder.

The project must be carried at least six months. If the project animal is born during the club year or is purchased during the club year, records should be kept from the time of birth (or purchase) to the end of the club year. All others should keep records for the entire club year (October to September.)

This record book is designed to keep a herd inventory for those members who take this project for several continuous years and maintain their own herd. In some cases, the older animals may not be exhibited (such as at a fair), but the member may elect to keep those animals in this record book as part of the herd.

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## Why Is Biosecurity Important?

Biosecurity means doing everything possible to protect the health of livestock by preventing the transmission of disease. An outbreak of animal disease could not only harm your poultry or livestock, but it could affect nearby animals and quickly spread through your area. The economic consequences of a disease outbreak could be devastating. Taking commonsense precautions to prevent disease from coming onto your farm is the best investment you can make. The Commissioner of Agriculture strongly urges you to evaluate your disaster prevention practices and develop habits that will protect you, your farming operation, and the public. Make these simple steps part of your daily routine to decrease the risk of your poultry and livestock getting sick.

- Restrict vehicle traffic on the farm and direct routes.
- Schedule and accompany all farm visitors. Limit areas to be visited.
- Know each visitor's exposure to animals for the past four days.
- Provide protective clothing and/or footwear for visitors. Footbaths are optional.
- Maintain a log of visitors and vehicles that enter the farm.
- Wear clean, disinfected boots when visiting other farms and stockyards. Sanitize all equipment and trailers between visits.
- Do not feed ruminant animals feeds containing animal by-products.
- Isolate all new animals by at least 300 yards from your other animals for 21 days. Test them before they enter the herd. Maintain strict entry and exit sanitation for all personnel in the isolation area.
- Remove and promptly dispose of fallen animals. (Bury, compost, incinerate, or have removed.)
- Keep pets out of confined feeding facilities.
- Be aware of all wildlife and pet movements, when possible.
- Ban all known foreign food and food products from the farm.
- Control rodents and flies thoroughly.
- Report all suspicious activity and events to local authorities.

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## Emergency Phone Numbers

West Virginia Department of Agriculture (Commissioner of Agriculture) .....1-304-558-2201  
APHIS Veterinary Service.....1-614-469-5602  
APHIS Web site ..... [www.aphis.usda.gov](http://www.aphis.usda.gov)



# Herd Inventory

Name of Animal, ID # or Tattoo Registration # (if available)	Birth Date	Breed	EPDs				Value: Start of Project	Value: End of Project
			Birth Weight	Weaning Weight	Yearling Weight	Maternal Milk		
<i>Example:</i> Miss Four H, tag 4H 123456789	3/10/06	Sire: Angus, Four H Clover Dam: Angus, Four H Leader	1.4	42	63	19	\$750	\$1,050
<i>Example:</i> Commercial, tag 187 none	2/25/06	Sire: Angus, Four H Clover Dam: Limousin Cross	-	-	-	-	\$700	\$900



## Growth Measures

A reasonable goal for beef heifers is to have them calve for the first time at 24 months of age. To do this, they must be of adequate size at breeding time (15 months). A heifer should reach 65% of her mature weight by breeding time and 85% at calving time. For British breeds (such as Angus and Hereford), this means about 750 pounds to 800 pounds at breeding. For larger continental breeds (such as Charolais and Simmental), this means 850 pounds to 900 pounds at breeding. Heifer calves should achieve a certain rate of growth in order to be ready to breed at 15 months of age and calve for the first time at 24 months of age.

Frame scores were developed to enable feedlot operators to better feed their cattle to the proper finish weight. Frame scores can be useful when their limitations are understood and taken into account. The difference in growth between animals often can be attributed to the difference in mature size the animals will attain if allowed to grow and develop. Mature skeletal size dictates to a high degree growth rate and performance. The USDA feeder cattle grading system is based on frame size combined with age and an estimation of the weight of the animal when it reaches the choice slaughter grade. Small frame animals (frame score 1, 2, and 3) would reach this grade first, medium frame animals (frame scores 4 and 5) next, and large frame (frame scores 6 and 7) would take the longest. In general, the industry prefers medium frame animals, but there are circumstances where cattle of other sizes may be desirable.

