

# Cowbytes version 5 Training Module

**COWBYTES 5**

v5.32

*Alberta*

*Agriculture and Rural Development*

**Tutorial 1 – Exercise 1 of 3**

**1,400 lb Cow – 5 Months Pregnant**

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OK

# Cowbytes Version 5 – Training Module

## Tutorial 1 – 1,400 lb Cow

### Exercise 1

1,400 lb Cow 5 months pregnant, Body Condition Score 3.0

0.25 lbs body weight gain, November conditions -10C current, +5C previous

85 lb calf expected mid-March

1. Describe Cow and Environmental parameters.
2. Select Feeds from the Feed Table (use default values for this Exercise).
3. Balance Ration using Hay only – Supplied Dry Matter Intake to equal Recommended Dry Matter Intake. Note Body weight gain.
4. Balance Ration using Hay and Straw – Body weight gain should be about 0.25 lbs per day.
5. Check Ca:P Ratio, it should be at least 1.5:1, 2:1 is better. Meet minimum P requirements.
6. **Feeding Info Tab** – set **# days on this Ration** and **# head**. Select **Home** or **Purchase**. Set **Package Weight and Type**. Use **Waste Factor** for the Hay and the Straw.
7. **Save to Ration Summary** – name the summary **1400 lb Cow 5 Months Pregnant**
8. From the Top Menu Bar, open **Reports | Ration Reports**
9. **Print the Ration Summary** (Print to a PDF file)
10. **Save** the Ration File to the Hard Drive – **File | Save | Ration Filename**

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units

Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs

Ration Animal Type Feed Table Feeding Info Feed Mixes Client Info Water Modification Config Calculator

Feed Name	DM Fed %	As fed (lbs)	DM Fed (lbs)	DM %	DE Mcal/lb	TDN %	HEM Mcal/lb	HEg Mcal/lb	Protein %	Calcium %	Phosphorus %	Cost \$/unit

**This is the Ration tab  
This is the screen where  
all Rations are balanced**

**The Energy button toggles  
between TDN and Net Energy**

**Dry Matter Intake** Maximum: 35.3 Recommended: 27.5 Supplied: 0 (lbs) As Fed (lbs): 0 Pred. ADG (lbs): BCS Days: N/A

Results Ratios Methane - Manure

Description	DM %	DE Mcal	TDN lbs	Protein grams	Calcium grams	Phosphorus grams	Cost HD/Day	Magnesium grams
Recommended Nutrients per Day		0.00	0.00	648	0	0		
Supplied from Ration		0.00	0.00	0	0	0	0.00	

Description		Mcal/lb	%	%	%	%	%
Diet Concentration (DM)	0.0	0.00	0.00	0.0	0.00	0.00	0.0

Ration: aaastartupration.cml Feed Table: system.fml

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs

Ration **Animal Type** Feed Table Feeding Info Feed Mixes Client Info Water Modification Config Calculator

Cows - Dry

**Body Weight (lbs)**  
1400

**Months Pregnant**  
5

**Breed**  
British / Continental excluding Simmentals

**Expected Birth Wt. (lbs)**  
85.0

**Ionophores**  
No

**Condition Score**  
3.0 CAN 5 US moderate

**Desired ADG (lbs)**  
0.25

**Slaughter/Mature Wt. (lbs)**  
1400

**Current Temperature (C)**  
-10.0

**Wind Speed (km/hr)**  
5

**Hair Condition**  
dry and clean

**Mud in Lot**  
< 10 cm (4 inches)

**Previous Month Temperature (C)**  
5.0

**Hair Depth (cm)**  
0.51

**Hide Thickness**  
Average

**Heat Stress**  
No heat stress

Light Cooling

Summer Winter

Restore Environmental Defaults

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml Feed Table: system.fml

**Open the Animal Type screen**

**Enter all of this information for the Cow and Environmental Conditions**

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units

**Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs**

Ration Animal Type **Feed Table** Feeding Info Feed Mixes Client Info Water Modification Config Calculator

