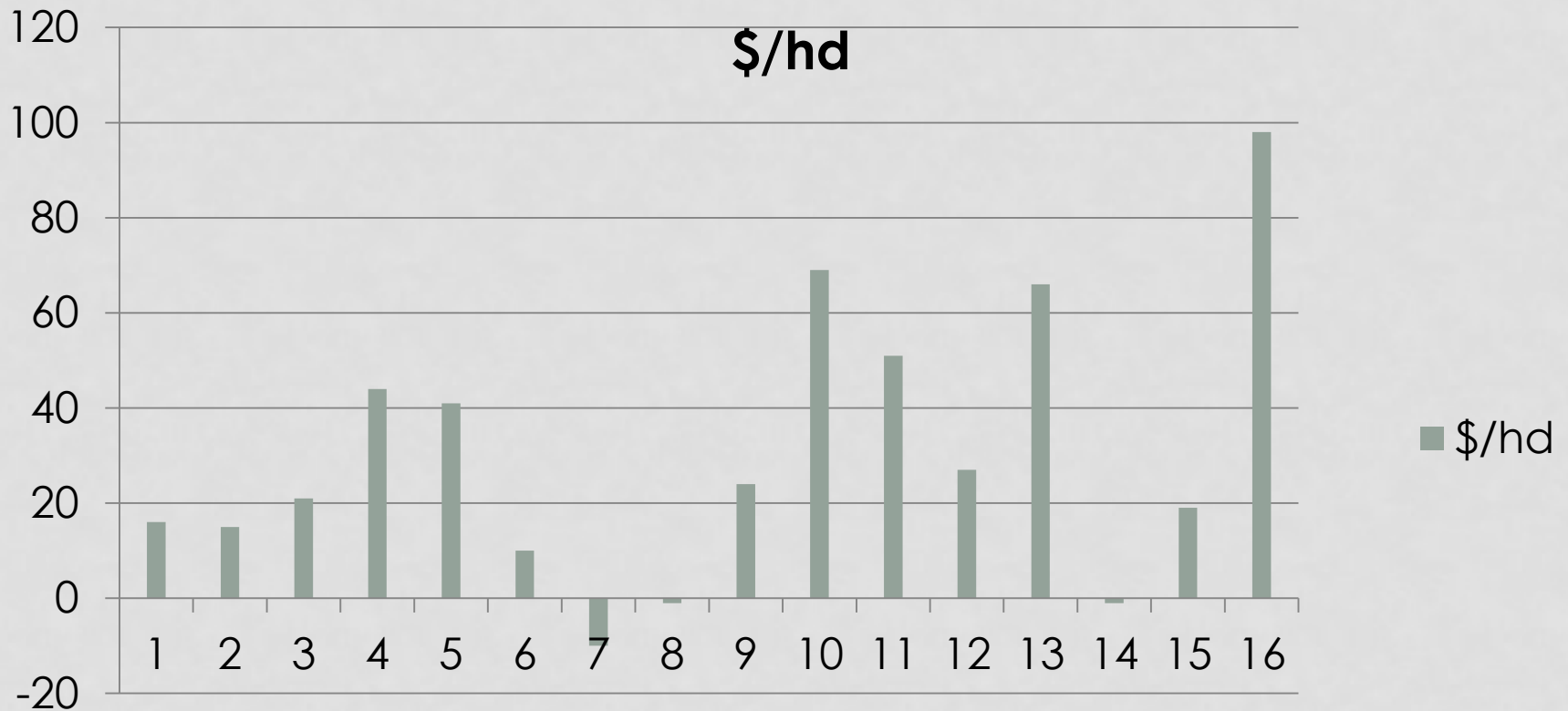


BACKGROUNDING 2017



BACKGROUNDING RETURNS

ND FARM AND RANCH MANAGEMENT 2001-2016



LOOKING BACK - 2016

• 2016 Situation

- Steep decline in calf prices
- Declining futures prices
- Corn under \$3
- Abundant hay stocks
- High VOM low value wheat
- Low interest rates
- Increasing cattle numbers and meat supplies

• Scenarios – Projections

- Delay marketing for Price improvement latter???
- 525 to 750 1.5ADG **\$36**
- Feed to heavier weight to greater dollars at low cost of gain
- 570 to 770 2.3ADG **\$56**
- Target market spikes for heavy feeders finishing in April
- 620 to 880 3.0ADG **\$88**