Hip height can be measured easily and accurately and can be used to determine frame score. A hip height measurement is the distance from the ground to a point over the back directly over the hip bones (hooks) with the animal standing on a level surface.

Following is an example to help you complete the Growth Measures Record on page 5.

My project started on November 1, 2005, with my heifer born on February 9 whose tag number is 501. On November 15, we weighed my heifer and measured her hip height. She weighed 660 lbs. and measured 47.5 inches. By looking at the frame score chart for a 9-month-old heifer, I found that she is a frame score 6. My WVU Extension agent, Dad, and I decided she'd probably weigh about 1,250 lbs. when she's mature.

65% of her mature weight is:  $1250 \times 65\% = 812$

To reach that goal by May 1, which is my goal for getting her bred, she needs to gain:

$$812 \text{ lbs.} - 660 \text{ lbs.} = 152 \text{ lbs.}$$

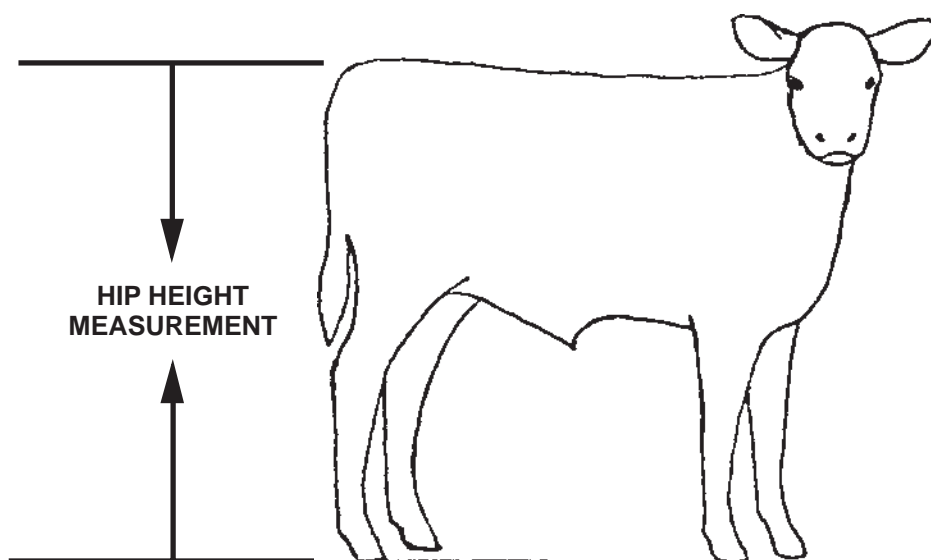
From November 15 until May 1, I have 167 days for her to gain 152 lbs.

Average daily gain needed = gain / days in the feeding period:  $152/167 = 0.9$  lbs. per day



