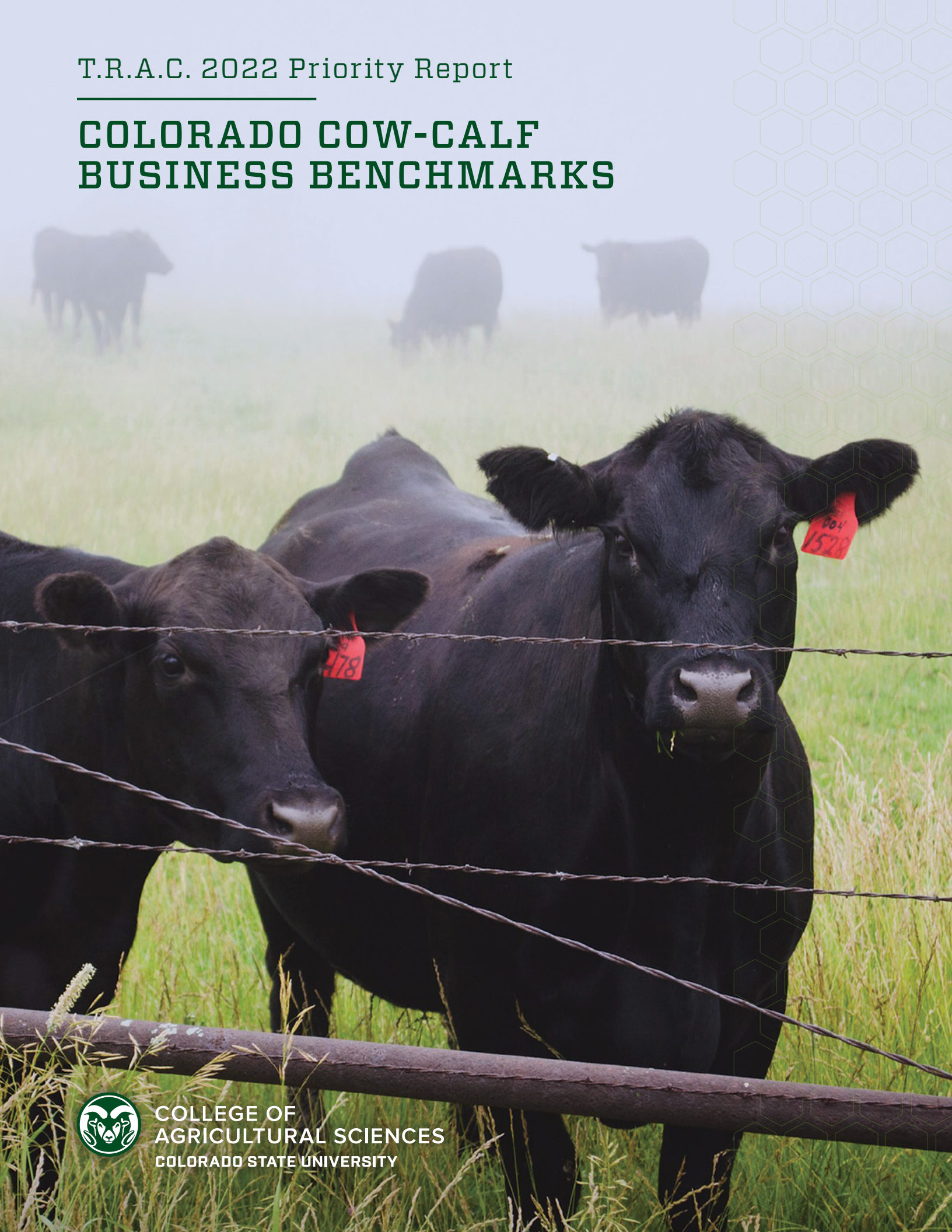
T.R.A.C. 2022 Priority Report

# COLORADO COW-CALF BUSINESS BENCHMARKS



COLLEGE OF
AGRICULTURAL SCIENCES
COLORADO STATE UNIVERSITY

T.R.A.C. 2022 PRIORITY REPORT

# COLORADO COW-CALF BUSINESS BENCHMARKS

## Benchmarking for The Cow-Calf Business

The purpose of this report is to describe production and financial benchmarks for cow-calf operations in Colorado. While no two operations are alike, complied benchmark data can be a useful tool to evaluate performance and measure progress. Benchmarking is the process of conducting a comparative analysis of your cow-calf business with the averages of the benchmark herds. This process can help you identify strengths and weaknesses and allow you to focus your limited management time on the critical areas. However, there are certain considerations to keep in mind when using benchmark data. As the ranch manager, you must be the final decision maker on what is a strength and weakness. Unique circumstances can make your herd's performance logically differ from the benchmark herds. If so, then ignore the benchmark signal and use your own judgment. Additionally, you should take a systems approach to utilizing benchmark information to make changes. Most of the time focusing on one metric will not improve overall ranch performance.

