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# 4-H Feeder Calf Record Guide

Bite into Beef

On the Mooove

Leading the Charge

(Check Project Taken)

Here's the Beef

20\_\_\_\_\_

*Your Animal's Photo Here!*

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

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

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

## Introduction

The 4-H Feeder Calf project is recommended for any youths wanting to learn about beef cattle. This project begins with the selection of a calf (or calves) that you will take as your project(s) for this year. Some sections of the book require you to establish goals and make certain decisions before the calf (or calves) is born. It is important to do these at the start of the project year. If you need help with understanding the materials, contact your 4-H leader or Extension agent.

This project is for those youths of any age who want to learn how to select and raise a feeder calf. The end results of this project could be to raise feeder calves or to raise replacement heifers.

During this project, you should learn about selecting good-quality calves, the beef cattle industry, feeds, antibiotics, proper housing facilities, diseases, supplements, and minerals. Also, you'll learn the importance of keeping good records to be able to market the calf or to decide to keep the calf for a replacement heifer.

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

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## Level One:

Please choose one of your project animals and use the following checklist to evaluate it. If necessary, please add any other traits to the list.

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

Sex \_\_\_\_\_

### General Appearance

- \_\_\_ Well-Balanced
- \_\_\_ Stylish
- \_\_\_ Straight Top
- \_\_\_ Structurally Correct
- \_\_\_ Poorly Balanced
- \_\_\_ Weak Top
- \_\_\_ Structurally Incorrect
- \_\_\_ Growthy

### Frame

- \_\_\_ Small
- \_\_\_ Medium
- \_\_\_ Large

### Muscle

- \_\_\_ Thick
- \_\_\_ Narrow
- \_\_\_ Smooth
- \_\_\_ Shallow
- \_\_\_ Loose
- \_\_\_ Tight

### Condition

- \_\_\_ Clean
- \_\_\_ Wasty
- \_\_\_ Underconditioned
- \_\_\_ Trim

### Skeletal Structure

- \_\_\_ Sound Feet and Legs
- \_\_\_ Smooth Shoulder
- \_\_\_ Coarse Shoulder
- \_\_\_ Straight Shoulder
- \_\_\_ Posty-Legged
- \_\_\_ Sickle-Hocked
- \_\_\_ Cow-Hocked
- \_\_\_ Weak Pastern

### Femininity (If Heifer)

- \_\_\_ Long, Smooth, Trim Neck
- \_\_\_ Smooth, Neat, Clean Shoulder
- \_\_\_ Feminine Head
- \_\_\_ Wasty, Coarse Brisket
- \_\_\_ Coarse Head

### Other

- \_\_\_ Disposition
- \_\_\_ \_\_\_\_\_
- \_\_\_ \_\_\_\_\_

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# Goal Setting for the 4-H Feeder Calf Project

For almost everything in life, you set goals, then work toward achieving those goals. 4-H Beef projects are no different. In the Feeder Calf project, a goal may be to exhibit and receive a blue ribbon for your project animal. It may also be to have a feeder calf that will weigh 500 pounds at your county fair. For the Beef Heifer project, a reasonable goal would be to raise a heifer that will breed to calve when she is 24 months old. For the Market Steer project, a goal might be to feed your market steer so that he will grade choice at a show weight of 1,200 pounds.

The West Virginia 4-H Feeder Calf Record Guide asks you to calculate some numbers that will help you set and reach goals for your project animals. Following is a brief explanation of some of those numbers, why they are important, and the formulas to calculate them.

## Average Daily Gain

For feeder calves, you should set a goal based on the weight class in which you want your calves to show or sell.

Example: You wean a feeder calf July 1 that weighs 350 pounds. Your calf will be exhibited at the State 4-H/FFA Livestock Roundup September 20. You would like to show your calf in the 550 pounds weight class. So, your calf needs to gain 200 pounds in 80 days. Average daily gain will tell you how much your calf needs to gain each day to reach your target weight.

