

PLEASE SEE PAGE 2 FOR ADDITIONAL REQUIREMENTS FOR COMPLETING THIS BOOKLET



**University of Idaho Extension**

**BUTTE COUNTY  
4-H MARKET  
LIVESTOCK  
SUPPLEMENT**

**Age level (check one)**

**Junior (8-11)**

**Intermediate (12-14)**

**Senior (15-19)**

**Years in livestock project**

**Year**

**This packet contains the following:**

- **Project Requirements #91941**
- **Beginning Planning and Record Sheet and Growth Chart**
- **Beef #91942**
- **Junior (91946), or Intermediate (#91947), or Senior insert (#91948), depending on age level)**

**You must also complete the 4-H Animal Project Record Book #91940 and the 4-H Involvement Report #91910**

## Project Objectives

1. Learn and apply recommended principles of animal science.
2. Demonstrate knowledge of sound breeding, feeding, and management practices
3. Develop integrity, sportsmanship, decision making skills, and public speaking skills
4. Practice citizenship and leadership
- 5 explore career, job, and leisure opportunities.

## Project Requirements

General Requirements (check as completed)

Individually identify each animal with ear tag and tattoo or notching  
Weigh and provide primary care of market animal during a uniform county feeding period.

Beef about 150 days

Sheep about 60 days

Swine about 120 days

Goats about 60 Days

Give demonstration or illustrated talk on something learned in this project Provide positive ownership of animal (check those items that apply)

Idaho brand inspection

Registration certificate (purebred animals)

Bill of sale

Species specific health requirements (Brucellosis, scrapes, etc.)

### Exhibit:

All required record completed and submitted to County Extension Office

Exhibit project animals) at a community, county or other livestock show

Display performance data on exhibit or stall card

Participate in Fitting and Showing with market or breeding animal

## County Requirements

Butte County livestock supplement (91960) includes Junior (91946), Intermediate (91947), and Senior (91943), as well as species specific Beginning Planning and Record Growth Charts. :

Beef (91942), Sheep (91943), Swine (91944) or Goat (91945)

## Project Materials Required

(Members need these masters at the start of the project)

\_\_\_ Market Project Only:

\_\_\_ Record Book (91940)

## Record Book Requirement Checklist

(Checked at conclusions of project)

\_\_\_ Attend a majority of project meetings

\_\_\_ All required Growth Charts and Breeding/Production Records (see reference numbers under Project Materials Required)

\_\_\_ Attach or include a copy of 4-H involvement Report (91910) per county guidelines

\_\_\_ Optional: 1 to 3 pages of projects pictures with written captions

\_\_\_ Species specific Beginning Planning & Record Sheet

### Junior

\_\_\_ Junior Planning and Evaluation (91946)

\_\_\_ A written project experience

### Intermediate

\_\_\_ Intermediate Planning and Evaluation (91947)

\_\_\_ A written project experience

### Senior

\_\_\_ Senior Planning and Evaluation (91948)

\_\_\_ A written project experience

## Additional Requirements:

- Must complete one livestock supplement book and one project record book per animal specie. All pages must be handwritten.
- - Illegible entries and lack of neatness will receive minimum points.
- \_ Booklet may be burst/cut apart and put into protector sheets. Use only the sheets pertinent to your specie that you are reporting but keep the others pages in your book and mark them "non-applicable" Penalty given for failure to include all pages in numbered order
- - Supplemental documentation can be included and is encouraged but bonus points will not be given for doing so.
- - A project focused experience must be written for every specie A

10% mandatory point deduction for failure to follow these instructions will be enforced.

## Beef- Beginning Planning and Record Sheet

Youth Name \_\_\_\_\_

Weigh-in Date: \_\_\_\_\_ Location/Premises \_\_\_\_\_

Animal Tag Number: \_\_\_\_\_ Weight: \_\_\_\_\_ Hip Height: \_\_\_\_\_

Animal Tag Number: \_\_\_\_\_ Hip Height: \_\_\_\_\_

Animal Breed: \_\_\_\_\_

*Estimate the correct finished weight for the animal by determining the approximate Frame Score and proper finish for that score. Find the animal age at the left column and the hip height in that row to determine approximate Frame Score. These are projections for the average cattle. Actual weights will vary due to muscling, body length, and condition.*

Age (months)	Frame Score 4	Frame Score 5	Frame Score 6	Frame Score 7
6	40.8	42.9	44.9	46.9
7	42.1	44.1	46.1	48.1
8	43.2	45.2	47.2	49.3
9	44.3	46.3	48.3	50.3
10	45.3	47.3	49.3	51.3
11	46.2	48.2	50.2	52.2
12	47.0	49.0	51.0	53.0
13	47.8	49.8	51.8	53.8
14	48.5	50.4	52.4	54.4
15	49.1	51.1	53.0	55.0
16	49.6	51.6	53.6	55.6
Est. Finish Weight.	1050-1174lbs	1175- 1250 lbs	1251-1350 lbs	1351- 1485lbs

