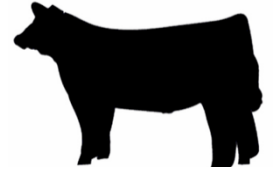


4-H Breeding Heifer Project Book

20____



Form 319b (5/20)

Member Information

Name		Age (as of Dec 31st)	Junior or Senior
Address			
City	State	Zip Code	County
Club Name		Club Leader's Name	
Year in 4-H	Year in this project	County or State Exhibit	Grade in School

Animal Information

Name	Breed Composition	Color and Sex	4-H Tag / Tattoo Number
Breeder Name and Address			Breeder Phone Number

Commitment to Stewardship and Welfare

<p>I WILL:</p> <ol style="list-style-type: none"> 1. Provide comfortable housing for my animal(s). 2. Feed my animal(s) on time each day. 3. Provide my animal(s) with clean water at all times. 4. Keep my animal(s) free from parasites. 5. Strive to keep my animal(s) in good health. 6. Be kind to animals and act in their best interest. 7. Complete mandatory quality assurance trainings. 8. Keep an accurate record of my projects. 9. Submit required paperwork and forms on-time 10. Always show good sportsmanship in competition. 11. Participate in 4-H Club activities 12. Complete my project requirements. 	
<p>Quality Assurance Completion Date:</p>	
<p>I UNDERSTAND that the presence of any drug, antibiotic or biological residue in my project animal at slaughter will result in the condemnation of the carcass and forfeiture of all sale proceeds and premiums. I certify that any drug, antibiotic or biological which may have been administered by me, or any other person, was done so in strict compliance with the manufacturer's label requirements.</p>	
Member Signature	Parent Signature
Leader Signature	Agent Signature



PROJECT PLAN

Before purchasing animals, begin by completing a plan. Review your plan with your 4-H project leader.

Learning Goals

What do you hope to learn about and what skills do you want to practice while doing this project? Is this your first year in this project, or have you raised a breeding heifer animal prior to this?

My goal for my project this year	What I need to do to reach this goal

Planning Notes or Questions You Would Like Answered

PROJECT MANAGEMENT RECORD

Record this information at the time(s) you purchase your animal and start the project.

Name of Animal		Breed	Color
Birthdate of Animal	Tag / Tattoo Number	Purchase Weight	Purchase Date
Purchased From		Total Purchase Price	

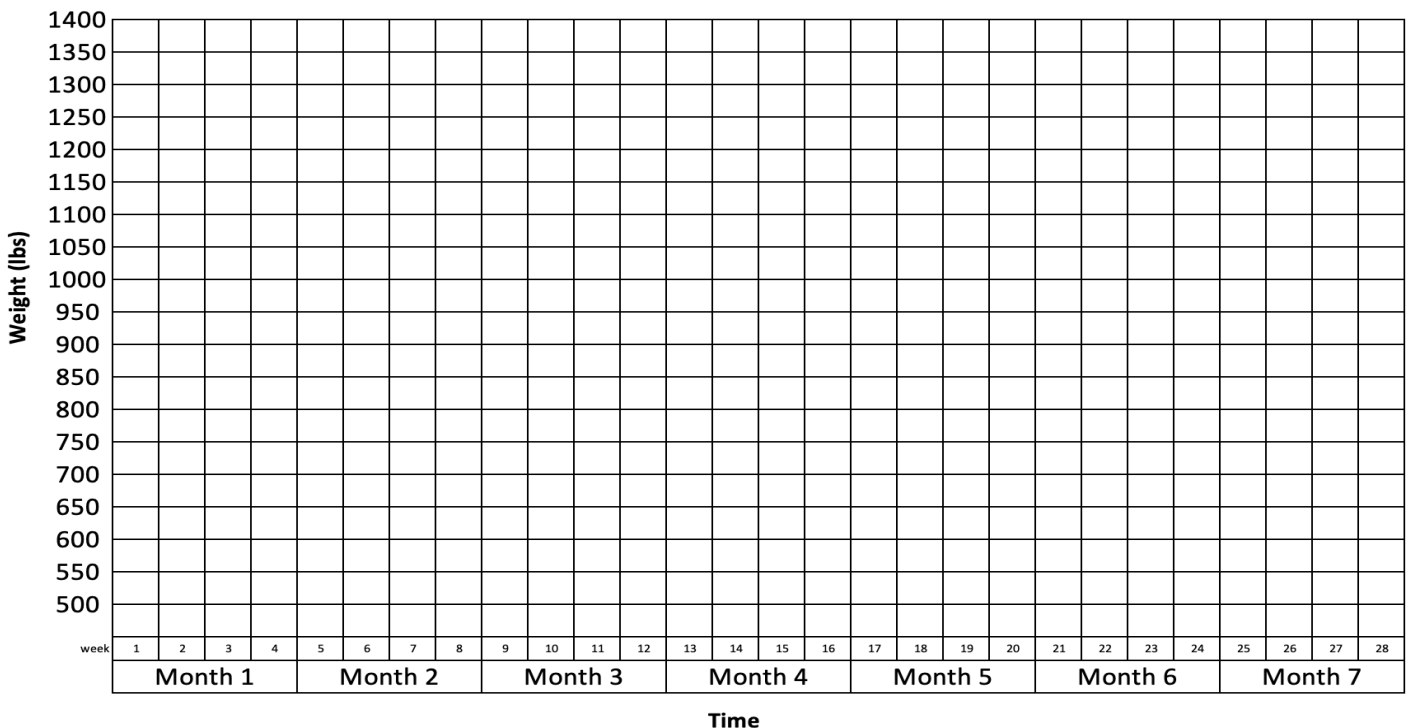
Did you replace the original animal that you originally started the project with? If so, describe that experience and put the original animal's information below.