Average Daily Gain (ADG) = Gain / Number of days in the feeding period

For our example: ADG = 200 pounds / 80 days = 2.5 pounds/day

## Feed Conversion

On the average, steers fed in the United States require about 7 pounds of feed to gain 1 pound. Calculating feed conversion for your feeder calf will help you determine how much feed you need to buy and give you an idea of how much this project may cost. Generally speaking, lowering feed conversion will make a big difference in the profit you can expect from your Feeder Calf project. In fact, lowering feed conversion by one pound will save \$50 per head.

Example: By using an average feed conversion of 7 pounds of feed per pound of gain, you will need to feed 1,400 pounds of feed to get our example feeder calf to gain 200 pounds (7 pounds per pound of gain x 200 pounds gain needed). At the end of your project, calculate the feed conversion for your Feeder Calf to determine if your calf was above or below average for the beef cattle industry:

Feed Conversion = Total pounds of feed / Total gain

## Feed Cost per Pound of Gain

This is another number that plays a major role in determining the profit for your Feeder Calf project. This goes hand-in-hand with the feed conversion calculation. The better the feed conversion of your calf, the cheaper your feed cost per pound of gain.

Example: The feed in our example situation cost an average of \$7.50/100 pounds.  
The total cost was \$7.50/100 pounds x 1,400 pounds = \$105

Feed cost per pound of gain = Total feed cost / gain

For our example: Feed cost per pound of gain = \$105 / 200 pounds = \$ .53/pound

## Adjusted 205-day weight

Adjusted 205-day weight is an important measure for cow/calf producers. This productivity measure can be used for culling decisions, to determine the growthier calves in the herd that may make good candidates for 4-H projects, to determine which heifers should be kept for replacements and for other goals. Adjusted 205-day weights simply adjust weaning weights for the age of the calf. Adjustments for age of dam and sex of calf can also be made. For the purposes of the Feeder Calf project, we'll keep the calculation simple.

Adjusted 205-day weight =  
$$\frac{(\text{Actual weaning weight} - \text{birth weight}) \times 205 \text{ days} + \text{birth weight}}{\text{Age in days}}$$

For our example, the calf was born on March 15 and weighed 68 pounds. It weighed 350 pounds when it was weaned at 107 days.

Adjusted 205-day weight = [(350 pounds - 68 pounds) / 107 days] x 205 days + 68 pound = 608 pounds

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## Level Two:

For each of your project animals, answer level-one question and calculate the average daily gain on feed.

ID #	Gain on Feed	Days on Feed	ADG

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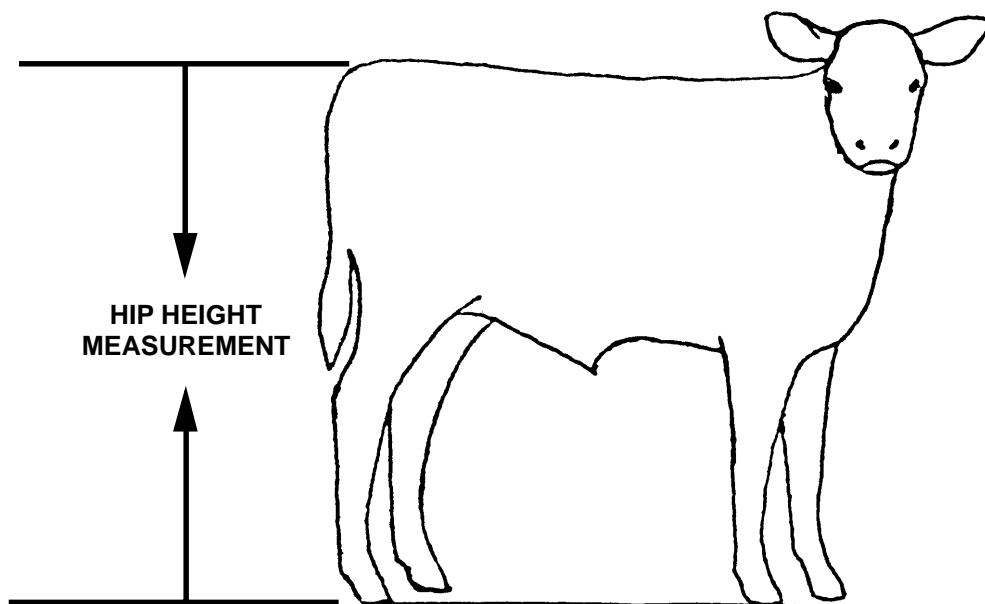
## Level Three:

For each of your project animals, complete the information for levels one and two and calculate the following.