## T.R.A.C. Program Description

Total Ranch Analysis for Colorado (T.R.A.C.) was developed as a statewide collaborative partnership in Colorado State University (CSU) extension programming involving campus faculty, extension personnel, cattlemen's associations, and beef producers. Participant ranches are provided an in-depth financial, production, and management analysis of the ranch, using a standardized methodology. T.R.A.C. team members make on-site ranch visits to meet with producers, listen to their unique successes and challenges, and collect an array of production and financial data. Data collected is analyzed to determine critical production, financial and integrated measures. A customized report with benchmarks is given to the ranch which provides a unique opportunity to identify areas to reduce cost of production and improve production and marketing efficiency.

## T.R.A.C. Program Approach

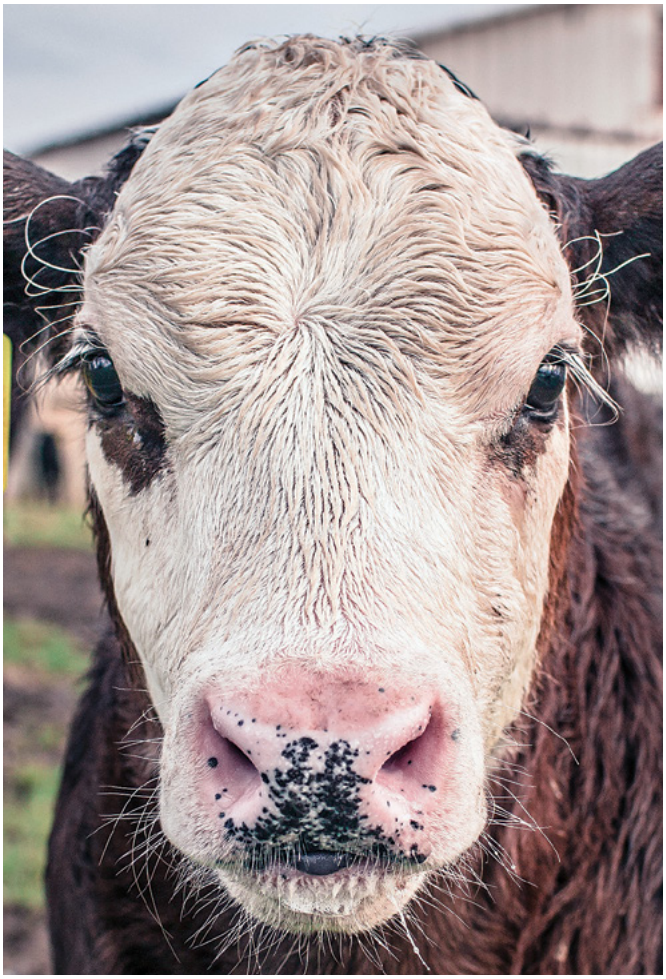
Our mission is to provide ranchers with the most accurate analysis possible by using accrual adjustments, including non-cash expenses (depreciation), and allocating overheads based on AUMs. An enterprise analysis of stockers, hay production, and raised replacement heifers is conducted when applicable. Participants also complete a survey to help us identify current management strategies. We assess livestock production and financial performance and use data from these ranches to establish Key Performance Indicators (KPI) and benchmarks. We understand that livestock production and financial performance are only two of the many key components of ranch sustainability. Therefore, we are actively developing new KPIs/metrics related to the human and ecological dimensions of ranch sustainability to create a more holistic approach to ranch management and analysis.

## T.R.A.C. Program Goals

(1) Develop a comprehensive ranch scorecard that can be used internally by individual operations to set targets and track performance in all areas of ranch management.

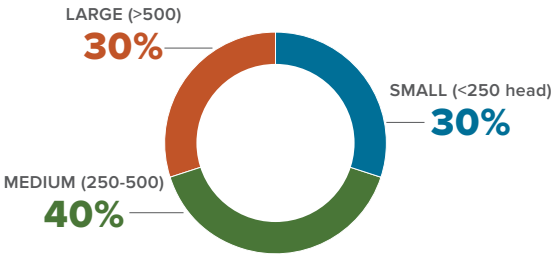
(2) Develop a robust database to generate regional benchmarks that can be used by producers to help make more informed ranch management decisions.

(3) Improve ranch family livelihoods through a dedicated partnership around continual analysis and integration of animal-, human-, and resource-oriented program pillars.