ANIMAL CARE & MANAGEMENT

Breeding Heifer Performance Record: You must have a beginning weight and a starting date. The “Expected” column should be completed at the start date and starting weights were measured. The ending weight and date for these records will be completed at the final weigh in.

<i>Performance Statistics</i>			<i>Example</i>	<i>Expected</i>	<i>Actual</i>
Starting Date of Project		a.	11/24/19		
Ending Date of Project		b.	6/2/20		
Days on Feed = (b – a)		c.	190		
Starting Weight, lb		d.	600		
Final Weight, lb		e.	1200		
Total Weight Gain, lb = (e – d)		f.	600		
Average Daily Gain, lbs. / day = (f / c)		g.	3.16		
Feed Efficiency, lb feed / lb gain (i / f)	h.	7.5	7.5		
Amount of Feed Needed, lb = (h x f)	i.	4500			

Breeding Heifer Performance Graph. Chart the estimated weight of your animal on this graph throughout the duration of the project. Use a tape to estimate weight if a scale is not available.



Treatment Records: List vaccinations, medications (includes medicated feed) and products used for internal and external parasite control. Treatment records must be kept for one year after the last day of treatment, whereas feed medication records must be kept for two years. Attach prescriptions and other medication information to the back of this Project Book.

<i>Date and Time</i>	<i>Condition Being Treated</i>	<i>Estimated Animal Weight</i>	<i>Treatment Amount</i>	<i>Treatment Route & Site¹ (Oral, SQ, IM, drench, etc.)</i>	<i>Who gave Treatment?</i>	<i>Withdrawal Time</i>	<i>Rx? (Yes/No)</i>

List your veterinarian's name, address, and phone number in the space below.

PROJECT FINANCIAL RECORD

Feed Purchased and Associated Costs. Record purchases of feed and supplements (minerals, vitamins, salt, etc.) throughout the project period. Note if feed is a complete feed (starter, grower or finisher), concentrate or a supplement.

<i>Date</i>	<i>Name of Feed (if applicable). Place Feed was Purchased From.</i>	<i>Size per bag (lbs)</i>	<i>Cost per bag (\$)</i>	<i>Amount Purchased (lbs)</i>	<i>Total Cost (\$)</i>
Totals					

Did you have any issues feeding your animal or obtaining feed this year? Please explain. _____

¹ Subcutaneous (SQ) means treatment under the skin; intramuscular (IM) means treatment in the muscle.

Treatment Expenses: List expenses for dewormers, vaccines and or veterinary costs related to your project.