## Heifer Frame Score Chart (in inches)

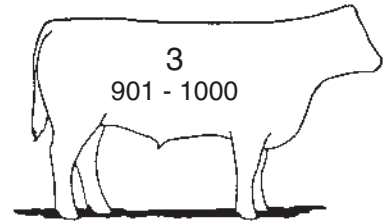
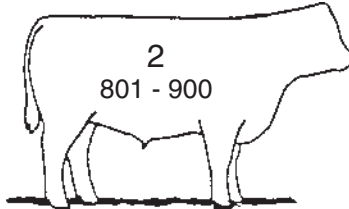
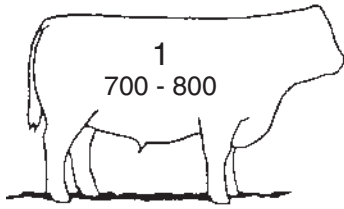
Age in Months	Frame Score								
	1	2	3	4	5	6	7	8	9
	Hip Height (in inches)								
5	33.1	35.1	37.2	39.3	41.3	43.4	45.5	47.5	49.6
6	34.1	36.2	38.2	40.3	42.3	44.4	46.5	48.5	50.6
7	35.1	37.1	39.2	41.2	43.3	45.3	47.4	49.4	51.5
8	36.0	38.0	40.1	43.1	44.1	46.2	48.2	50.2	52.3
9	36.8	38.9	40.9	42.9	44.9	47.0	49.0	51.0	53.0
10	37.6	39.6	41.6	43.7	45.7	47.7	49.7	51.7	53.8
11	38.3	40.3	42.3	44.3	46.4	48.4	50.4	52.4	54.4
12	39.0	41.0	43.0	45.0	47.0	49.0	51.0	53.0	55.0
13	39.6	41.6	43.6	45.5	47.5	49.5	51.5	53.5	55.5
14	40.1	42.1	44.1	46.1	48.0	50.0	52.0	54.0	56.0
15	40.6	42.6	44.5	46.5	48.5	50.5	52.4	54.4	56.4
16	41.0	43.0	44.9	46.9	48.9	50.8	52.8	54.8	56.7
17	41.4	43.3	45.3	47.2	49.2	51.1	53.1	55.1	57.0
18	41.7	43.6	45.6	47.5	49.5	51.4	53.6	55.5	57.4
19	41.9	43.9	45.8	47.7	49.7	51.6	53.6	55.5	57.4
20	42.1	44.1	46.0	47.9	49.8	51.8	53.7	55.6	57.6
21	42.3	44.2	46.1	48.0	50.0	51.9	53.8	55.7	57.7



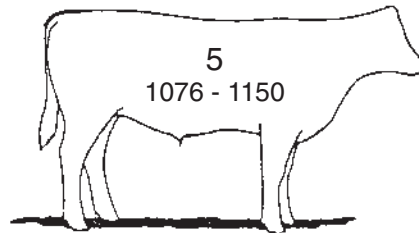
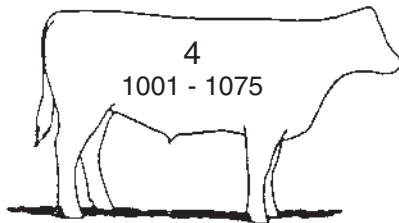
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## Choice weight related to frame size for heifers

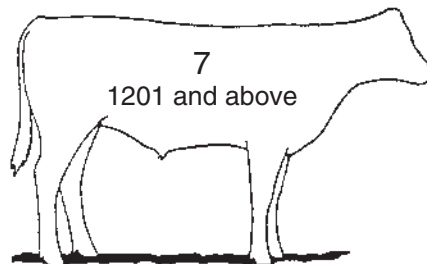
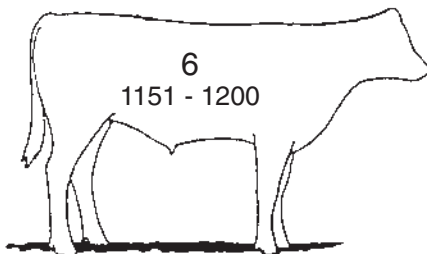
### Small (S)



### Medium (M)



### Large (L)



- Is your heifer:
- Smaller than average (small frame)
  - Average size (medium frame)
  - Larger than average (large frame)



## Growth Measures Record

Complete the following chart for each of your project heifers less than 15 months of age when your project started. See example on page 2.

<b>Heifer ID</b>	<i>Example: 501</i>									
<b>Date of Measurement</b>	11/15/05									
<b>Age of Heifer (months)</b>	9									
<b>Hip Height (inches)</b>	47.5									
<b>Frame Score</b>	6									
<b>Weight</b>	660									
<b>Estimated Mature Weight</b>	1,250									
<b>65% of Mature Weight</b>	812									
<b>Estimated Breeding Date</b>	5/1/06									
<b>Number of Days to Breeding</b>	169									
<b>Gain needed to achieve 65% of mature body weight at breeding</b>	152									
<b>ADG to achieve 65% of mature body weight at breeding</b>	0.9 lbs./day									



## Feeding Record

Complete one feed record for each female in your project (extra copies may be obtained from your county WVU Extension Office). This report should include all feeds used in this project. The feeding periods should change each time you change what you feed your animal(s). Record the beginning and ending dates for each feeding period. Only include days your animal(s) are actually grazing in the days on pasture (don't include time in a dry lot).