ID#	Feed Per # of Gain	Cost Per # of Gain

## Heifer Hip Height (inches) Frame Score

Age in Months	Frame Score								
	1	2	3	4	5	6	7	8	9
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	42.1	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



## Steer Hip Height (inches) Frame Score

Age in Months	Frame Score								
	1	2	3	4	5	6	7	8	9
5	33.5	35.5	37.5	39.5	41.6	43.6	45.6	47.7	49.7
6	34.8	36.8	38.8	40.8	42.9	44.9	46.9	48.9	51.0
7	36.0	38.0	40.0	41.2	44.1	46.1	48.1	50.1	52.2
8	37.2	39.2	41.2	43.2	45.2	47.2	49.3	51.3	53.3
9	38.2	40.2	42.3	44.3	46.3	48.3	50.3	52.3	54.3
10	39.2	41.2	43.3	45.3	47.3	49.3	51.3	53.3	55.3
11	40.2	42.2	44.2	46.2	48.2	50.2	52.2	54.2	56.2
12	41.0	43.0	45.0	47.0	49.0	51.0	53.0	55.0	57.0
13	41.8	43.8	45.8	47.8	49.8	51.8	53.8	55.8	57.7
14	42.5	44.5	46.5	48.5	50.4	52.4	54.4	56.4	58.4
15	43.1	45.1	47.1	49.1	51.1	53.0	55.0	57.0	59.0
16	43.6	45.6	47.6	49.6	51.6	53.6	55.6	57.5	59.5
17	44.1	46.1	48.1	50.1	52.0	54.0	56.0	58.0	60.0
18	44.5	46.5	48.5	50.5	52.4	54.4	56.4	58.4	60.3
19	44.9	46.8	48.8	50.8	52.7	54.7	56.7	58.7	60.6
20	45.1	47.1	49.1	51.0	53.0	55.0	56.9	58.9	60.9
21	45.3	47.3	49.2	51.2	53.2	55.1	57.1	59.1	61.0

## Frame and Muscle Score

Frame size is related to the weight at which, under normal feeding and management practices, an animal will produce a carcass that will grade Choice. Large frame animals require a longer time in the feedlot to reach a given grade and will weigh more than a small frame animal would weigh at the same grade. Thickness is related to muscle to bone ratio and at a given degree of fatness to carcass yield grade. Thicker muscled animals will have more lean meat. The Feeder Cattle Standards recognize three frame size grades and four muscle thickness grades.

In addition to 12 combinations (3 frame size and 4 muscle thickness) of Feeder Cattle Grades for thrifty animals, an Inferior grade exists for unthrifty animals. The Inferior grade includes feeder cattle, which are unthrifty because of mismanagement, disease, parasitism, or lack of feed. An animal that grades Inferior could qualify for a muscle thickness and frame size grade at a later date, provided the unthrifty condition is corrected.

“Double-muscled” animals are included in the Inferior grade. Although such animals have a superior amount of muscle, they are graded U.S. Inferior because of their inability to produce carcasses with enough marbling to grade Choice.