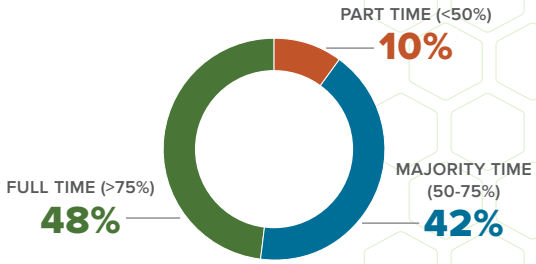


## T.R.A.C. Data Overview

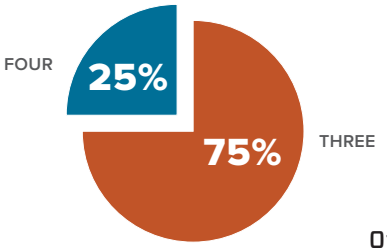
### Operation Size (# cows)



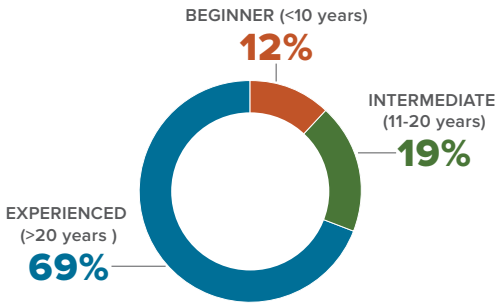

### Annual % Revenue from Cattle ($)



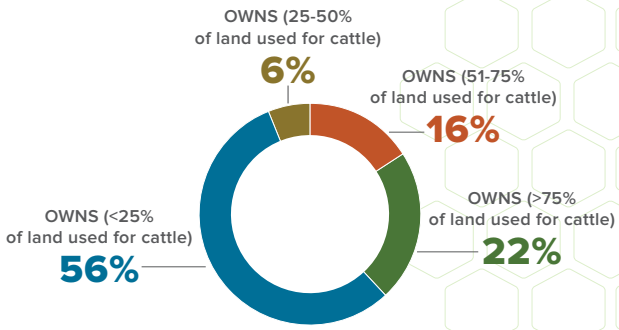

### Ranch Generations (#)



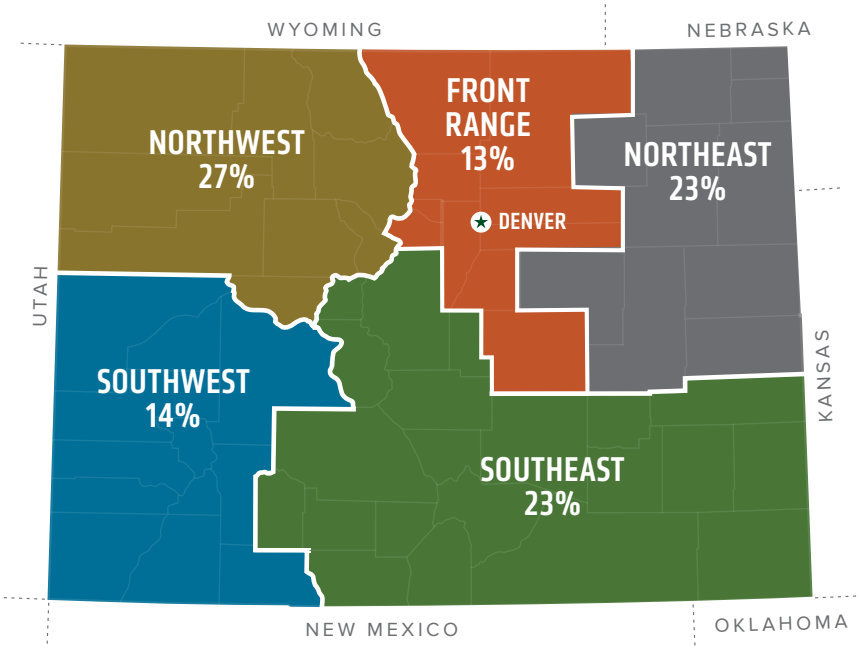

### Ranch Management Experience (# years)




### Owned vs Leased Acres (%)




### Geographic Location (region)



## T.R.A.C. Ranch Benchmarks Summary Statistics

In total, the program benchmarks over (20) different production, financial, and cost of production key performance indicators (KPI). They are summarized in the tables and figures below. We identified (6) of these KPI's as significant and described in more depth.

### (1) Production Metrics

**KPI #1:** *Pounds Weaned/Exposed Female*

A product of weaning weight and weaning percentage, this is a critical production measure to track for benchmarking. It reflects the number of saleable pounds a ranch has produced and can be influenced by environment, management, and genetics.