Feed Name	DM Fed %	As fed (lbs)	DM fed (lbs)	DM %	DE Mcal/lb	TDN %	Protein %	Calcium %	Phosphorus %	Cost \$/unit	lbs /unit	Magne: %
ALF-GRASS HAY	0.0	0.000	0.000	87.4	1.20	60.00	14.0	1.22	0.19	60.00	2000	
BARLEY STRAW	0.0	0.000	0.000	89.1	0.89	44.57	4.2	0.13	0.08	20.00	2000	
BARLEY GRAIN	0.0	0.000	0.000	88.5	1.66	83.10	12.5	0.07	0.38	3.90	48	
18:18 MINERAL	0.0	0.000	0.000	99.0	0.00	0.00	0.0	18.18	18.18	29.00	55	
FORT TMSALT+SE	0.0	0.000	0.000	99.0	0.00	0.00	0.0	0.00	0.00	12.00	44	
ADE 10 MILLION	0.0	0.000	0.000	99.0	0.00	0.00	0.0	0.00	0.00	68.00	44	

**Select these Feeds from the Feed Table (see next slide)**

**Dry Matter Intake** Maximum: 35.3 Recommended: 27.5 Supplied: 0 (lbs) As Fed (lbs): 0 Pred. ADG (lbs): To lose 1/2 BCS(Can): 19 days

Results Ratios Methane - Manure




Description	DM %	DE Mcal	TDN lbs	Protein grams	Calcium grams	Phosphorus grams	Cost HD/Day	Magnesium grams
Recommended Nutrients per Day		0.00	0.00	648	0	0		
Supplied from Ration		0.00	0.00	0	0	0	0.00	

Description	Mcal/lb	%	%	%	%	%
Diet Concentration (DM)	0.0	0.00	0.00	0.0	0.00	0.00

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml Feed Table: system.fml

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units   

**Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs**

Ration Animal Type **Feed Table** Feeding Info Feed Mixes Client Info Water Modification Config Calculator

All MIX **HAY** SILAGE STRAW CHAFF GRAIN BYPROD SUPPLE MINERAL SALT VITAMIN MILK FATS

Feed Group	Feed Name	In	Add	DE Mcal/lb	TDH %	Protein %	Calcium %	Phosphorus %	Cost \$/unit	lbs /unit
HAY	ALFALFA HAY EB	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	ALFALFA HAY LB	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	ALF-GRASS HAY	<input type="checkbox"/>	<input checked="" type="checkbox"/>							200
HAY	BRLY GREENFEED	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	BROME HAY	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	CANOLA HAY	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	CHICKPEA HAY	<input type="checkbox"/>	<input type="checkbox"/>	1.16	58.00	14.1	1.22	0.28	50.00	200
HAY	CLOV-GRASS HAY	<input type="checkbox"/>	<input type="checkbox"/>	1.18	59.23	10.8	0.79	0.19	50.00	200
HAY	GERMAN MILLET	<input type="checkbox"/>	<input type="checkbox"/>	1.06	53.30	14.1	0.32	0.19	50.00	200
HAY	GRASS HAY	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	GRS-LEGUME HAY	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	KOCHIA HAY	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	LENTIL HAY	<input type="checkbox"/>	<input type="checkbox"/>							200
HAY	NATIVE GRS HAY	<input type="checkbox"/>	<input type="checkbox"/>	1.12	56.12	8.6	0.44	0.12	40.00	200

**To Select a Feed from the Feed Table, place a Check Mark in the Add Box**

**A new Note section has been added for each feed**

Notes for: **ALF-GRASS HAY**

Alfalfa - Grass Hay cut at early to mid-bloom stage. Alfalfa - Grass Hay containing a high percentage of Alfalfa may cause frothy bloat.

