Virtual Fence Cost Calculator



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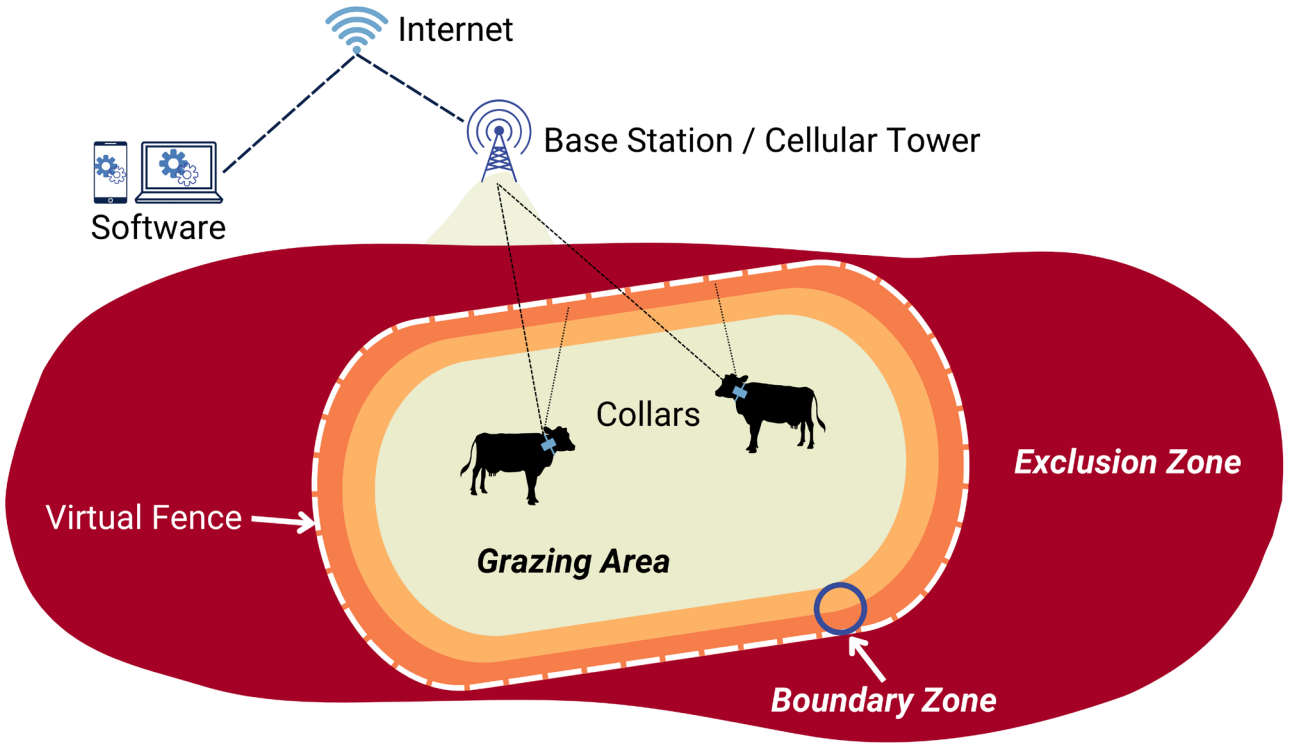
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Outline

- Virtual fence (VF) economics
- About the calculator
- Examples
- How to use the calculator
- Other calculators

Virtual Fence Economics



Source: Antaya et al. (2024)