**Table 1. Ranch Production Metrics**

| Metric | Top 30% (9 Herds) | Bottom 30% (9 Herds) | Median (30 Herds) |
|---|---|---|---|
| Pregnancy (%) | 96.0 | 89.5 | 93.0 |
| Calving (%) | 93.0 | 85.0 | 89.1 |
| Weaning (%) | 90.0 | 81.0 | 85.0 |
| Weaning Wt. (lbs) | 608 | 480 | 558 |
| Pounds Weaned/ Exposed Female (lbs) | 528 | 417 | 487 |
| Acres/Female | 18.4 | 81.0 | 43.5 |
| Pounds Weaned/ Acre (lbs) | 29.0 | 6.00 | 11.6 |

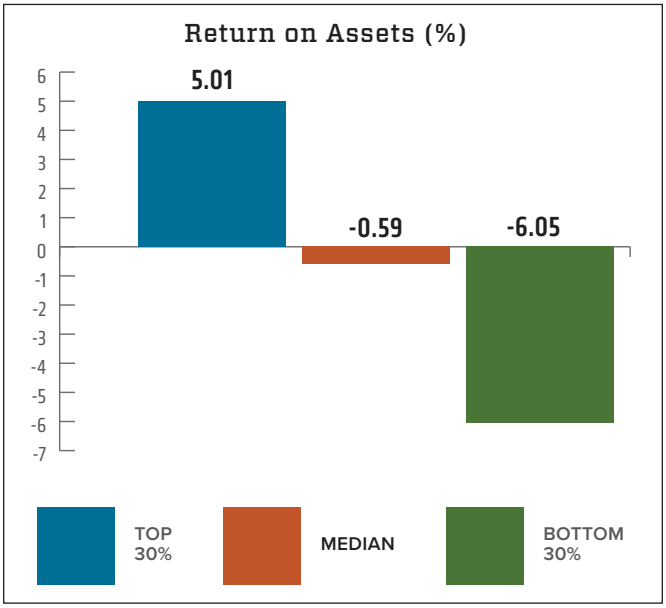
**Table 2. Calving Distribution Metrics (% of Cow Herd)**

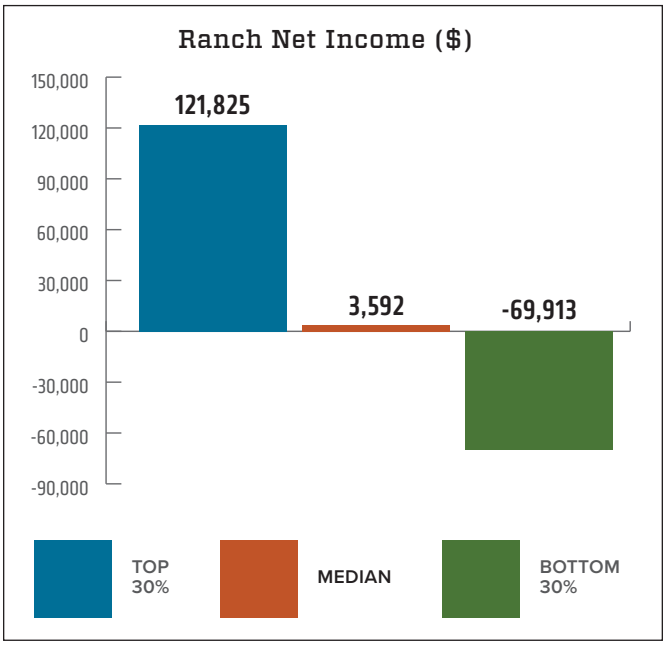
| Days of Calving Season | Mean | Minimum | Maximum |
|---|---|---|---|
| 1-21 | 46.5 | 6.3 | 80.1 |
| 22-42 | 38.8 | 14.8 | 60.9 |
| 43-63 | 11.1 | 0.0 | 30.8 |
| 63+ | 3.6 | 0.0 | 17.8 |

### (2) Financial Metrics

**KPI #2:** *Return on Assets*

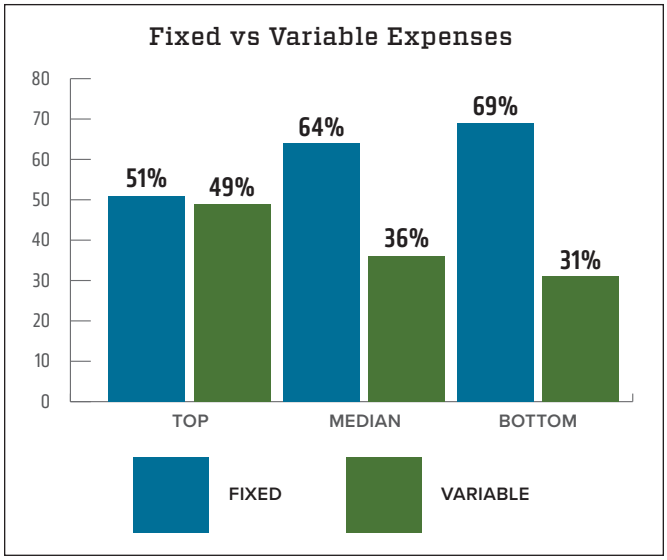
Calculated by dividing ranch net income (including interest expenses) by total ranch assets. Because cow-calf producers are first and foremost asset managers, whereas the other segments of the supply chain are margin-based businesses (buying low selling high), this metric demonstrates how efficiently the assets on the ranch are returning the owner a profit.