### Estimate of Required Average Daily Gain

	Est. Finish Weight	Beginning Weight	Total Required Gain	Divided By	Days in Feeding per.	Required daily gain
Animal 1				/		
Animal2				/		

### Conformation/Usefulness Evaluation

Trait	Low	Fair	Average	Good	Excellent
Total Muscling	1	3	5	7	9
Total Trimness	1	3	5	7	9
Growth/Frame	1	3	5	7	9
Structure/Balance	1	3	5	7	9

## Market Beef Growth Chart

*To achieve Success with your 4-h Market Beef project it is important that you know the period. The chart below enables you to plot the predicted growth curve (immediately after the initial weigh-in) and then plot the actual weight of your animal at various times during the feeding period to determine if you are "on target".*

1400lbs																				
1300lbs																				
1200lbs																				
1100lbs																				
1000lbs																				
900lbs																				
800lbs																				
700lbs																				
600lbs																				
	Initial	15	30	45	60	75	90	105	120	135	150	165								

Initial weigh-in date: \_\_\_\_\_ Initial Animal Weight: \_\_\_\_\_

Number of Days in feeding period: \_\_\_\_\_ Estimated Final Weight; \_\_\_\_\_

1. Mark the initial weight at the appropriate location on the left-hand side of the table.
2. Mark the estimated final weight at the appropriate location for the number of days in the feeding period.
3. Connect these two points with a straight line. This is your predicted rate of growth.
4. Record your animal's weight in the table below and the chart above each time it is weighed during the feeding period. Connect this point with the previous actual weight. Is the actual growth curve above or below your predicted growth line? Why?

### Progressive Project Weight Record

Weigh Date														
Days since last weight														
Current Weight														
A.D.G ( since last weight														
Over All A.D.G														

Tracking animal weight can tell you where your animal is compared to your goal. After each weigh day ask yourself, do you need to feed more grain or hay?

Typical influences in average daily gain (A.D.G) can be feed water, weather and illness. Ask yourself is the A.D.G normal? What caused the problem

## Junior Planning and Evaluation Insert

### Planning and Evaluating Your Project

In order to carry out a livestock project it is necessary to plan ahead for that project. The following tables ask for planning information that will help you complete your project; columns are provided to record information on up to three animals. After the project is complete, it is good to be able to compare what actually happened with what you had planned.

Animal Tags	Animal Names

	Animal #1		Animal #2		Animal #3	
	Planned	Actual	Planned	Actual	Planned	Actual
Breed of An.						
Sex of Animal						

	Animal #1			Animal #2			Animal #3		
	Planned	Actual	Difference	Planned	Actual	Difference	Planned	Actual	Difference
Ex. Purchased Weight (3 head)	600	675	+75	700	725	+25	800	750	-50
Purchased weight of animals (lbs)									
Purchase price of animals (\$)									
Final Weight of Animals (lbs)									
Market Value of Animal (\$)									
Amount of Feed									
Feed Cost									

### Vaccines Given


## In Feed Ingredients

Feed is most often the largest expense incurred in the production of livestock. On the following table list the ingredients in your ration.


## Equipment that you own

Feed Equipment	Show Equipment

## Project Objectives

(Examples of items to be listed include breaking animal to lead, animal injuries, or illnesses and ect)

Date:	What was observed?

## Intermediate Planning and Evaluation Insert

*Planning and Evaluating your project*

*In order to carry out a livestock project it is necessary to plan ahead for that project. The following tables ask for a planning information that will help you to complete your project; columns are provided to record information on up to three animals. After the project is complete, it is good to be able to compare what actually happened with what you had planned.*

Animal Tags	Animal Names

Please circle one: **Market / Breeding**

	Animal #1		Animal #2		Animal #3	
	Planned	Actual	Planned	Actual	Planned	Actual
Breed of An.						
Sex of Animal						

	Animal #1			Animal #2			Animal #3		
	Planned	Actual	Difference	Planned	Actual	Difference	Planned	Actual	Difference
Ex. Purchased Weight (3 head)	600	675	+75	700	725	+25	800	750	-50
Purchased weight of animals (lbs)									
Purchase price of animals (\$)									
Final Weight of Animals (lbs)									
Market Value of Animal (\$)									
Vaccines/implants (yes/no)									
Amount of Feed									
Feed Cost									

### Vaccines

If vaccines were used, list the disease they provided protection against (use proper quality assurance injection sites)

Date:	Target Disease

## Feed and Ration Plan

Feed is most often the largest expense incurred in the production of livestock. On the following table list the ingredients in the daily rations fed at the start and end of your project. In formulating rations, you also need to know the type of feed (concentrate, roughage, pasture) and pounds of each feed ingredient you have used in your ration.