2016 BACKGROUNDING - CLOSEOUT ANALYSIS AND FARM AND RANCH MANAGEMENT

- 29 Farms
- 154 head
- In weight 533
- In price 1.40
- Out weight 716
- Out price 1.43
- ADG 1.66
- Feed cost /lb .40
- Death loss .7%
- Total COG .60
- 110 days fed
- Net Return \$99

LOOKING AHEAD

- Today's Situation

- Bearish overtone to market
 - Placements up
 - Export-dollar value
 - Cold storage
- Areas of cheap feed
- Futures reflect stability

- Critical Factors

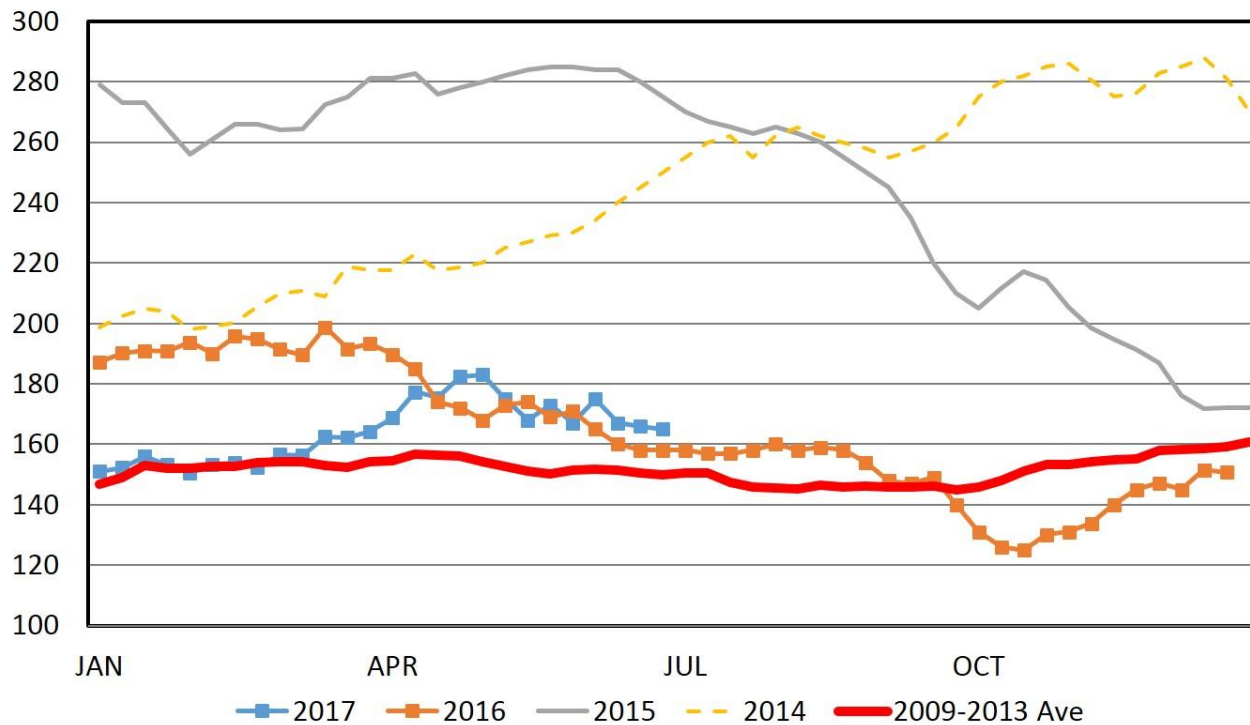
- Cost of Gain
 - Feed prices
 - Cattle performance
 - Calf health
- Value of Gain
 - Price trend
 - Buy-sell spread
 - Risk protection

WHAT ARE CALVES WORTH TODAY



PRICES ABOVE LAST YEAR

MED. FRAME #1 STEER CALF PRICES
550-600 Pounds, N.D., Weekly



Kist Livestock Auction - Mandan, ND

Feeder Cattle Weighted Average Report for 10/04/2017

Receipts: 1626 Last Week: 1046 Year Ago: 0

Due to low numbers last week no comparison this week. All weights trended higher this week due to larger numbers and quality of feeders. Good demand for today's offering. 49 percent steers, 45 percent heifers and 6 percent bulls in today's offering. 57 percent over 600 lbs.

