

Grazing Aftermath Straw & Chaff

Seller's Perspective

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Managing Business Stress
Options, Information & Tools for Alberta Producers

Lack of moisture affects crop producers primarily on the yield front by reducing per acre revenues. Managing straw and chaff presents challenges from time-to-time, but dry conditions open up options to market the aftermath. Cropped acres will make a greater contribution to cash commitments and retiring overhead if the aftermath re-coups revenue shortfalls.

Budget: Bale or Graze Cereal Aftermath?

The partial budget compares the net advantages of renting the aftermath to a livestock producer to the net disadvantages of forgoing the opportunity to bale and sell the straw.

An example scenario guides producers to incorporate their own specific realities in their own budgets. This approach estimates straw and chaff yield, the cost of baling, and expected revenue. Contrast this to the option of simply renting out the aftermath to a livestock producer for grazing. If the advantages (added revenues and reduced costs) exceed the disadvantages (reduced revenues), then pursue the grazing opportunity.

The grazing portion of the budget (added revenues) assumes:

- 155 acres of aftermath for 200 cows (1,400 lbs)
- Available straw and chaff will meet the cows' nutritional needs
- Sufficient perimeter fencing and stock water
- Starting baseline rental rate is \$25/acre
- Dry matter availability and utilization efficiency are estimated for barley straw on black soils¹. Baling and grazing have different "harvestable aftermath yield" efficiencies.

The budget delivers a per acre revenue considering grazing yield, quality and utilization efficiency.

The baling budget (reduced costs and reduced revenues) assumes:

- Straw value in the field at \$40/ton.
- Cost of custom baling straw at \$10/bale²
- Miscellaneous operating costs (allowance) at \$1/acre.

Partial Budget

Decision to be made: <u>Should I bale my aftermath straw & chaff or rent it out as grazing?</u>			
Disadvantages: \$ / Acre		Advantages: \$ / Acre	
Added Costs:		Added Revenues:	
		Land Rental - Grazing	\$25.00
	Subtotal: <u>\$0.00</u>		Subtotal: <u>\$25.00</u>
Reduced Revenue:		Reduced Costs:	
Straw Sales	\$48.68	Operating Costs	\$0.00
		Custom Baling	\$27.04
		Labour	\$0.00
		Misc. Costs	\$1.00
	Subtotal: <u>\$48.68</u>	Fixed Costs	\$0.00
			Subtotal: <u>\$28.04</u>
Total Disadvantages: \$48.68		Total Advantages: \$53.04	
Net Advantage (Disadvantage): \$4.37 / Acre			
Other Considerations: (eg. Labour, Capital availability, Risk, Tax considerations)			
Ignores fertility value of straw & chaff remaining on the field			
Straw priced f.o.b. the field, reducing price risk			
Tenant bears yield risk			

The budget solves for effective yield, revenue and cost per acre related to the foregone baled straw.

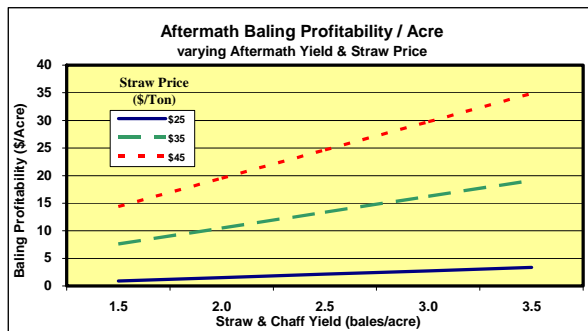
Details of the scenario, including pricing, costing and utilization are listed in the section "Partial Budget Estimates and Parameters".

The Budgeted "Result"

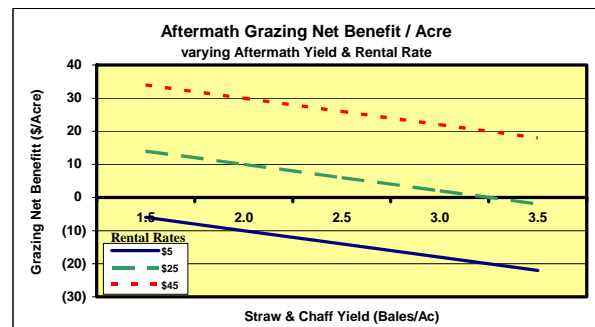
The partial budget table (above) lists the outcome of the scenario analysis. Reduced revenue of straw sales comes to \$48.68/acre. Reduced costs tally to \$28.04/acre. Additional revenue related to rental amounts to \$25.00/acre. The net advantage for this scenario is \$4.37/acre. This suggests the operator would be better off to rent out the aftermath for grazing.

