

Honest Cattle™ 2026 Montana Drought Impact Model

User Instructions (Version: April 14, 2026)

Workbook: Honest_Cattle_2026_Montana_Drought_Impact_Model.xlsx

Purpose: Quantify the revenue, cost, and herd-structure impact of mild (S1), moderate (S2), and severe (S3) drought on a Montana cow-calf operation. The model translates grazing-capacity losses (AUM), calf weight & timing changes, cull & bred-cow liquidation, and hay procurement pressure into dollars per head, per lot, and per cow — so ranchers can plan destocking, hay buying, and marketing decisions before the market moves against them.

Quick start

- 1) Open the workbook and start on the **Assumptions** sheet. Edit the blue cells in Section A (ranch parameters) to match your operation: cow herd size, weaning weights, hay on hand, and normal AUM.
- 2) Confirm the **price anchors** in Section B match the most recent USDA AMS_1778 and CME futures you trust. Defaults reflect the week of March 29–April 4, 2026.
- 3) Review the **Scenario Comparison** sheet to see Normal Year vs. S1 / S2 / S3 impact across calf revenue, cull revenue, forced liquidation, hay cost, and net operating impact.
- 4) Open **Feeder Calf Detail** to compare Ring Auction vs. Cattle Buyer (Private Treaty) vs. Video/Internet net proceeds per head — including commission, trucking shrink, pencil shrink, gate cut, and price-slide effects.
- 5) Open **Hay Shortage Analysis** to size winter hay deficit, drought price premium, and your break-even cull count.

Drought scenarios (S1 / S2 / S3)

Scenario	AUM capacity	SNOTEL	USDM / DSCI	Grass season impact
Normal	100%	Normal	None (D0)	Full 5-month grazing
S1 — Mild (D1)	–15%	65–75% of median	DSCI 100–150	Short 3–4 weeks late summer
S2 — Moderate (D2)	–30%	50–65% of median	DSCI 150–250	Short 6–8 weeks; early wean Aug
S3 — Severe (D3+)	–45%	< 50% of median	DSCI 250+	Grass fails Jun–Jul; emergency sell

Key inputs you can change

Category	Where to edit	Notes
Cow herd & weaning weights	Assumptions → Section A	Base ranch parameters; scales every downstream calc.
Scenario weaning % (S1/S2/S3)	Assumptions rows 6–7, cols D/E/F	Conception rate × birth-to-wean survival per scenario.
Price anchors (calf, cull, bred)	Assumptions → Section B	USDA AMS_1778 weekly report; CME futures.

Category	Where to edit	Notes
Marketing channel mix	Assumptions → Section C	Ring auction / cattle buyer / video percentages.
Pencil shrink, gate cut, slide	Feeder Calf Detail (inputs block)	Buyer-side deductions; models private-treaty realities.
Hay on hand & consumption	Assumptions B12–B13	Drives winter deficit in Hay Shortage Analysis.
Drought premium on hay	Scenario Comparison row 51	% above base grass-hay price under S1/S2/S3.

Tip: Blue cells = hardcoded inputs; black / formula cells calculate downstream. Don't overwrite formulas — change the inputs they depend on.

Understanding the outputs

Scenario Comparison — side-by-side of Normal vs. S1/S2/S3 for feeder calf revenue, cull revenue, forced female liquidation, summer & winter hay cost, and **net operating impact per cow**. The last column shows the S2 vs. Normal dollar swing, which is typically the most actionable plan-ahead number.

Feeder Calf Detail — breaks out sale revenue by weight class (550 / 600–650 / 700 lb steers; 550–650 heifers) and compares three marketing channels net of all deductions. The drought channel-strategy block at the bottom maps scenario to preferred channel.

Hay Shortage Analysis — sizes own-hay production impact, winter deficit tons, effective \$/ton (base + drought premium + freight), and a **break-even cull count**: how many cows you'd need to sell at drought cull prices to fund the hay you need to carry the rest. In S3 this often lands at 25–40% of the herd.

Marketing channel comparison — what the model accounts for

The per-head net proceeds calculation in Feeder Calf Detail includes: auction commission, trucking shrink to the barn, cattle-buyer pencil shrink (standard 2% clip from ranch scale weight), gate cut (buyer rejects at delivery) and gate-cut realization, price slide (buyer protection — deduction when actual delivery weight exceeds estimated weight, one-directional), and video-auction commission plus preconditioning premium. Change the input block at the top of that sheet to model your buyer relationship, then read the three NET PROCEEDS rows at the bottom to compare channels.

Tuning the model to your region or market

The default scenario multipliers (e.g., –5% / –12% / –20% on steer price for S1/S2/S3) reflect Montana Northern Plains drought dynamics. To retune: edit the hardcoded % in the Scenario Comparison cells (row 20 for steer price, row 21 for heifer, row 31 for cull cow, rows 39 & 42 for bred females). Drought weight discounts live in rows 17–18 and in the Feeder Calf Detail top block. Document what you change in the spreadsheet's Notes cells so you can reproduce it next year.

Best practices for rancher scenario planning

- Run all three scenarios every spring as soon as SNOTEL & USDM first signal below-normal. Waiting until late June to model S2/S3 usually means missing the hay window.
- The model assumes buyers take everything (gate cut = 0%) by default, reflecting the tight 2026 market. In a softer market, raise gate cut to 3–5% on the Assumptions sheet.
- Compare **NET per head** across channels, not gross \$/cwt. Pencil shrink, gate cut, and slide can move a \$5/cwt “buyer discount” into actual parity with auction.

- Use the break-even cull count as a cash-flow sanity check, not a prescription — selling breeding females has multi-year consequences that don't show up in a single-season model.
- Re-run the model whenever the Honest Cattle county conditions dashboard shifts a county into a new USDM class, or when CME May-GF / June-LE futures move more than \$5/cwt.

Website distribution notes

The workbook is published at a stable URL so county and weekly reports can link to a single canonical copy. If you adapt it, keep the filename stable and version-stamp edits on the Assumptions sheet header. © Honest Cattle™ — provided for educational and planning purposes. Not financial advice.