Feeder Steers Medium and Large 1

Head	Wt Range	Avg Wt	Price Range	Avg Price	
5	361	361	206.00	206.00	
19	458-488	480	181.00-182.00	181.25	
99	503-532	523	173.00-181.50	177.33	
57	558-566	560	161.75-173.00	167.81	
113	620-632	623	155.50-172.00	166.79	Calves
103	651-697	664	151.50-162.00	156.81	Calves
7	721	721	157.50	157.50	Calves
62	847	847	163.90	163.90	
132	858-870	863	157.50-163.90	163.41	
45	917	917	156.50	156.50	

BIGGER NUMBERS AT DICKINSON, NAPOLEON NOT REPORTED LAST WK

Feeder Steers Medium and Large 1

Head	Wt Range	Avg Wt	Price Range	Avg Price	
17	363-375	369	217.00-224.50	220.20	
67	400-445	439	186.00-195.00	191.52	
213	453-499	479	172.50-190.00	182.15	
129	450-498	494	200.00-202.50	200.19	Fancy
156	522-549	537	174.00-184.00	177.35	
225	559-597	577	161.00-176.25	171.00	
101	569	569	181.00	181.00	Fancy
185	619-645	634	165.50-176.00	173.02	Calves
87	654-692	690	166.00-170.25	168.93	Calves
9	751	751	155.50	155.50	
8	829	829	161.00	161.00	
41	894	894	157.25	157.25	
5	980	980	138.00	138.00	

HOW ABOUT HEIFERS

Feeder Heifers Medium and Large 1					
Head	Wt Range	Avg Wt	Price Range	Avg Price	
6	256	256	490.00	490.00	Per Head
7	332	332	185.00	185.00	
64	427-431	428	155.50-167.00	158.21	
27	468-496	481	150.00-150.50	150.25	
82	502-549	522	149.50-154.00	151.32	
39	573-597	592	152.50-153.00	152.60	
72	587	587	156.50	156.50	Fancy
19	613	613	148.50	148.50	Calves
11	677	677	152.00	152.00	
14	650	650	148.00	148.00	Calves
43	726	726	149.50	149.50	
89	764-786	782	148.00-149.00	148.19	
10	820	820	149.50	149.50	
29	856-874	867	137.00-143.75	139.91	
22	911-934	925	135.00-140.25	137.74	
37	966-988	984	135.00-137.75	137.24	

WHAT'S THE VALUE OF ADDED WEIGHT ? HOW ABOUT HEIFERS ?

weight	Steer Price/lb	Calf value		Value of additional lbs	Heifer Price/lb and Spread
480	1.81	868			1.50 - .31
523					
560	1.67	935		1.34	1.56 - .11
623					
664	1.56	1035		.96	1.48 - .11

PROJECTED VALUE OF ADDED WEIGHT

- Current value
 - 560 lbs - \$935
- Projected value
 - March Futures \$151
 - Minus local basis -3
 - 800 lbs - \$1272
- Value of weight
 - \$1.40 / lb
 - \$337 for 240 lbs

Futures Markets

FEEDER CATTLE SIDE BY SIDE (CME)

	Sym	Prev	Open	High	Low	Last Trade
Oct 17	@GF7V	153.950	154.100	154.400	153.600	153.825
Nov 17	@GF7X	155.750	156.150	156.450	155.450	155.825
Jan 18	@GF8F	153.700	154.000	154.400	153.550	153.850
Mar 18	@GF8H	151.650	151.800	152.250	151.525	151.850
Apr 18	@GF8J	151.150	151.275	151.550	150.925	151.025
May 18	@GF8K	149.925	149.975	150.250	149.650	149.650
Aug 18	@GF8Q	150.650	151.000	151.000	150.850	150.900
Sep 18	@GF8U	149.000				149.000

VALUE ADDED

- Load lots
- 2 rounds shots
- Weaned over a month
- Early heavy calves
- Source and age verified
- Clean and green

WHAT WILL FEEDERS BE WORTH LATTER

- Factors
 - Cost to finish
 - Fed cattle prices
- Fed Cattle Futures
 - Indicative of market sentiment
 - Predictive of prices latter
- Breakevens for Finishers
 - June 1350 lb steer = \$1552
 - $\$1552 - .70 \text{ COG} * 600\text{lb}$
 - 750 lb feeder BE purchase @ 1.50

APR 2018	OPT		121.475
JUN 2018	OPT		115.125
AUG 2018	OPT		112.450

Month	Options	Charts	Last	Change	Prior Settle	Open	High	Low
OCT 2017	OPT		153.750	-0.200	153.950	154.100	154.400	153.000
NOV 2017	OPT		155.475	-0.275	155.750	156.150	156.450	154.700
JAN 2018	OPT		153.850	+0.150	153.700	154.000	154.400	152.825
MAR 2018	OPT		151.850	+0.200	151.650	151.800	152.250	150.825
APR 2018	OPT		151.150	0.000	151.150	151.275	151.550	150.425