<i>Date</i>	<i>Item Description</i>	<i>Purchased From</i>	<i>Lot Number</i>	<i>Expiration Date</i>	<i>Total Cost (\$)</i>
Totals					

Other Expenses: List expenses for other items used in the project (fencing, panels, ropes, show sticks, halters, feed troughs, waterers, other supplies, etc.)

<i>Date</i>	<i>Item Description</i>	<i>Quantity</i>	<i>Item Cost (\$)</i>	<i>Total Cost (\$)</i>
Totals				

Exhibit Expenses: List expenses for other items used in the project (transportation costs, lodging, pen fees, other supplies, etc.)

<i>Date</i>	<i>Item Description and Expected Lifespan</i>	<i>Total Cost (\$)</i>
Totals		

Financial Plan and Records. The “Expected” column should be completed at the start date and starting weights were measured. The ending weight and date for these records will be completed at the final weigh in.

Expenses	Expected	Actual
A. Animal Purchase		
B. Feed Costs		
C. Treatment Expenses		
D. Other Expenses		
E. Pen Fees / Exhibit Expenses		
F. Total Expenses (Add lines from A to E)		
Income	Expected	Actual
G. Animal Sales Income Needed to Break Even (same as F)		
H. Final Weight of Animal		
I. Price Needed (\$/lb) = Sales Income (G) / Final Weight (H)		

Project Finances. Describe the financial agreements you have made with financial institutions, your family (parents) and/or other persons regarding this project.

Summary of Time Spent with Your Project:

Hours spent providing general care (daily feeding, watering, pen cleaning, etc.)	hours
Hours spent preparing for show (training to lead, washing, clipping, etc.)	hours
Hours spent elsewhere (vaccination, veterinarian visits, quality assurance, etc.)	hours
Total number of hours spent with your project	hours

Breeding Beef Project Information

Ask your 4-H leader, Extension Agent, Breeder, or Parents for help in completing this page

Basic Animal Statistics and Pedigree Information

Heifer's Ear Tag Number		Sire's ID or Name		Sire's Breed	
Heifer's Breed Composition		Dam's ID or Name		Dam's Breed	
Open or Bred Heifer Project		TSU ID for DNA			

Performance Projections

Initial WT (lbs.)		Initial Age (d)		Initial WDA ²	
Initial Hip HT (in)		Initial Frame Score ³		Est. Mature Cow WT ⁴	
Final WT (lbs)		Final Age (d)		Final WDA ¹	
Final Hip HT (in)		Final Frame Score ²		Est. Mature Cow WT ³	

Complete the following if you had a commercial heifer:

- What is the breed composition of your heifer? Why did you select her for this project? Was she purchased or raised?
- What are some qualities (either positive or negative) about your heifer's conformation and/or performance traits? What traits does she excel in? What would you like to change?
- What bull or breed of did you use to breed your heifer (or what would desire to use for open heifers), and why did/would you select this bull or breed of bull?
- Are you planning to breed your heifer via natural service or through artificial insemination? If so, do you plan to use estrus synchronization, or detection of natural heats? If synchronizing estrus, what protocol did you (or are you planning to) use? Who helped you?

² Equation for Weight per Day of Age (WDA) = Weight/Days of Age

³ Equation for Frame Score = $-11.7086 + (0.4723 \times \text{Ht.}) - (0.0239 \times \text{Age}) + (0.0000146 \times \text{Age} \times \text{Age}) + (0.0000759 \times \text{Ht.} \times \text{Age})$
where Age = days of age and Ht. = hip height. Can also use Table 1 on following page.

⁴ Use Table 2 to project mature size based on animal's frame score.

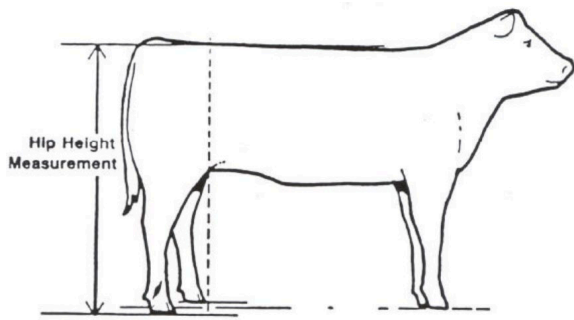


Figure 1. Recommended site for heifer hip height measurement to be taken for accurate projections of future mature cow size.