# Frame and Muscle Score

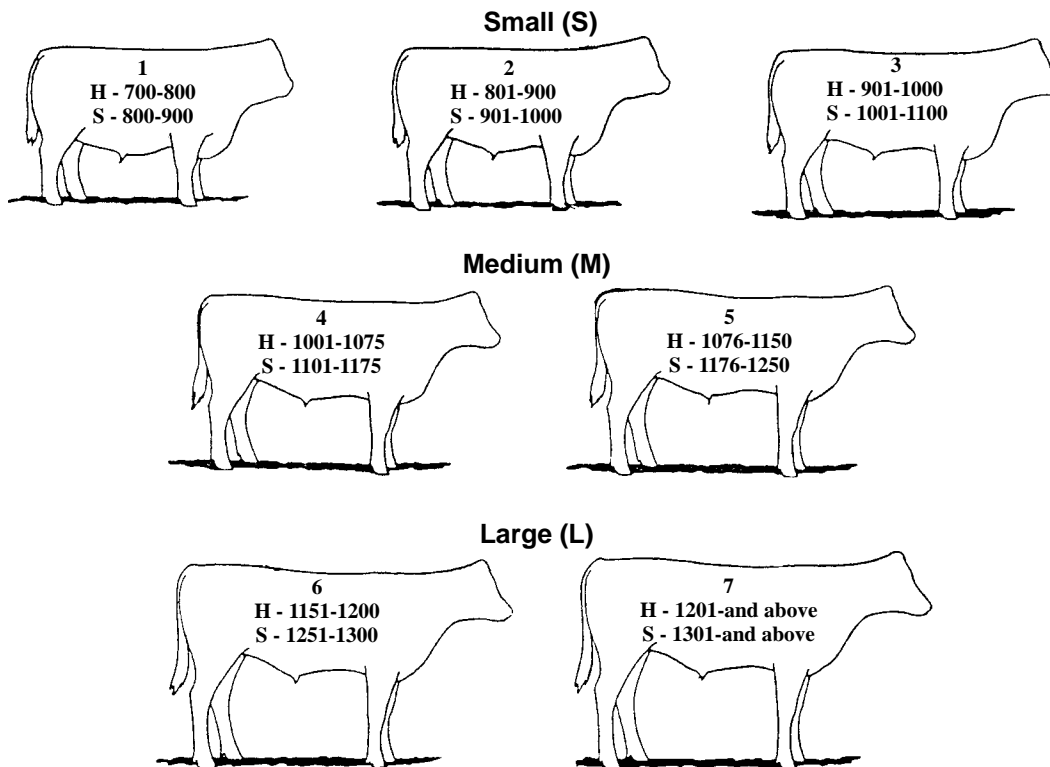
Frame	Expected Weight to Grade Choice	
	Steers	Heifers
Large +		
L Large		
Large -	↑ 1250#	↑ 1150#
Medium +		
M Medium		
Medium -	↑ 1100#	↑ 1000#
Small +	↓	↓
S Small		
Small -		

Minimum Thickness	Degree of Thickness
1	Moderately Thick -
2	Tends to be Slightly Thick -
3	Thin -
4	

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## Choice weight related to frame size for heifers and steers



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

# Feeding Record

This includes all feed purchased, minerals, vitamins, supplements, or additives.

Month	Days in Month			Grain Avg. Cost/lb _____			Hay Avg. Cost/lb _____			Creep Cost/lb _____			Pasture* Cost/day _____ *use actual cost or .25/day			Other Feed, Minerals, or Supplement Cost/lb _____ _____ (name)			Total Costs
	lbs/ day	days fed	cost/ month	lbs/ day	days fed	cost/ month	lbs/ day	days fed	cost/ month	lbs/ day	days fed	cost/ month	lbs/ day	days fed	cost/ month				
Jan _____																			
Feb _____																			
Mar _____																			
Apr _____																			
May _____																			
June _____																			
July _____																			
Aug _____																			
Sept _____																			
<b>Total</b> _____																			

## Show Record

Record the results of all shows and showmanship events in which your animal was entered in during the year.