To calculate the free choice parts of your ration (for example, hay, minerals, protein tubs, salt blocks), follow this example to calculate what your project animal is consuming each day.

This is December 1. I put out a 450-pound round bale of hay for a group of 5 heifers. I have to put in another bale 10 days later. On average, each heifer would have consumed 9 lbs. per day.

$450 \text{ lbs.} / 10 \text{ days} = 45 \text{ lbs. per day}$

$45 \text{ lbs./day divided by } 5 \text{ heifers} = 9 \text{ lbs. per heifer per day}$

You can do this similarly for minerals. You put a 50-pound bag of Beef Mineral in the mineral feeder on December 1. This feeder provides for 5 heifers. The mineral feeder is empty in 50 days.

$50 \text{ lbs.} / 50 \text{ days} = 1 \text{ lb. per day}$

$1 \text{ lb./day divided by } 5 \text{ heifers} = 0.2 \text{ lbs. per heifer per day}$

If you do not have scales to weigh bales of hay, contact your WVU County Extension Office to see if portable scales are available to weigh the bale. Or, ask for a copy of fact sheet *Using Volume to Determine Large Bale Weight* or download the fact sheet from the Web ([www.wvu.edu/%7Eagexten/forglvst/largebalevolume.pdf](http://www.wvu.edu/%7Eagexten/forglvst/largebalevolume.pdf)).

### Practice exercise for you:

15 heifers are fed in a group. You place a 600-pound round bale of hay in a feeder on November 15. You must place another bale in the feeder on December 1. On average, how many pounds of hay are the heifers eating each day?

\_\_\_\_\_ pounds per day per heifer

Now, calculate any feeds that are offered free choice for your project animal(s) and transfer to the feeding record during the appropriate feeding period.

For a more accurate intake, you may need to estimate the pounds of hay wasted (not consumed) before the next round bale is placed in the feeder. The type of feeder will affect the amount of hay wasted.

For more information, visit the Web ([www.ext.nodak.edu/extpubs/ansci/range/as1190w.htm](http://www.ext.nodak.edu/extpubs/ansci/range/as1190w.htm)).



Animal ID: \_\_\_\_\_

## Feeding Record

Feeding Period		Days in Feeding Period	Pounds of Feed Fed		Pounds of Hay Fed		Days on Pasture	Pounds of Other Supplements (minerals, etc.)	
Starting Date	Ending Date		Daily	For the Period	Daily	For the Period		Daily	For the Period
Example: 10/16	11/30	45	5	225	10	450	0	0.25	11.25
<b>Totals</b>									

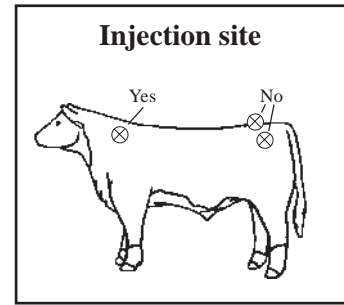




## Health Care

You should expect to receive a health record with any animal that you purchase. Include a copy of the health record with your record guide. The health record should include any vaccinations and treatments that your calf received before you purchased her.

Remember, injection-site blemishes are costly. Minimizing injection of material into the muscle must be considered. So, use subcutaneous (under the skin) injections as much as possible. Injections should be given in the neck and not in the areas of the more valuable, expensive cuts. Be sure to read and follow the label on all products used on or in your project animal.