The risk of these options can be examined through a sensitivity analysis of key factors. The charts and tables on the following page show the sensitivity of profitability to straw and chaff yield for a few straw price and rental rate scenarios. Some key observations include:

- Baling straw is profitable under all price scenarios. The rate of profitability gain over the yield range increases as straw price increases.
- Renting the land for grazing is a more profitable option, unless rental rates are low. Lower yields tend to favour the grazing option as well.



Straw Value (\$/Ton in field)	Straw & Chaff Yield (Bales/Acre)				
	1.5	2.0	2.5	3.0	3.5
25.00	0.88	1.50	2.13	2.75	3.38
30.00	4.25	6.00	7.75	9.50	11.25
35.00	7.63	10.50	13.38	16.25	19.13
40.00	11.00	15.00	19.00	23.00	27.00
45.00	14.38	19.50	24.63	29.75	34.88



Rent (\$/Acre)	Straw & Chaff Yield (Bales/Acre)				
	1.5	2.0	2.5	3.0	3.5
5.00	(6.00)	(10.00)	(14.00)	(18.00)	(22.00)
15.00	4.00	0.00	(4.00)	(8.00)	(12.00)
25.00	14.00	10.00	6.00	2.00	(2.00)
35.00	24.00	20.00	16.00	12.00	8.00
45.00	34.00	30.00	26.00	22.00	18.00

Other Considerations

In any budgeting process, it is important to identify “other considerations” that can affect profitability and risk, such as:

- The decision is made to remove the crop residue. The related soil benefits (organic matter, nutrient value, etc.) are foregone for that growing season. The grazing options will return nutrients while the baling will not.
- Check the straw yield and use efficiency. The crop producer bears the yield risk in the baling scenario – the livestock producer in the rental scenario. This will be a point of negotiation.
- Firm up revenue and costing estimates. Use actual costs for custom rates and straw values.
- This budget assumes aftermath will be laid down in swaths rather than chopped and blown. There may be a nominal operating cost benefit.
- Will residual trash in the spring require harrowing, tillage or cause seeding issues?
- Stubble height affects grazing utilization and efficiency; taller stubble is less desirable.
- The desire to *not* have cattle on the land may out-weigh the potential profit opportunity.

Remember, this analysis evaluates a short term opportunity. It is not an indication of “normal” crop costs and returns.

Home Stretch

This analysis shows how to assess the profitability of baling aftermath versus renting it for grazing. If there is potential to work with neighbors³, ask the questions, do the budgets, negotiate the deal and make the choice that improves your bottom line.

Partial Budget Assumptions & Parameters

	\$/Acre
Straw Revenue	48.68
Operating Costs	0.00
Custom Baling	27.04
Labour	0.00
Misc. Costs	1.00
Fixed Costs	0.00
Total Cost	28.04
Net Baling Profit	20.63
Acres Available	155
Straw Price	\$40.00 /ton (in the field)
Crop Grain Yield	55.0 bu./ac
Est. Straw Yield	45.0 lbs./bu of grain
Straw Util. Efficiency	85.0%
Est. Chaff Yield	7.5 lbs./bu of grain
Chaff Util. Efficiency	80.0%
Avg. Straw/Chaff DM%	88.5%
AF Straw & Chaff Avail.	2,434 lbs./ac
Bale Weight	900 lbs./bale
Bale Yield	2.7 bales/ac
Custom Baling Cost	\$10.00 /bale
Land Rental Rate	\$25.00 / Acre

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Questions:

Please call the Ag-Info Centre at 310-FARM

- ¹ Estimates of barley straw and chaff production on black soils and cow utilization derived from “[Increasing Cow/Calf Profitability Using Straw and Chaff/Straw Feedstuffs](#),” Alberta Agriculture, Agdex 420/50-2, Jan./08.
- ² Custom straw baling cost estimates derived from “[Custom Rates Survey - Hay and Silage Making Operations - 2008](#)”, Alberta Agriculture, 2009.
- ³ To view a similar process from the livestock producer’s point of view, see “[Grazing Aftermath Straw & Chaff – Buyer’s Perspective](#)”, AgriProfit\$ Technical Bulletin, Alberta Agriculture, Sept./09