BACKGROUNDING COSTS & COST OF GAIN

Direct

- Feed
Market-opportunity value
Transportation, storage,
processing, shrink
- Veterinary
- Fuel –repairs
- Operating interest
- Marketing

Overhead (yardage)

- Utilities
- Insurance
- Machinery & building
depreciation
- Interest
- Hired labor

FEED

Animal Desc. Feeders and Replacements - 550lbs, Steer, ADG:2.2lbs
Predicted ADG: 2.59 Lbs **BCS Days**
Hair Condition: dry and clean **Current Temperature (F)**
Mud in Lot: < 10 cm. (4 inches) **Previous Month Temperature**
On Pasture: No **Wind Speed (mi/hr)**

Feed Name	As Fed Lbs/Head/Day	% of Ration	\$/Head/Day
ALFALFA HAY LB	7.000	29.2	\$0.28
SILG CORN	10.000	41.7	\$0.18
OAT GRAIN	6.000	25.0	\$0.37
32-0 BEEF SUPP	1.000	4.2	\$0.20
Total	24.000*		\$1.03*

* waste factor not included

Daily Cost
 \$1.03 plus waste 5%
 = \$1.08

Ration Cost
 Alfalfa 80/t * 29.2%
 Silage 35/t * 41.7%
 Oats 125/t * 25.0%
 Suppl 400/t * 4.2%
 =\$86 / ton
 = \$.043 / lb

Feed Cost of Gain
 $\$1.08 / 2.59 = .416$
 $24 \text{ lbs dm} / 2.59 =$
 conversion 9.7 f/g

VETERINARY / DEATH LOSS

- Vaccination
 - 7-4-1 @ \$6/hd
- Treatment
 - 10% @ \$15/treatment = \$1.5/hd
- Pour On
 - \$2/hd
- Death loss
 - 1% @ 935 = \$9.35/hd
- \$18.35/hd or \$.09/ lb gain on 200 lbs gain

YARDAGE

- Fuel
 - 2 hrs @ 5 @ \$2.30 /200 hd = \$.11/hd/day
 - Utilities
 - \$.02/hd/day
 - Labor
 - 2 hrs @ \$15 / 200 hd = \$.15/hd/day
 - Repairs
 - \$.05/hd/day
 - Depreciation (payments) equipment & facility
 - \$.12/ hd /day
 - Custom Hire
 - Other – bedding, processing, ...
-
- \$.45 /hd/day = \$.17/lb/gain

Yardage Calculator

Investment - Cost of Facilities

Original cost of facilities	100,000
Expected life of facilities (years)	30
Expected salvage value of facilities	0
Annual Interest rate (as percentage)	5

Interest Cost on Investment	\$2,500
Depreciation	\$3,333
Taxes (annual)	
Insurance (annual)	1000
Subtotal for this section	\$6,833

Investment - Cost of Equipment

Original cost of equipment	100,000
Expected life of equipment (years)	20
Expected salvage value of equipment	20,000
Annual Interest rate (as percentage)	5

Interest Cost on Investment	\$2,000
Depreciation	\$4,000
Insurance (annual)	1000
Subtotal for this section	\$7,000

Other Costs (\$ / Year)

Veterinary & medicine (optional)		\$/Head/Year
Electricity	3000	
Natural gas, propane and heating fuel		
Repairs and upkeep on facilities	5000	
Equipment fuel and repairs	5000	
Custom corral cleaning		

Veterinary & medicine (calculated)	\$0	\$ / Year
Hired labour	15000	
Operator labour		
Additional Insurance		
Additional Interest		
Subtotal for this section	\$28,000	

Number of Cattle	500
Number of Days on Feed	240

Cattle Days on Feed	120000
---------------------	--------

Total Costs	\$41,833	\$ / Year
Yardage	0.35	\$/Head/Day

Reset all Fields

Print this Screen



Calculate Yardage

Close

INTEREST

- Value of Calf
 - $560 @ 1.67 = \$935$
 - $\$.05 * 935 * .33\text{yr} = \15.42
- Cost of Feeding
 - $\$.62 \text{ COG} * 200 \text{ lbs} = \150
 - $\frac{1}{2} \text{ of } 150 * .05 * .33\text{yr} = \1.23
- \$16.65/hd