Ration: aaastartupration.cml Feed Table: system.fml

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units

**Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs**

Ration Animal Type Feed Table Feeding Info Feed Mixes Client Info Water Modification Config Calculator

Feed Name	DM Fed %	As fed (lbs)	DM fed (lbs)	DM %	DE Mcal/lb	TDH %	Protein %	Calcium %	Phosphorus %	Cost \$/unit	lbs /unit	Magne: %
ALF-GRASS HAY	99.6	33.000	28.842	87.4	1.20	60.00	14.0	1.22	0.19	60.00	2000	
BARLEY STRAW	0.0	0.000	0.000	89.1	0.89	44.57	4.2	0.13	0.08	20.00	2000	
BARLEY GRAIN	0.0	0.000	0.000	88.5	1.66	83.10	12.5	0.07	0.38	3.90	48	
18:18 MINERAL	0.2	0.060	0.059	99.0	0.00	0.00	0.0	18.18	18.18	29.00	55	
FORT TMSALT+SE	0.2	0.060	0.059	99.0	0.00	0.00	0.0	0.00	0.00	12.00	44	
ADE 10 MILLION	0.0	0.006	0.006	99.0	0.00	0.00	0.0	0.00	0.00	68.00	44	

**- Balance the Ration using only Alf-Grass Hay**

**- Supplied Dry Matter Intake should equal the Recommended DM Intake**

**- Notice the Predicted Average Daily Gain ADG is 1.3 lbs per day**

Dry Matter Intake	Maximum	Recommended	Supplied	As Fed (lbs)	Pred. ADG (lbs)	To gain 1/2 BCS(Can)
	35.3	29	29	33.1	1.3	84 days

Description	DM %	DE Mcal	TDH lbs	Protein grams	Calcium grams	Phosphorus grams	Cost HD/Day	Magnesium grams	Potas gra
<b>Recommended Nutrients per Day</b>		24.67	12.36	863	21	16		16	
<b>Supplied from Ration</b>		34.54	17.31	1832	165	30	1.05	34	
Description		Mcal/lb	%	%	%	%		%	
<b>Diet Concentration (DM)</b>	87.4	1.19	59.74	13.9	1.25	0.23		0.26	

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml      Feed Table: system.fml

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units **Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs**

Ration Animal Type Feed Table Feeding Info Feed Mixes Client Info Water Modification Config Calculator

Feed Name	DM Fed %	As fed (lbs)	DM fed (lbs)	DM %	DE Mcal/lb	TDH %	Protein %	Calcium %	Phosphorus %	Cost \$/unit	lbs /unit	Magne: %
ALF-GRASS HAY	47.9	15.100	13.197	87.4	1.20	60.00	14.0	1.22	0.19	60.00	2000	
BARLEY STRAW	51.7	16.000	14.256	89.1	0.89	44.57	4.2	0.13	0.08	20.00	2000	
BARLEY GRAIN	0.0	0.000	0.000	88.5	1.66	83.10	12.5	0.07	0.38	3.90	48	
18:18 MINERAL	0.2	0.060	0.059	99.0	0.00	0.00	0.0	18.18	18.18	29.00	55	
FORT TMSALT+SE	0.2	0.060	0.059	99.0	0.00	0.00	0.0	0.00	0.00	12.00	44	
ADE 10 MILLION	0.0	0.006	0.006	99.0	0.00	0.00	0.0	0.00	0.00	68.00	44	

**- Balance the Ration Using Alf-Grass Hay diluted with Barley Straw**  
**- Supplied Dry Matter Intake should equal the Recommended DM Intake**  
**- Notice the Predicted Average Daily Gain ADG is now 0.3 lbs per day**

Dry Matter Intake: Maximum 35.3, Recommended 27.6, Supplied 27.6 (lbs)

As Fed (lbs): 31.2, Pred. ADG (lbs): 0.3, To gain 1/2 BCS(Can): 333 days

Description	DM %	DE Mcal	TDH lbs	Protein grams	Calcium grams	Phosphorus grams	Cost HD/Day	Magnesium grams
Recommended Nutrients per Day		27.50	13.78	752	21	16		
Supplied from Ration		28.49	14.27	1110	86	21	0.67	

Description	Mcal/lb	%	%	%	%	%
Diet Concentration (DM)	88.3	1.03	51.75	8.9	0.69	0.17