## Health Care Purchase Record

Please record any health products purchased or used for your animal(s) in the following table. Include vaccines, dewormers, antibiotics, fly tags, etc. Cost should be for your project animal(s) only. For example, if you buy 1 liter (1000 ml) of dewormer for \$70, and you use 10 ml to deworm your animal, your cost is:

$\$70/1000 \text{ ml} = \$0.07 \text{ per ml}$   
 $\$0.07/\text{ml} \times 10 \text{ ml} = \$0.70 \text{ for your animal.}$

Vaccine Type	Product	Company	Lot Number	Expiration Date	Cost
<i>Example:</i> IBR, PI3, BVD	Bovishield	Pfizer	001-4870	Jan. 08	\$1.50/HD
<b>Total</b>					



## Preventative Health Care Record

Record any vaccinations given to your project animal(s). List the vaccine below the type of disease it should help build immunity against. There are two lines so that you can record initial vaccinations and booster vaccinations.

Vaccine Type	Date Given	When cleared for harvest*	Where/how was it given	Who did it
<b>7-Way Clostridial</b>				
<b>IBR, PI3, BVD, BRSV, Lepto 5</b>				
<b>Haemophilus somnus</b>				
<b>Pasteurella</b>				
<b>Internal/External Parasites</b>				
<b>Brucellosis</b>				
<b>Other</b>				

\*Data given + days to withdraw (on label insert).

*Example: August 30 date given + 21 days withdraw time = September 20 animal ready for market.*

Attach original or copy of vaccine box or product label insert.



## Additional Management Procedures

Management Practice	Date Performed	Cost
Weaned		
Dehorned		
Foot trimming		
Ultrasound		
Other:		
<b>Total</b>		

## Additional Treatment Information

Record any other treatments (antibiotics, etc.) given to your project animal(s).

Reason for treatment	Product	Date given	When cleared for harvest	Where/how was it given	Who did it	Cost (if not recorded on purchase record)
<i>Example:</i> Pinkeye	LA-200, 20cc	5/20	(28 Days) 6/17	SQ in neck (right side)	Dad	\$3.00
<b>Total</b>						



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**Other Expenses** (other than feed and health practices)

Item	Date	Cost
Equipment		
Bedding		
Breeding Expenses		
Grooming Supplies		
Sales Fees (Commission)		
Beef Check-Off		
Trucking Fees		
Insurance		
Merchandising/Advertising		
Entry Fees		
Other		
<b>Total</b>		



## Project Animal Travel Log

What is premises? Premises is the location where an animal is born, cared for, exhibited, or marketed. Examples include farms, ranches, feed yards, auction barns, fairs, and livestock exhibitions. To obtain a premise identification number for your farm or the place where your project animal is housed, contact the W.Va. Department of Agriculture ([www.wvagriculture.com](http://www.wvagriculture.com) or 304-558-2214).

Record all movement of your project animal(s) and include premise identification numbers, where possible. Include any time your animal is moved from its primary location. An example has been included to help you complete the chart (the EID tag and premise ID numbers given are fictional). Indicate whether your animal returned to the premise where it was primarily housed.

Premises identification number where your animal was housed: \_\_\_\_\_

Location	Other ID Number	Official AIN	Date	Event	Premises ID
To: Jackson's Mill, WV From: Weston, WV	M502	840123555666789	12/5/05	Fair Weigh-in	Jackson's Mill, WV 111A2WW
To: Jane Lew, WV From: Weston, WV	M502	840123555666789	7/12/06	For transport to State Fair	John Smith 122A2RR
To: Lewisburg, WV From: Weston, WV	M502	840123555666789	7/15/06	State Fair	Lewisburg, WV 999A2XX
To: From:					
To: From:					
To: From:					
To: From:					
To: From:					
To: From:					
To: From:					
To: From:					



## Show Record

Record the results of all shows and showmanship events your project animal entered during the year.

Name and Place of Show/Fair	Animal ID	Date	Placing	Premiums/ Ribbons
<b>Total Value of Premiums Won</b>				

## Record of Demonstrations, Talks, and Activities During the 4-H Year

Record your participation in events such as judging contests, project workshops, visits to farm operations, demonstrations, etc.