**KPI #3:** *Fixed vs Variable Expenses*

Fixed expenses are those that do not change (to a point) based on the number of animal units on the ranch. Variable expenses increase with each additional unit on the ranch. By knowing the fixed cost structure on a ranch, managers can project how stocking density and expansion opportunities will affect the efficiency of their operation.




## (3) Cost of Production Metrics

**KPI #4:** *Total Cow-Cost*

Calculated by collecting actual data from participating ranches. Included in the cost of production is depreciation of vehicles, machinery, equipment, buildings and improvements, and raised and purchased livestock. Also included in the calculation is a conservative management salary if one is not already assumed by the owner or manager. Opportunity cost is not included in these calculations. If a ranch owns the assets (land, cattle etc.) a charge for that owned land or an interest charge for the assets are not included.

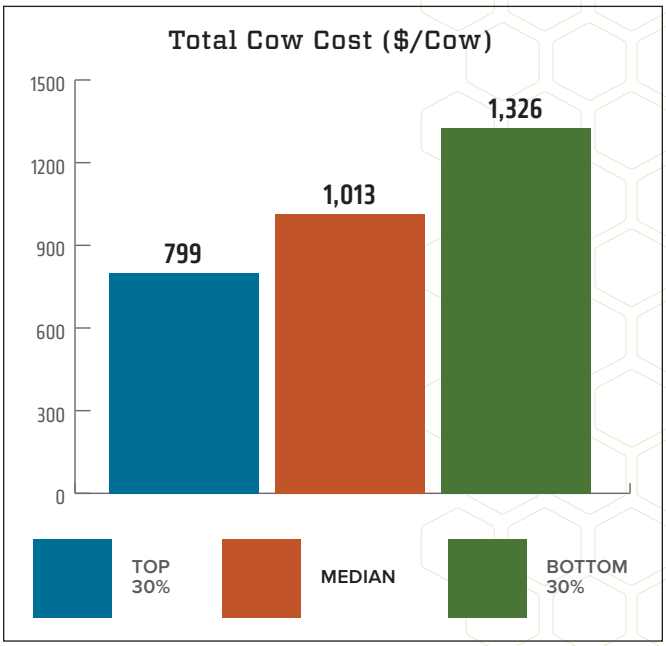
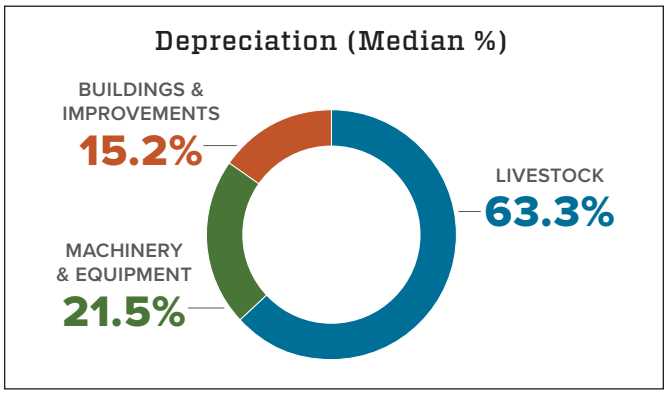



Table 3. Significant Cow Costs ($/Cow)

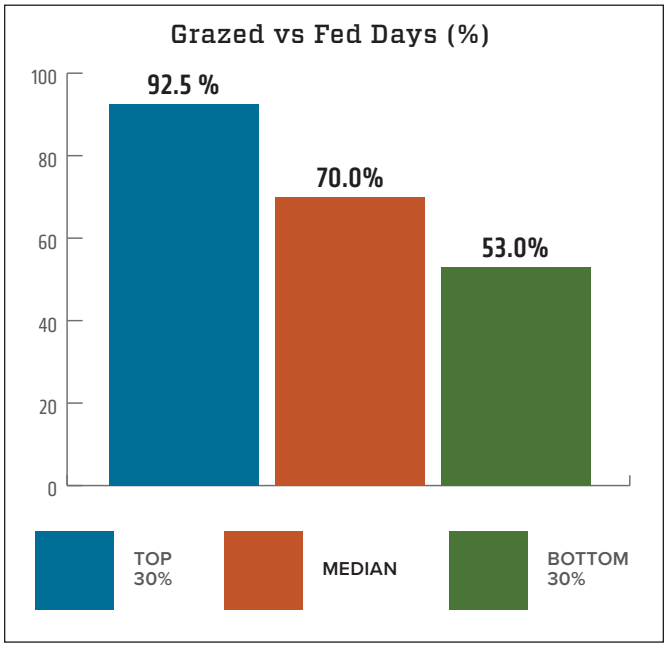
| Metric | Top 30% (9 Herds) | Bottom 30% (9 Herds) | Median (30 Herds) |
|---|---|---|---|
| Depreciation | 116.95 | 320.51 | 231.51 |
| Labor | 65.61 | 241.77 | 163.46 |
| Feed | 73.06 | 297.15 | 187.12 |
| Pasture | 49.69 | 213.52 | 112.08 |
| Interest | 7.45 | 130.31 | 40.59 |
| Repairs & Maintenance | 14.48 | 85.01 | 40.44 |
| Vet & Breeding | 20.76 | 55.20 | 31.41 |
| Utilities | 10.36 | 59.26 | 26.69 |
| Taxes & Insurance | 16.81 | 86.62 | 42.52 |
| Fuel | 22.01 | 65.08 | 33.39 |
| Freight & Trucking | 3.36 | 28.66 | 6.12 |
| Supplies | 15.45 | 46.59 | 24.01 |