Daily Feed Ration at Start of Project			Daily Feed Ration at End of Project		
	Type	Pounds		Type	Pounds
Total Pounds fed per day			Total Pounds fed per day		

## Inventory

All material items you used to complete your projects should be listed. Depreciable items should be worth less money at the end of the year. Any items purchased during the year should be included as expense and listed on the Ending Inventory with a depreciated value ( NOT in beginning inventory).

Equipment, feed, animals( on-hand) and miscellaneous items descriptions.	Value at beginning of the year	Value at the end of the year
Total Beginning Value		
Total Ending Value		
Change in the value +/-		

## Senior Planning and Evaluation Insert

### Planning and Evaluating your project

In order to carry out a livestock project, it is necessary to plan ahead for that project. The following tables as for planning information that will help you complete your project; columns are provided to record information on up to three animals. After the project is completed, it is good to be able to compare what actually happened with what you had planned.

Animal Tags	Animal Names

Circle one: **Market / Breeding**

	Animal #1		Animal #2		Animal #3	
	Planned	Actual	Planned	Actual	Planned	Actual
Breed of Animal						
Sex of Animal						

	Animal #1			Animal #2			Animal #3		
	Planned	Actual	Difference	Planned	Actual	Difference	Planned	Actual	Difference
Ex. Purchased Weight (3 head)	600	675	+75	700	725	+25	800	750	-50
Purchased weight of animals (lbs)									
Purchase price of animals (\$)									
Final Weight of Animals (lbs)									
Market Value of Animal (\$)									
Vaccines/implants (yes/no)									
Amount of Feed									
Feed Cost									

### Inventory

*All material items you used to complete your project should be listed. Depreciable items should be worth less money at the end of the year. Any items purchased during the year should be included as an expense and listed on the Ending Inventory with a depreciated value (NOT in beginning Inventory). Give an idea of depreciation schedule.*

Equipment, feed, animals(on-hand) and miscellaneous items descriptions.	Value at beginning of the year	Value at the end of the year
Total Beginning Value		
Total Ending Value		
Change in the value +/-		

## Feed Ration Plan

*If the beginning and ending rations are done on a computer, insert a copy of the computer rations instead of completing the tables below.*

Calculating the Beginning Ration				Animals weight at beginning of feed period : _____							
Ingredient	(A) lb	(B) (C) Dry Matter		(D) (E) Protein		(F) (G) ME		(H) (I) Calcium		(J) (K) Phosphorous	
		%	lb	%	lb	%	lb	%	lb	%	lb
Ex. Alfalfa	10	90	9	23	2.07	1.23	11.07	1.8	162	.35	.032
Total:											
Anim. Req.											
Difference											

Calculate the Ending Ration				Animals weight at end of feed period : _____							
Ingredient	(A) lb	(B) (C) Dry Matter		(D) (E) Protein		(F) (G) ME		(H) (I) Calcium		(J) (K) Phosphorous	
		%	lb	%	lb	%	lb	%	lb	%	lb
Ex. Alfalfa	10	90	9	23	2.07	1.23	11.07	1.8	162	.35	.032
Total:											
Anim. Req.											
Difference											

To calculate the nutrients in each feed ingredient, follow these steps

1. Column C= Multiply value in Column A by value in Column B
2. Column E= Multiply value in Column C by value in Column D
3. Column G= Multiply value in Column C by value in Column F
4. Column I= Multiply value in Column C by value in Column H
5. Column K= Multiply value in Column C by value in Column J

The nutritional requirements for your project animal are in Table 1, 2, 3, 4, 5 on pages 3-4. Difference between total nutrients provided by the ration fed and the animal's daily requirements.

lb or #= pounds; ME- metabolize able energy; Meat= mega calories.

Note: Average values for the nutrient composition of various feeds can be found on Table 5 on page 4.

## Nutrient Requirements

For feed values see Table 6 on page 4.

**Table 1. Beef minimum nutrient requirements for 3 pounds/day gain.**

Weight (lb)	Dry Matter (lb/day)	Protein (lb/day)	ME (Mcal)	Calcium (lb/day)	Phosphorus (lb/day)
700	18.0	2.01	20.9	.081	.041
800	19.9	2.07	23.2	.080	.044
900	21.7	2.13	25.2	.078	.046
1000	23.6	2.19	27.5	.076	.047
1100	25.3	2.25	29.4	.066	.050
1200	27.6	2.25	32.1	.066	.053
1300	29.9	2.31	34.7	.066	.053
1400	32.2	2.35	37.4	.066	.053

**Table 3. Sheep minimum nutrient requirements for .75 pound/day gain.**

Weight (lb)	Dry Matter (lb/day)	Protein (lb/day)	ME (Mcal)	Calcium (lb/day)	Phosphorus (lb/day)
50 to 70	2.9	.42	3.4	.015	.007
71-100	3.3	.44	4.4	.017	.008
101 to 140	3.3	.40	4.4	.015	.008