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml | Feed Table: system.fml



**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units **Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs**

Ration Animal Type Feed Table **Feeding Info** Feed Mixes Client Info Water Modification Config Calculator

# of days on this Ration: 30 # of head: 150 Yardage ynd/day: 0 Total Ration Cost (\$): 3503.02 Feed Cost/Lb of gain (\$): 2.31

Feed Name	Home	Purch	Package Weight	Package Type	Waste Factor	No. Packages
ALF-GRASS HAY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1400	Rnd. Bal	15	57.1
BARLEY STRAW	<input checked="" type="checkbox"/>	<input type="checkbox"/>	900	Rnd. Bal	15	94.1
18:18 MINERAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	55	Bag	0	4.91
FORT TMSALT+SE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	44	Block	0	6.1
▶ ADE 10 MILLION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	44	Bag	0	0.61

**Open the Feeding Info screen**

- Enter # of Days on this Ration and # of Head
- Check Home or Purchased
- Adjust the Package Weight (weight of the bale, bag, block, etc.)
- Select the Package Type from the Drop Down List
- A Waste Factor can be Included (5% to 25%)

Manage Ration Summaries Save to Ration Summary Open Ration Summary Report

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml Feed Table: system.fml

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian units Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs

Ration Animal Type Feed Table Feeding Info Feed Mixes Client Info Water Modification Config Calculator

# of days on this Ration 30 # of h 150

Feed Name	Home	Pu
ALF-GRASS HAY	<input checked="" type="checkbox"/>	
18:18 MINERAL	<input type="checkbox"/>	
FORT TMSALT+SE	<input type="checkbox"/>	
ADE 10 MILLION	<input type="checkbox"/>	

**Name or Rename Ration Summary**

Provide a name for this ration summary or  
Click the dropdown box to choose  
an existing ration summary to update

1400 LB COW 5 MONTHS PREG ▼

Cancel Ok

**Click Save to Ration Summary button**  
**Enter 1400 lb Cow 5 Months Pregnant**

Manage Ration Summaries Save to Ration Summary Open Ration Summary Report

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml Feed Table: system.fml

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit **Feed Table Reports** Yardage Calculator Help

Canadian Units

**Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs**

Ration Animal Type Feed Table Feeding Info Feed Mixes Client Info Water Modification Config Calculator

Feed Name	DM Fed %	As fed (lbs)	DM fed (lbs)	DM %	DE Mcal/lb	TDH %	Protein %	Calcium %	Phosphorus %	Cost \$/unit	lbs /unit	Magne: %
ALF-GRASS HAY	47.9	15.100	13.197	87.4	1.20	60.00	14.0	1.22	0.19	60.00	2000	
BARLEY STRAW	51.7	16.000	14.256	89.1	0.89	44.57	4.2	0.13	0.08	20.00	2000	
BARLEY GRAIN	0.0	0.000	0.000	88.5	1.66	83.10	12.5	0.07	0.38	3.90	48	
18:18 MINERAL	0.2	0.060	0.059	99.0	0.00	0.00	0.0	18.18	18.18	29.00	55	
FORT TMSALT+SE	0.2	0.060	0.059	99.0	0.00	0.00	0.0	0.00	0.00	12.00	44	
ADE 10 MILLION	0.0	0.006	0.006	99.0	0.00	0.00	0.0	0.00	0.00	68.00	44	

**Select Reports on the top Menu bar**  
**Select Ration Report from the drop down menu**

**Dry Matter Intake** Maximum: 35.3 Recommended: 27.6 Supplied: 27.6 (lbs) As Fed (lbs): 31.2 Pred. ADG (lbs): 0.3 To gain 1/2 BCS(Can): 333 days

Results Ratios Methane - Manure

Description	DM %	DE Mcal	TDH lbs	Protein grams	Calcium grams	Phosphorus grams	Cost HD/Day		Magnesium grams
Recommended Nutrients per Day		27.50	13.78	752	21	16			
Supplied from Ration		28.49	14.27	1110	86	21	0.67		

Description	Mcal/lb	%	%	%	%	%		%
Diet Concentration (DM)	88.3	1.03	51.75	8.9	0.69	0.17		0.