## (3) Cost of Production Metrics, continued



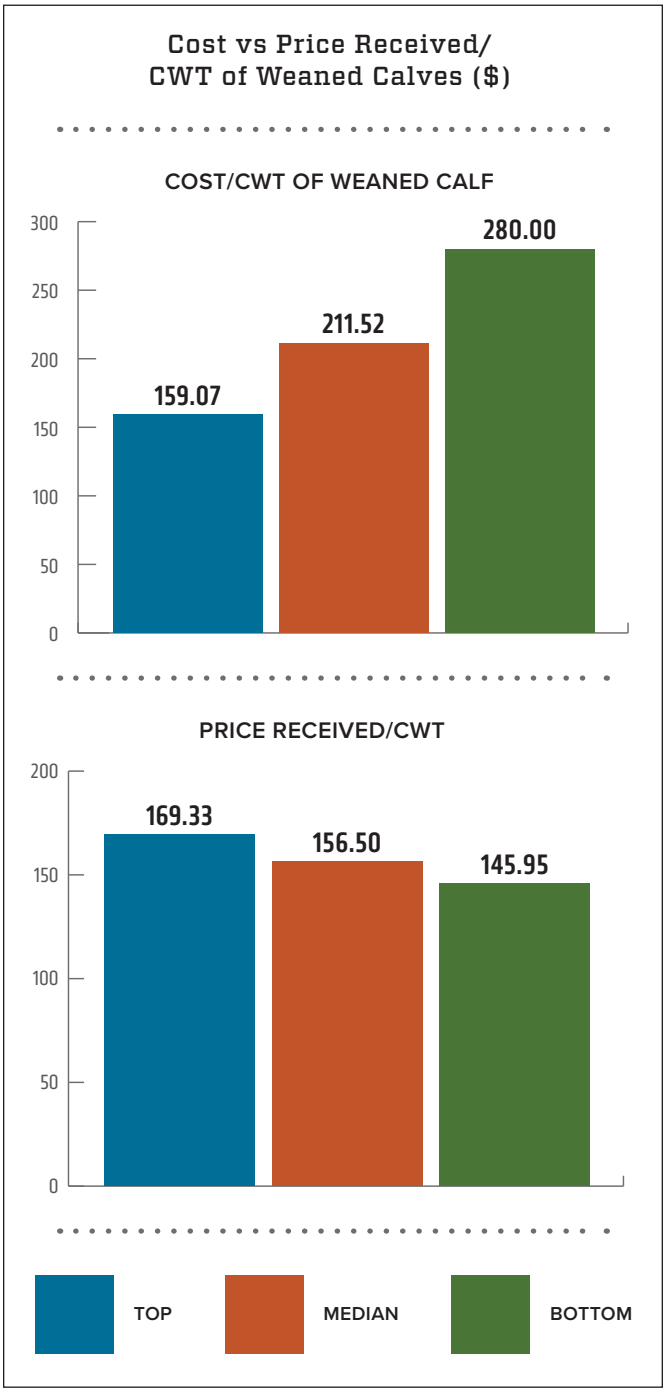

**KPI #5:** *Grazed vs Fed Days*

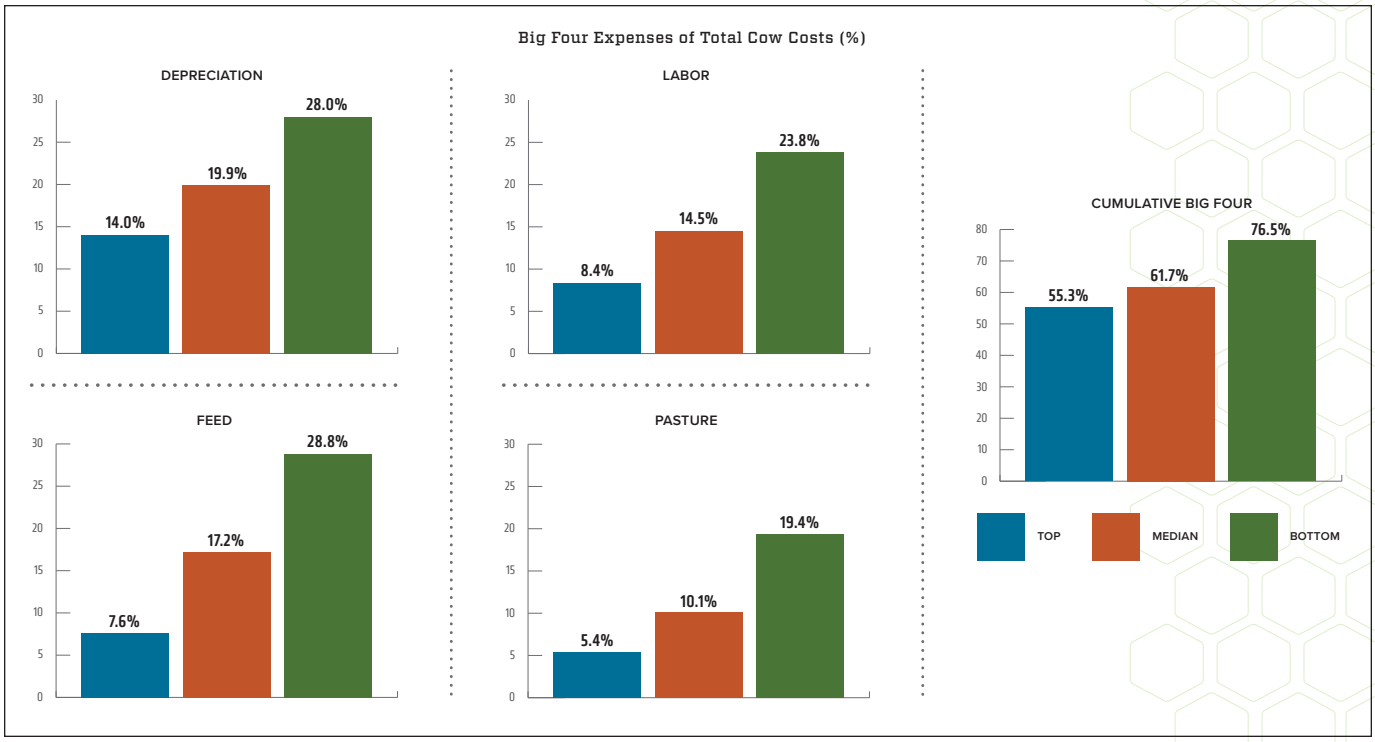
Calculated as a percent of days cattle graze pastures annually. Percent grazed days is determined by recording AUMs of each livestock class spent grazing pasture with no fed feed. Livestock class size is adjusted to fit a standard animal unit so class of animal can be compared uniformly. Fed feed costs are typically one of largest and most variable costs of production on a ranching operation. Maximizing the percentage of grazed days can help reduce this cost.