**Table 4. Swine Minimum nutrient requirements for 1.8 pounds/day gain.**

Weight (lb)	Dry Matter (lb/day)	Protein (lb/day)	ME (Mcal)	Calcium (lb/day)	Phosphorus (lb/day)
22 to 44	2.1	.38	.09	.015	.007
45 to 110	4.2	.63	6.19	.025	.021
110 to 240	6.9	.090	10.19	.035	.028

**Table 5. Goat Minimum nutrient requirements for .33 pound/day gain.**

Weight (lb)	Dry Matter (lb/day)	Protein (lb/day)	ME (Mcal)	Calcium (lb/day)	Phosphorus (lb/day)
22	1.98	.15	1.79	.007	.005
44	2.51	.19	2.28	.009	.006
66	2.97	.23	2.70	.009	.006
88	3.41	.26	3.10	.011	.008
110	3.81	.29	3.46	0.13	.009
Maintenance*	2.51	.23	2.73	.009	.006
Late pregnancy*	3.80	.41	4.15	.013	.009
Doe: low milk production(4.4lb)*	3.80	.53	5.19	.018	.012
Doe: medium milk production (8.8lbs)*	3.80	.83	7.65	.026	.018
Doe: High milk production (13.2lb)*	3.80	1.13	10.11	.035	.025

\*These requirements are based on a 132lb goat; requirements for your goat may vary.

## Nutrient Requirements Cont'd.

Table 6. List of Feeds

Feed	Dry Matter %	Protein %	ME Mcal/lb	Calcium %	Phosphorus %
Alfalfa, high quality	90	23	1.23	1.80	.35
Alfalfa, medium quality	90	19	1.01	1.50	.22
Alfalfa, low quality	90	17	.97	1.40	.24
Grass/Alfalfa	90	15	.93	.90	.29
Brome grass pasture, early	34	18	1.30	.50	.30
Fescue pasture, early	29	14.5	1.13	.51	.37
Corn silage	33	8.1	1.19	.23	.22
Alfalfa silage	30	23	1.23	1.80	.35
Barely	89	11	1.51	.06	.39
Corn	89	10	1.49	.03	.29
Wheat	89	11.3	1.55	.07	.36
Beet Pulp	92	10.1	1.30	.61	.10
Cottonseed meal	93	41	1.39	.21	1.16
Soybean meal	89	49.9	1.49	.30	.68
Whole cottonseed	92	23	1.71	.21	.64
Beef finisher*	88	12.5	1.27	.87	.41
Swine Grower ration*	90	18	1.33	.60	.50
Swine finisher ration*	90	14	1.35	.60	.50
Sheep grower ration*	90	11.6	1.22	.42	.021

***\*If your tag differs from these complete feeds, use your tag values and use 1.4 ME Mcal/lb.***

## Financial Summary

$$\begin{array}{ccccccc}
 \$ & \underline{\hspace{2cm}} & - \$ & \underline{\hspace{2cm}} & (+\text{or}-) \$ & \underline{\hspace{2cm}} & = \$ \underline{\hspace{2cm}} \\
 \text{Income} & & \text{Expenses} & & \text{Change in Inventory} & & \text{Gross profit or loss}
 \end{array}$$

$$\begin{array}{ccc}
 \$ \underline{\hspace{2cm}} & - \$ \underline{\hspace{2cm}} & = \$ \underline{\hspace{2cm}} \\
 \text{Gross Profit or loss} & \text{"Blue sky"/ support money*} & \text{Net Profit or loss}
 \end{array}$$

\*"Blue sky"/support money is any amount received above the actual market value of that animal.

## Production Efficiency

**Average Daily Gain:**

$$\begin{array}{ccccccc}
 \underline{\hspace{2cm}} & \text{divided by} & \underline{\hspace{2cm}} & \text{divided by} & \underline{\hspace{2cm}} & = & \underline{\hspace{2cm}} \\
 \text{Total lb gained} & & \text{\# of animals fed} & & \text{\# of days in feed period} & & \text{Average daily gain}
 \end{array}$$

**Feed consumed per pound of gain:**

$$\begin{array}{ccc}
 \underline{\hspace{2cm}} & \text{divided by} & \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{lb feed consumed} & & \text{Total lb gained} & & \text{lb of feed/ lb of gain}
 \end{array}$$

**Feed cost per pound:**

$$\begin{array}{ccc}
 \underline{\hspace{2cm}} & \text{divided by} & \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\
 \text{Total feed costs} & & \text{Total lb gained} & & \text{feed cost/ lb of gain}
 \end{array}$$

**Note: Members having more than one animal may opt to add pages and figure the production efficiency of each animal individually.**