Table 1. Heifer Hip Height (inches) Frame Score for Ages 5 to 21 Months

Frame Score Based on Hip Height at Various Ages								
Age in Months	1	2	3	4	5	6	7	8
6	34.1	36.2	38.2	40.3	42.3	44.4	46.5	48.5
7	35.1	37.1	39.2	41.2	43.3	45.3	47.4	49.4
8	36.0	38.0	40.1	42.1	44.1	46.2	48.2	50.2
9	36.8	38.9	40.9	42.9	44.9	47.0	49.0	51.0
10	37.6	39.6	41.6	43.7	45.7	47.7	49.7	51.7
11	38.3	40.3	42.3	44.3	46.4	48.4	50.4	52.4
12	39.0	41.0	43.0	45.0	47.0	49.0	51.0	53.0
13	39.6	41.6	43.6	45.5	47.5	49.5	51.5	53.5
14	40.1	42.1	44.1	46.1	48.0	50.0	52.0	54.0
15	40.6	42.6	44.5	46.5	48.5	50.5	52.4	54.4
16	41.0	43.0	44.9	46.9	48.9	50.8	52.8	54.8
17	41.4	43.3	45.3	47.2	49.2	51.1	53.1	55.1
18	41.7	43.6	45.6	47.5	49.5	51.4	53.4	55.3
19	41.9	43.9	45.8	47.7	49.7	51.6	53.6	55.5
20	42.1	44.1	46.0	47.9	49.8	51.8	53.7	55.6
21	42.3	44.2	46.1	48.0	50.0	51.9	53.8	55.7

Table 2. Expected Mature Cow Size Based on Frame Scores

Frame Score	1	2	3	4	5	6	7	8
Mature Cow Weight (lbs)	750 - 850	850 - 950	950 - 1050	1050 - 1150	1150 - 1250	1250 - 1350	1350 - 1450	1450 - 1550

Knowledge and Skills I Gained This Year

Check each item below that you learned or improved in 4-H during the past year.

I learned or improved my ability to...

HEAD (<i>Independence</i>)		HANDS (<i>Generosity</i>)	
	try something new		work with others
	set goals for myself		work within a group
	plan a project		work within a committee
	keep myself organized		work with adults
	keep track of finances		get past differences to reach a goal
	keep records of my work		help others succeed
	gain knowledge of my project		make something with my hands
	find information on things that interest me		explore a career interest
	use resources wisely		follow directions
	participate in a business meeting		lead others
	run a business meeting		find ways to make a positive contribution to society
	make wise choices and decisions		understand the importance of community service
	solve problems		see that my efforts can make a difference
	learn from my mistakes		take the initiative to start something on my own
	understand it's ok to change my mind if I need to		
	pay attention to instructions		

HEART (<i>Belonging</i>)		HEALTH (<i>Mastery</i>)	
	speak confidently in front of a group		understand my strengths and weaknesses
	give a public presentation		finish something I started
	share my feelings or point of view		be proud of my accomplishments
	make myself understood without being loud		accept change
	listen to other people		see that my character can affect my situation
	respect someone else's feelings		take responsibility for my own words and actions
	resolve differences of opinion		deal with winning and losing gracefully
	appreciate my cultural heritage		be careful and practice safety
	accept people who are different from me		appreciate the importance of good health
	get along with other kids		stay healthy
	make others feel welcome		feel good about myself
	stand up for others		
	make new friends		
	appreciate the importance of friendships in my life		

MY PROJECT STORY

Project Conclusion:

1. What are some observations from working with your animal throughout the course of the project? How did the animal's actual performance compare to the expected performance?

2. What would you change or do the same the next time you begin a breeding heifer project? For example: different feed, different breed, frame size of animal, etc. you would start with.

3. Did you achieve your learning goals? What was most helpful in achieving them? What problems did you experience?

Appendix Section: Attach pictures-with captions, newspaper articles, feed labels, or other artifact, etc., that support your Breeding Heifer project)