Key Considerations

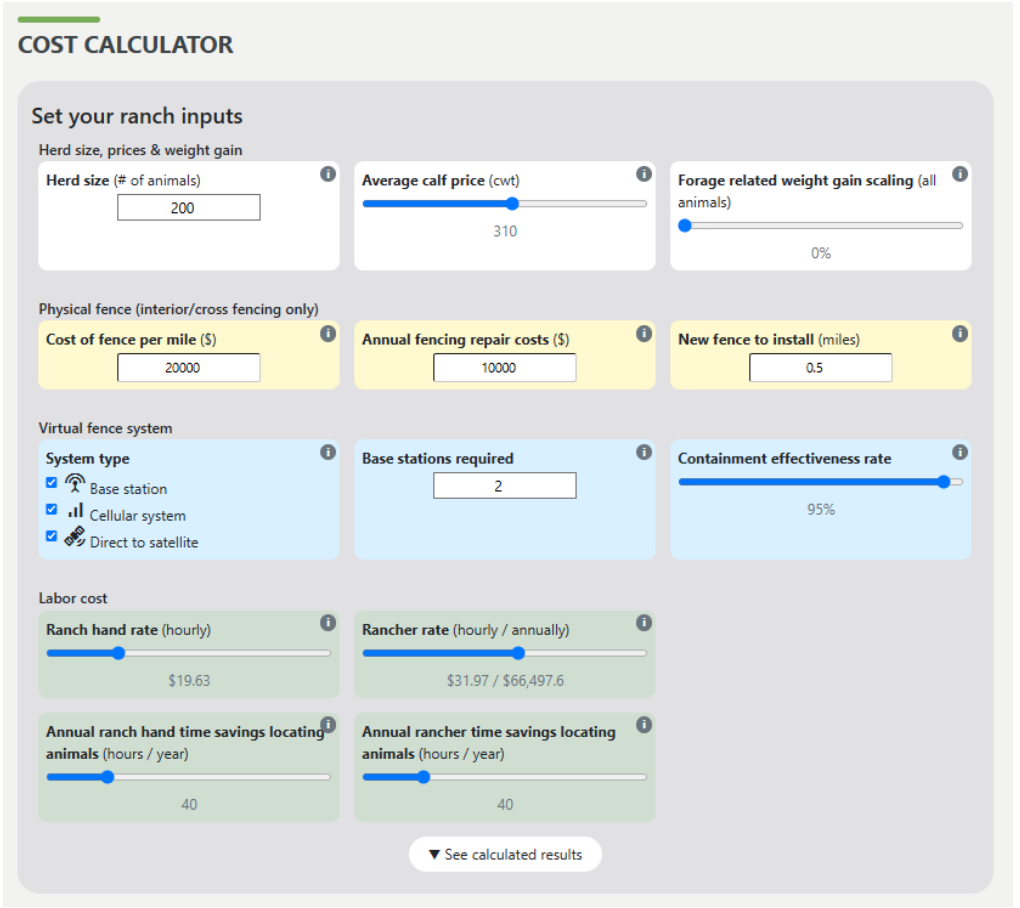
	System Type	Pricing Structure	System Characteristics	Uses
What?	• Base station • Cellular • Satellite	• Purchase price • Subscription costs • Other costs	• Collar life • Battery life • Containment effectiveness • Warranty	• Avoiding physical fencing • Locating animals • Enabling grazing practices flexibility, better pasture utilization
Why?	• Usefulness on ranch based on topography, cell coverage, acreage	• Determines up-front vs. ongoing costs based on herd size	• Labor costs of using system • Replacement costs	• Will affect potential cost savings / benefits of using system

Takeaways from Economic Analysis

- Under conservative assumptions about benefits of VF & current prices, systems generally do not quickly pay for themselves – possibly 7 years & beyond with no financing or cost-share, etc.
- High upfront costs of VF systems may be prohibitive
- VF quickly pays for itself if used to avoid large investments in physical fencing
- Even if VF systems pay for themselves, cattle prices & ranch returns will influence producer willingness to incur new costs
- Benefits & needs will vary by individual producer