EXAMPLE COST OF GAIN

- Feed \$.416
- Vet/Death \$.09
- Yardage \$.17
- Interest \$.08
- Total COG \$.75/lb



BUDGETING ALTERNATIVES

- Steers vs heifers
- Light calves vs heavy calves
- High gain vs slower gain
- Long feeding period vs short preconditioning
- Heavy out weights vs green out weights

BUDGETING ASSUMPTIONS

- Feed
 - Alfalfa hay \$100
 - grass hay \$80
 - Corn \$105
 - Barley pellets \$120
 - Silage \$35
- Conversion (dm)
 - 1.50 adg 13:1
 - 1.75 adg 11:1
 - 2.00 adg 10:1
 - 2.25 adg 9:1
 - 2.50 adg 8:1
 - 2.75 adg 7.5:1
 - 3.00 adg 6.5:1
- Lot/Yardage
 - \$.20/hd/day home
 - \$.45/hd/day custom
- Interest
 - 5%
- Health
 - 1% death loss
 - Vet/treatment \$10
- Marketing/trucking/misc
 - \$10

TRADITIONAL

inputs

			date
sex	steer		
Begin wt	570	\$1.67	10/24
Adg	2.0		
Death loss	1		
Ration cost	90		
Conversion	11:1		
Lot charge	.20		
Health	10		
misc	10		
Sell price	1.51		

output

		days	date
End wt	750	95	1/13
Total gain	190		
Animal cost	\$935		
Feeding costs	\$187		
Feed COG	.51		
Total COG	.89		
BE	1.46		
Profit/loss	\$36		

TRADITIONAL - EXPENSIVE FEED

inputs

			date
sex	steer		
Begin wt	560	\$1.67	10/24
Adg	2.0		
Death loss	1		
Ration cost	130		
Conversion	11:1		
Lot charge	.20		
Health	10		
misc	10		
Sell price	1.51		

output

		days	date
End wt	750	95	1/13
Total gain	190		
Animal cost	\$935		
Feeding costs	\$187		
Feed COG	.72		
Total COG	1.04		
BE	1.51		
Profit/loss	\$0		

BIG STEERS – HIGH GAIN, HEAVY WEIGHT

inputs

			date
sex	steer		
Begin wt	625	\$1.66	10/24
Adg	2.75		
Death loss	1		
Ration cost	105		
F/G	7:1		
Lot charge	.20		
Health	10		
misc	10		
Sell price	1.43		

output

		days	date
End wt	900	102	1/17
Total gain	275		
Animal cost	\$1037		
Feeding costs	\$156		
Feed COG	.37		
Total COG	.61		
BE	1.33		
Profit/loss	\$82		

BIG STEERS – HIGH GAIN, HEAVY WEIGHT, CUSTOM FED

inputs

			date
sex	steer		
Begin wt	625	\$1.66	10/24
Adg	2.75		
Death loss	1		
Ration cost	110		
F/G	7:1		
Lot charge	.45		
Health	10		
misc	20		
Sell price	1.43		

output

		days	date
End wt	900	102	1/17
Total gain	275		
Animal cost	\$1037		
Feeding costs	\$201		
Feed COG	.56		
Total COG	.76		
BE	1.38		
Profit/loss	\$37		

PRECONDITIONING

inputs

			date
sex	steer		
Begin wt	550	\$1.69	10/24
Adg	1.5		
Death loss	1		
Ration cost	90		
Conversion	12:1		
Lot charge	.20		
Health	10		
misc	10		
Sell price	1.66		

output

		days	date
End wt	625	50	11/29
Total gain	75		
Animal cost	\$929		
Feeding costs	\$76		
Feed COG	.54		
Total COG	1.15		
BE	1.62		
Profit/loss	\$21		

TYPICAL HEIFERS

inputs

			date
sex	hfr		
Begin wt	550	\$1.52	10/10
Adg	1.75		
Death loss	1		
Ration cost	50	(high silage)	
Conversion	22:1		
Lot charge	.20		
Health	10		
misc	10		
Sell price	1.43		

output

		days	date
End wt	780	153	3/11
Total gain	230		
Animal cost	\$836		
Feeding costs	\$196		
Feed COG	.55		
Total COG	.89		
BE	.1.33	1037	
Profit/loss	\$50		