Date	Location	Activity	Comments







## Financial Summary

### Income

Estimated value of project animal(s) retained (*Page 1*) \_\_\_\_\_

Price received for project animal(s) sold \_\_\_\_\_

Show premiums won (*Page 14*) \_\_\_\_\_

Other \_\_\_\_\_

**Total Income** \_\_\_\_\_

### Expenses

Cost or value of your project animal(s)  
at the beginning of your project (*Page 1*) \_\_\_\_\_

Cost of feed bought or used (*Page 8*) \_\_\_\_\_

Cost of health care (*Page 9*) \_\_\_\_\_

Cost of additional management procedures (*Page 11*) \_\_\_\_\_

Cost of additional treatments (*Page 11*) \_\_\_\_\_

Cost of other expenses (*Page 12*) \_\_\_\_\_

**Total Expenses** \_\_\_\_\_

Total Income \_\_\_\_\_

Less Total Expenses \_\_\_\_\_

**Net Income** \_\_\_\_\_

## Merchandising Summary

List any potential buyers contacted before your show/sale.

\_\_\_\_\_

\_\_\_\_\_

Describe any other methods used to sell your animal(s). \_\_\_\_\_

\_\_\_\_\_

Who purchased your animal? \_\_\_\_\_

At what price? \_\_\_\_\_

*Please include a copy of your thank-you letter.*





## 4-H Project Evaluation

Now that you have finished this project, it is time for you to think about what you have learned. We also would like to know what you have learned and if the project needs to be improved. Your comments will help the people write the projects. Please write answers to the following questions. Then give this form to your 4-H leader or mail it to:

**Project Evaluation  
State 4-H Office  
Knapp Hall, PO Box 6031  
Morgantown, WV 26506-6031**

Title of Project \_\_\_\_\_

Girl    Boy    (circle one)    Age \_\_\_\_\_    Grade in School \_\_\_\_\_    Years in 4-H \_\_\_\_\_

1. Was this your first project in this subject? \_\_\_\_\_

2. Why did you pick this project? \_\_\_\_\_  
\_\_\_\_\_

3. What was your favorite part of this project? \_\_\_\_\_  
\_\_\_\_\_

4. By doing this project, what did you learn that you didn't know before? \_\_\_\_\_  
\_\_\_\_\_

5. Did you do the activities in the project book? Why or why not? \_\_\_\_\_  
\_\_\_\_\_

6. What activities did you like doing? \_\_\_\_\_  
\_\_\_\_\_

7. How would you change this project to make it better? \_\_\_\_\_  
\_\_\_\_\_

8. Would you tell others to take this project? Why or why not? \_\_\_\_\_  
\_\_\_\_\_

9. What other 4-H projects have you taken? \_\_\_\_\_  
\_\_\_\_\_

10. If you have something else to say, write it on the back.





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# Beef Heifer / Cow Project Score Sheet

- ★ If you are taking this project without an animal, check with your Extension agent for approval. It is suggested that the Self-Determined project be used with the National 4-H Cooperative Curriculum System beef project book as a resource. Consult with your Extension agent to plan your project work.

## Beef Project Book

✓ Complete seven activities in the Beef Achievement Program of the National 4-H Cooperative Curriculum System Project Book (*Each activity is worth 5 points ~ Total 35 possible points*) \_\_\_\_\_

✓ Complete Planning Guide in National 4-H Cooperative Curriculum System Project Book on pages 3 and 4 (*Worth 5 points*) \_\_\_\_\_

**Beef Heifer / Cow Record Guide** \_\_\_\_\_  
(*Worth 20 points*)

**Exhibit/Production Score** (*Total 20 possible points*) ★ \_\_\_\_\_

✓ This may be the actual exhibition of your animal or other designated project or service determined with your Extension agent.

**Activity Record** \_\_\_\_\_  
(*Worth 20 points*)

**Total** \_\_\_\_\_

Comments:

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Developed and written in 1996 and revised in 2000 and 2006 by the 4-H beef curriculum development committee:  
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