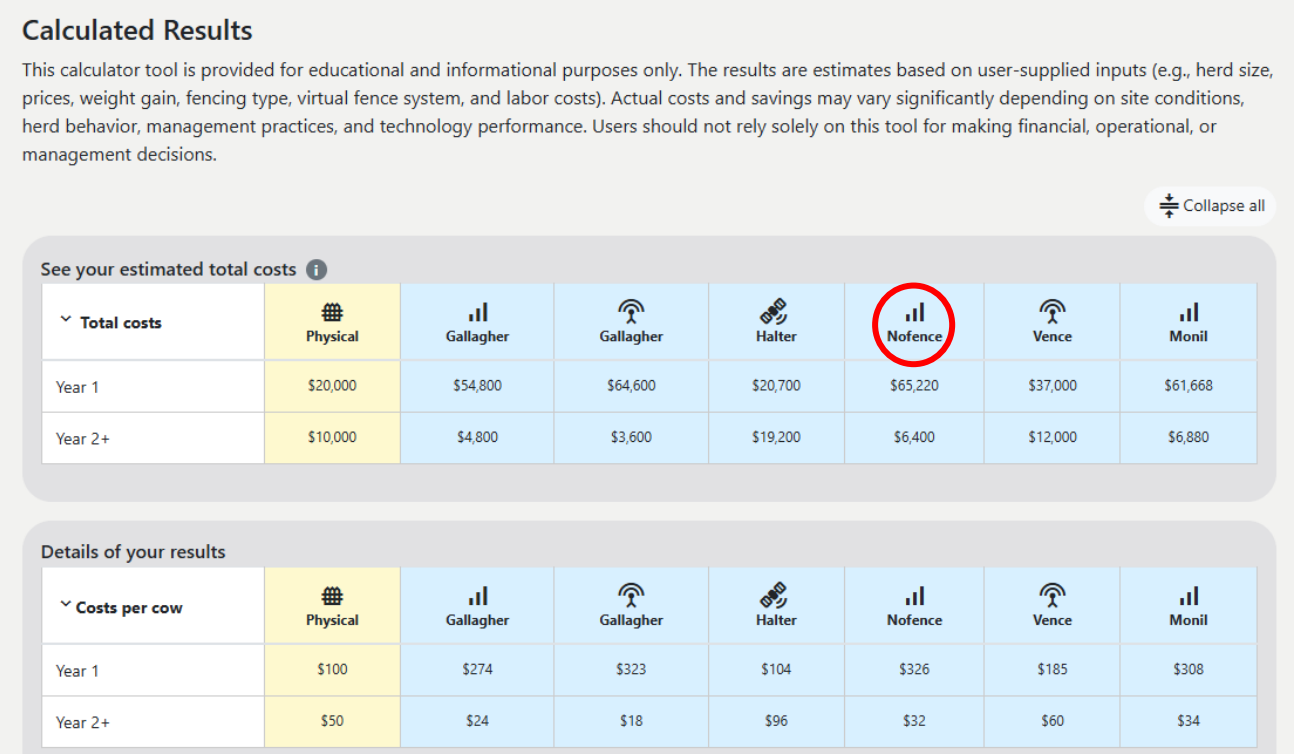
About the Calculator

- Simple online tool to compare VF costs across most commercially available systems
- User can change a limited number of variables
- Pricing structures built into model
- For simplicity, relies on assumptions
- Provides a starting point to understand benefits & costs of VF for an operation



About the Calculator

- Results include total cost, costs per cow, and detailed results, all by vendor
- Can be downloaded as .csv or .pdf
- Negative net costs per cow indicate net savings per cow using virtual fence



Calculated Results

This calculator tool is provided for educational and informational purposes only. The results are estimates based on user-supplied inputs (e.g., herd size, prices, weight gain, fencing type, virtual fence system, and labor costs). Actual costs and savings may vary significantly depending on site conditions, herd behavior, management practices, and technology performance. Users should not rely solely on this tool for making financial, operational, or management decisions.

Collapse all

See your estimated total costs

Total costs	Physical	Gallagher	Gallagher	Halter	Nofence	Vence	Monil
Year 1	$20,000	$54,800	$64,600	$20,700	$65,220	$37,000	$61,668
Year 2+	$10,000	$4,800	$3,600	$19,200	$6,400	$12,000	$6,880

Details of your results

Costs per cow	Physical	Gallagher	Gallagher	Halter	Nofence	Vence	Monil
Year 1	$100	$274	$323	$104	$326	$185	$308
Year 2+	$50	$24	$18	$96	$32	$60	$34

Calculator Assumptions

Estimates total costs & costs per cow of VF systems by vendor, with upfront (year 1) & ongoing (year 2 onward) costs broken out, plus estimated benefits of using system:

Labor

- 20 hours of labor for rancher to learn system
- 1 hour per day for rancher operating system
- 95% containment effectiveness rate
- To remove labor costs, zero-out hourly wages

Pricing

- Pricing structures assume a commercial-scale operation (200+ cows)
- Purchase not financed

Operations

- Rancher continues to have & maintain perimeter fence
- Rancher already has computer & internet access

Examples



How to Use the Calculator

- Can provide a ballpark figures for system costs & potential benefits
- Based on estimates & assumptions – **values not exact**
- Benefits & costs will vary by operation
- System costs change regularly – reach out to vendors for most current pricing
- Please consult your local extension specialist & VF vendors for more information

Other Calculators

Oklahoma State (Ryan Reuter)	University of Arizona
https://reuter.shinyapps.io/vfcostr/	https://rangelandsgateway.org/virtual-fence/cost-calculator
More parameters (greater customization, pricing adjustable, more information)	Fewer parameters (pricing built in, less information input, less flexibility)

The University of Arizona

Virtual Fence Program

THE UNIVERSITY OF ARIZONA
Arizona Experiment Station

Cooperative Extension

COLLEGE OF AGRICULTURE, LIFE & ENVIRONMENTAL SCIENCES
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Evaluating Virtual Fence Vendors: Compare and Calcuate

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