BREAKEVEN ANALYSIS

JORY HANSEN - FARM BUSINESS MANAGEMENT

550 LB CALF - 120 DAY FEEDING - \$.30 YARDAGE

ADG/wt	Calf Price		\$.30	\$.35	\$.40	\$.45	\$.50	\$.55
2.5 808	\$140		117	119	121	123	125	1.27
	\$145		121	122	125	127	128	130
	\$150		124	126	128	130	131	134
	\$155		128	130	131	133	135	137
	\$160		131	133	135	137	138	140
	\$165		135	137	139	141	142	144
3.0 865	\$140		112	114	116	118	120	122
	\$145		115	117	119	122	124	126
	\$150		118	121	123	125	127	129
	\$155		122	124	126	128	130	132
	\$160		125	127	129	132	133	136
	\$165		128	130	132	136	137	139

PUT OPTIONS - ADDITIONAL COST TO PROTECT BREAK-EVEN OR RETURN

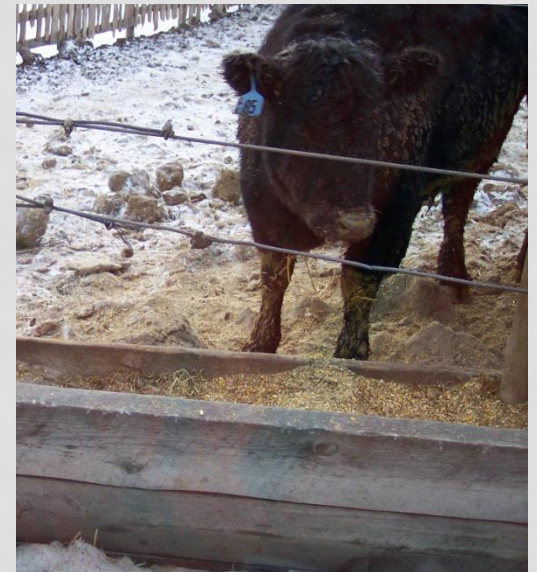
Calls								Strike Price	Puts							
Updated	Hi / Low Limit	Volume	High	Low	Prior Settle	Change	Last		Last	Change	Prior Settle	Low	High	Volume	Hi / Low Limit	Updated
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LRP COVERAGE RATES

38 North Dakota	998 All Counties	13	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.868	\$146.170	0.950000	0.024868	3.635	01/05/2018
38 North Dakota	998 All Counties	13	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.868	\$142.170	0.924000	0.017486	2.486	01/05/2018
38 North Dakota	998 All Counties	13	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.868	\$140.170	0.911000	0.014447	2.025	01/05/2018
38 North Dakota	998 All Counties	13	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.868	\$138.170	0.898000	0.011775	1.627	01/05/2018
38 North Dakota	998 All Counties	13	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.868	\$136.170	0.885000	0.009473	1.290	01/05/2018
38 North Dakota	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.212	\$151.560	0.989200	0.045513	6.898	02/02/2018
38 North Dakota	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	153.212	\$141.560	0.923900	0.021440	3.035	02/02/2018
38 North Dakota	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	152.027	\$150.380	0.989200	0.050386	7.577	03/02/2018
38 North Dakota	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	152.027	\$140.380	0.923400	0.025937	3.641	03/02/2018
38 North Dakota	998 All Counties	26	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2018	151.405	\$148.260	0.979200	0.051828	7.684	04/06/2018

PLANNING TOOLS

- Cowbytes
 - Ration evaluator
- Calfweb
 - Breakeven calculator
- CME
 - Futures option quotes
- NDSU livestock economics
 - Budget spreadsheet
 - ND market reports



2016 LIGHT HEIFERS – HAY BASE RATION

inputs

			date
sex	hfr		
Begin wt	525	\$1.12	10/24
Adg	1.6		
Death loss	1		
Ration cost	80		
Conversion	12		
Lot charge	.15		
Health	10		
misc	10		
Sell price	1.07		

output

		days	date
End wt	775	156	3/29
Total gain	250		
Animal cost	\$588		
Feeding costs	\$121		
Feed COG	.48		
Total COG	.78		
BE	1.01		
Profit/loss	\$36		

2016 LATE WEANED HEIFERS – HAY RATION

inputs

			date
sex	hfr		
Begin wt	600	\$1.10	11/24
ADG	1.2		
Death loss	1		
Ration cost	65		
Conversion	15		
Lot charge	.15		
Health	10		
misc	10		
Sell price	1.07		

output

		days	date
End wt	830	191	5/3
Total gain	230		
Animal cost	\$660		
Feeding costs	\$173		
Feed COG	.48		
Total COG	.87		
BE	1.04		
Profit/loss	\$26		