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

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

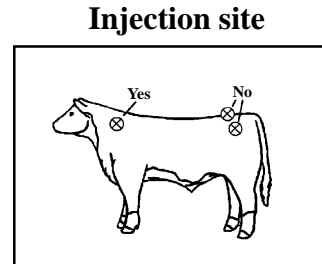
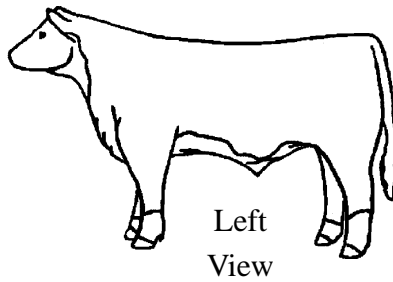
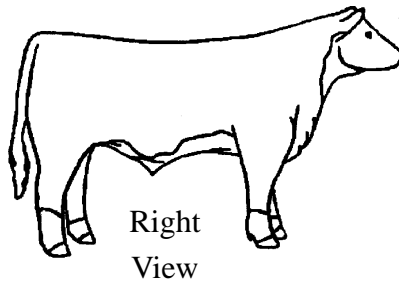
Item	Date	Cost
Equipment		
Bedding		
Grooming Supplies		
Breeding Expenses		
Entry Fees		
Trucking Fees		
Insurance		
Merchandising/Advertising		
Other		
<b>Total Costs</b>		

# Preventative Health Care/Treatment Record

Fill in the type of vaccination, medication and implant and chart the location on the calf.

## National Beef Quality Audit

Injection-site blemishes are costly. Minimizing injection of material into the muscle must be considered. Injections should be administered in the neck and not in the areas of the more valuable, expensive cuts.



When possible, select subcutaneous (SQ) products. **Never give injections in the rear or top butt.** It is recommended one drug manufacturer be used for the entire vaccination program.

Procedure/Product	Pre-Vac	Booster	Lot or Serial #	Company	Date Given	Date Withdrawal	Route Admin.	Cost
1. 7-Way Clostridial								
2. IBR, PI3, BVD, BRSV, Lepto 5								
3. Haemophilus somnus								
4. Pasteurella								
5. Internal/External Parasites								
<b>Heifers Only</b>								
6. Brucellosis								
<b>Total Costs</b>								

(copy total on next page)

## Additional Management Procedures

Weaned Date: \_\_\_\_\_ Dehorned Date: \_\_\_\_\_ Castration Method: \_\_\_\_\_

Description/Comments: \_\_\_\_\_

I certify that the identified calves have been administered the required vaccination program on the date(s) indicated.

Veterinarian/Producer: \_\_\_\_\_ Date: \_\_\_\_\_ Phone: \_\_\_\_\_

## Owner Comments/Additional Management Information

*(Include foot trimming, antibiotic treatments, deworming, etc.)*

Date	Treatment	Performed by	Cost
Sept. 25	Dewormed	Dad	\$3.00
<b>Costs</b>			

**Total Health Costs**

*(Add total preventative health costs from page 10 and additional management costs from this page)*

## Record of Demonstrations, Talks, and Activities

**During the 4-H Year** *(List All)*

Date	Location	Activity	Remarks

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## **Your Project Story**

*(This should trace your progress through the year. List some important things you learned about your animal and yourself, your accomplishments, and improvements you need to make.)*

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## Your Project Story *(Continued)*

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# Financial Summary

## Income

Income from animal(s) sold \_\_\_\_\_

Estimated value of animal(s) on hand at end of project \_\_\_\_\_

Other income (prize money, etc.) (Page 9) \_\_\_\_\_

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

## Expenses

Cost of animal(s) bought or estimated value of animal(s)  
at beginning of project \_\_\_\_\_

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

Cost of health care (Page 11)  
(Total preventative health costs and additional management costs) \_\_\_\_\_

Cost of other expenses (not included in above tables) (Page 9) \_\_\_\_\_

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

**Total Income - Total Expenses = (Circle One)**

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

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

**Total Profit  
or  
Total Loss** **\_\_\_\_\_**

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# 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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# Feeder Calf 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 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 4-H Cooperative Curriculum System Project Book  
*(Each activity is worth 5 points ~ Total 35 possible points)*

\_\_\_\_\_

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

\_\_\_\_\_

**Feeder Calf 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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