**KPI #6:** *Cost/CWT of Weaned Calf*

The same methodology to calculate cow-cost is used to calculate cost per cwt of weaned calves, but instead of dividing the total cow-calf enterprise expenses by the beginning fiscal year number of breeding females, those expenses are divided by the total amount of weaned pounds produced by the ranch.






## (4) Cost Centers

Cost centers are units on the ranch that do not contribute to generating revenue or profit. Essentially, they are holding tanks for costs that can then be allocated to the appropriate enterprise. On most ranches in our dataset the major cost centers are raised replacement heifers (RRH) and hay production.

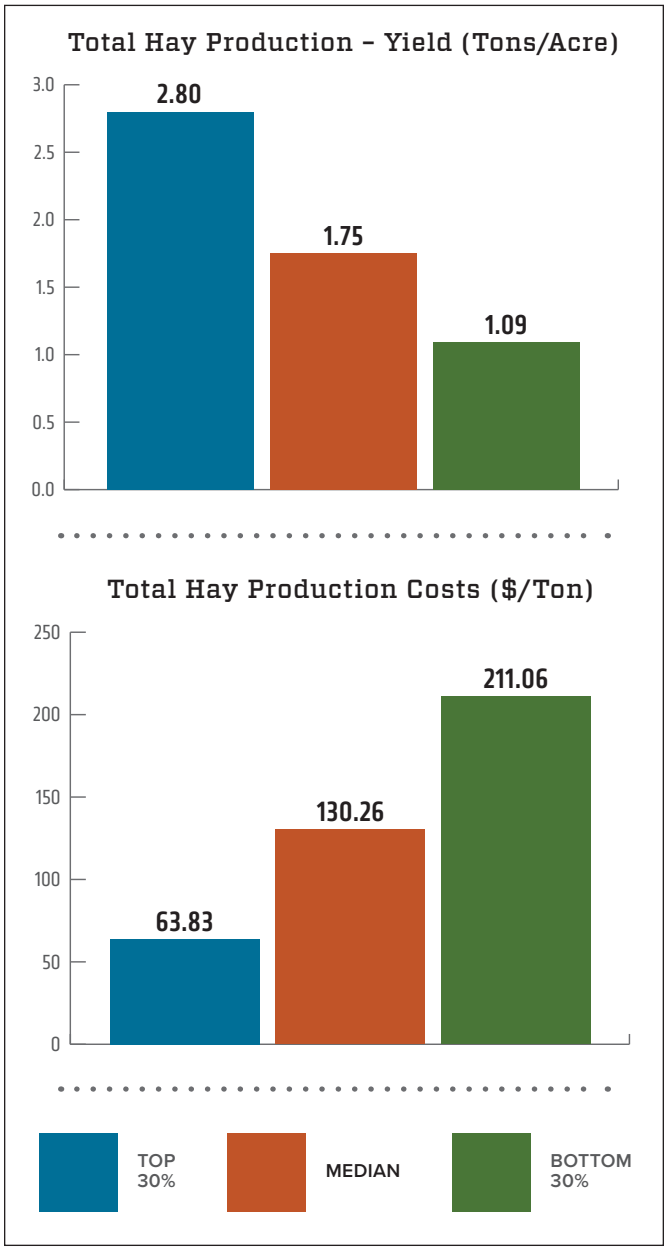
### Table 4. Replacement Heifer Development ($/Female)