Ration: Cowbytes Training 1400 lb Cow Tutorial.cml Feed Table: system.fml

# a Ration Report will be created

COWBYTES 5.2.7 AARD

## Ration Report

**Client**

Tutorial 1 - Exercise 1  
1400 lb Cow  
5 Months Pregnant

**Consultant**

Cowbytes version 5 - Training

Ph:

Fax:

Ph:

Fax:

<b>Summary:</b>	1400 LB COW 5 MONTHS PREGNANT	<b>No. of Head</b>	150
<b>Animal Desc.</b>	Cows - Dry - 1400lbs, Preg:5Months, Exp. Birth Wt:85.00lbs		
<b>Predicted ADG:</b>	0.34 Lbs	<b>To gain 1/2 BCS(Can)</b>	333 days
<b>Hair Condition:</b>	dry and clean	<b>Current Temperature (C)</b>	-10.0
<b>Mud in Lot:</b>	< 10 cm. (4 inches)	<b>Previous Month Temperature (C)</b>	5.0
<b>On Pasture:</b>	no	<b>Wind Speed (km/hr)</b>	5.0

Feed Name	As Fed		% of \$/Head	Package	By Group per Day *	By group per 30 days *			
	Lbs	Wastage %					Ration /day *	Type	Weight
ALF-GRASS HAY	15.100	15.0	48.4	\$0.53 Rnd. Bal	1400	1.9	\$79.94	57.1	\$2,398
BARLEY STRAW	16.000	15.0	51.2	\$0.19 Rnd. Bal	900	3.1	\$28.23	94.1	\$847
18:18 MINERAL	0.060		0.2	\$0.03 Bag	55	0.2	\$4.75	4.9	\$142
FORT TMSALT+SE	0.060		0.2	\$0.02 Block	44	0.2	\$2.44	6.1	\$73
ADE 10 MILLION	0.006		0.0	\$0.01 Bag	44	0.0	\$1.38	0.6	\$41
<b>Total</b>	<b>31.226</b>						<b>\$116.74</b>		<b>\$3,502</b>
Feed Cost/Lb. gain			\$2.31	Home			\$108.17		\$3,245
Cost/Lb. gain including yardage			\$2.31	Purchased			\$8.57		\$257

\* Includes waste % in package and cost calculations

**Ratios and Other Information**

<b>Ca:P</b>	4.03	<b>Rumen pH</b>	Normal	<b>Feed:Gain</b>	81.9
<b>Cu:Mo</b>	11.3	<b>DM % of BW</b>	2	<b>Diet DM %</b>	88.3
<b>K (Mg + Ca)</b>	0.8	<b>Forage DM % DM</b>	2	<b>HDF as % BW</b>	1.2
<b>DCAB</b>	348	<b>Forage %</b>	99.5	<b>DIP/TDH %</b>	12.4

**COWBYTES 5.2.7 AARD - FULL VERSION**

File Edit Feed Table Reports Yardage Calculator Help

Canadian unit

Ration Animal

**From the Top Menu Bar select File Save**

Feed Name	DM Fed %	As fed (lbs)	DM fed (lbs)	DM %	DE Mcal/lb	TDN %	Protein %	Calcium %	Phosphorus %	Cost \$/unit	lbs /unit	Magne: %
ALF-GRASS HAY	47.9	15.100	13.197	87.4	1.20	60.00	14.0	1.22	0.19	60.00	2000	
BARLEY STR												
BARLEY GRA												
18:18 MINERA												
FORT TMSAL												
ADE 10 MILLI												

### Save Ration

Save in: Rations

- Cowbytes Training 1400 lb Cow Tutorial.cml
- testRation.cml

**Type Cowbytes Training 1400 lb Cow Tutorial**  
**click Save**  
**This file will be saved to the hard drive**

File name: Cowbytes Training 1400 lb Cow Tutorial.cml Save

Save as type: Cowbytes 5.X ration (\*.cml) Cancel