| Metric | Top 30% (4 Herds) | Bottom 30% (4 Herds) | Median (13 Herds) |
|---|---|---|---|
| Cost to Wean Calf ($) | 921.50 | 1376.00 | 1152.00 |
| Year 2 Heifer Expense ($) | 270.00 | 621.00 | 453.00 |
| Total RRH Cost ($) | 1200.00 | 1947.00 | 1585.00 |

### Table 5. Hay Production Costs ($/Ton)

| Metric | Top 30% (4 Herds) | Bottom 30% (4 Herds) | Median (13 Herds) |
|---|---|---|---|
| Depreciation | 6.61 | 26.88 | 20.34 |
| Labor | 5.99 | 79.55 | 42.78 |
| Rent or Lease | 1.97 | 15.59 | 7.46 |
| Repairs & Maintenance | 1.54 | 30.76 | 9.09 |
| Range Improvement | 1.26 | 6.92 | 3.77 |
| Utilities | 0.76 | 20.55 | 4.74 |
| Taxes & Insurance & Interest | 0.62 | 14.35 | 0.98 |
| Fuel-Oil | 5.11 | 19.54 | 7.11 |
| Freight & Trucking | 0.93 | 25.17 | 6.47 |
| Fertilizer & Lime | 10.72 | 22.51 | 16.07 |
| Supplies | 1.42 | 6.78 | 2.70 |
| Irrigation | 6.68 | 18.56 | 8.73 |
| Miscellaneous | 0.80 | 7.42 | 2.20 |

## (4) Cost Centers, continued




## T.R.A.C. Ranch Management Concluding Comments

(1) Production benchmarks (i.e., pregnancy %, weaning %, pounds weaned/exposed female, etc.) remain a challenge for a few, but not most. Management impacts productivity but the greatest influencer is rainfall. Therefore, a resource limitation prevents producers who currently operate at or above median production benchmarks from cost effectively increasing productivity further. Additionally, as costs continue to rise, it is imperative for all ranch managers to carefully evaluate the marginal return of increasing productivity.

(2) Financial situation is the #1 barrier to success. Ranch net income and return on assets varies considerably between top and bottom 30% producer groups. Most operations that struggle financially have higher fixed costs. Cow-calf businesses are asset based and fixed costs (equipment, labor, and cows) on benchmark operations accounted for 50-70% of every dollar spent. Fixed costs structure on a ranch is difficult to change once assets have been acquired. The most effective way to lower fixed costs is to spread it out over more units or increase cow numbers. Maintaining or even increasing stocking rate (rainfall dependent) relative to fixed cost is an important concept to remain efficient and profitable.

(3) Total costs to own a cow will continue to rise due to inflation. Substantial variation in cow costs exists between top and bottom 30% producers in the benchmark group. The significant cow cost list (Table 3) can be used to identify which specific expenses might need improvement. The top four expenses are typically depreciation, labor, feed, and pasture. Costs per CWT of weaned calf (i.e., breakeven) could be the most important number to focus on and compare against. Although every ranch has different resources available, this metric incorporates expenses and productivity.

(4) The goal of most cow-calf operations is to wean the most profitable calf possible. To do so takes excellent management, which requires 1) a clear view of the financial position of the ranch and drivers of net income and return on assets; 2) making a multitude of small decisions to collectively keep costs low relative to the value of weaned calves; and 3) finding leverage in the production system that can have long-lasting systematic benefit to the operation. Good records and accounting systems are key to accurate financial information. Benchmarking and completing an in-depth ranch enterprise analysis can assist with decision making and continuous improvement that leads to performance management.

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