

# Analyzing cost of VF

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VF webinar series hosted by UofA

# VF Cost Considerations

# Things to consider:

## Traditional fence

1. Land-based
2. Upfront cost
3. It works, and will for a long time
4. Has other benefits
  - a. Boundary marker
  - b. Keeps varmints out

## Virtual fence

1. Animal-based
2. Upfront cost + on-going cost
3. It mostly works
  - a. Its shades of grey
  - b. It will become obsolete
4. Not maintenance-free
  - a. Daily management
  - b. Collar maintenance
  - c. Base stations

## In the chat:

1. # acres
2. # cows
3. Cost per mile to build 5-wire fence

VF brands

## VF brands - Vence



<https://www.merck-animal-health-usa.com/species/cattle/vence>

- Collars - ~\$55 lease per year
- Base stations - ~\$12,000 each
- Accessories: replacement batteries ~\$15

# VF brands - NoFence



<https://www.nofence.no/en-us/>

- Collars - ~\$250-350 each
  - \$30 to \$50 service per year
- Base stations - NA
- Accessories:
  - Replacement batteries ~\$90
  - Battery charger ~\$60
  - Beacons - \$22
  - Misc accessories/parts

\*Have sheep/goat collars

[Complete Collars](#) [Subscriptions](#) [Batteries and chargers](#) [Beacons](#) [Replacement Parts](#)

## Complete Collars



### Cattle collar

Complete collar with battery and neck strap

**A yearly subscription will be added for each collar purchased.**

\$289.00

Add to Basket



### Sheep & Goat collar

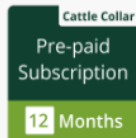
Sheep & goat collar including battery and neck strap. Standard 9 chain links. If you have a larger breed, we advise you to buy the 13 chain links in addition.

**A yearly subscription will be added for each collar purchased.**

\$199.00

Add to Basket

## Subscriptions

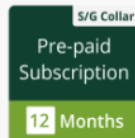


### 12 month Subscription Cattle

One 12-month subscription for cattle collars purchased more than one year ago

\$56.00

Add to Basket



### 12 month Subscription

#### Sheep/Goat

One 12-month subscription for sheep/goat collars purchased more than one year ago

\$56.00

Add to Basket

## Batteries and chargers

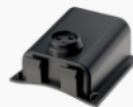


### Battery - Cattle

Battery for cattle collars

\$89.00

Add to Basket



### Battery - Sheep & Goat

Battery for Sheep & Goat collar

\$49.00

Add to Basket

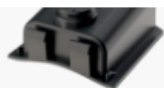




Battery for Cattle Collars

\$89.00

Add to Basket



Battery for Sheep & Goat Collar

\$49.00

Add to Basket



### Charger - Cattle

Charger for cattle batteries

\$59.00

Add to Basket



### Sheep & Goat charger

Charger for sheep & goat batteries

\$39.00

Add to Basket



### Battery Tool Sheep&Goat

Optional battery removal tool for sheep and goat collars

\$5.00

Add to Basket

## Beacons



### Beacon

A beacon placed in the shelter or barn ensures that the the collar location is known when the animal is inside a building

\$22.00

Add to Basket

## Replacement Parts

### Collar Houses



#### Replacement cattle collar

Replacement collar for cattle. Battery and neck strap not included.

**A yearly subscription will be added for each collar purchased.**

**\$209.00**

Out of Stock



#### Replacement sheep & goat collar

Replacement collar for sheep & goat. Battery and neck strap is not included.

**A yearly subscription will be added for each collar purchased.**

**\$169.00**

Out of Stock

### Neck straps



#### Neck strap sheep & goat

Neckstrap for sheep & goat. Green 16 cm.

**\$20.00**

Add to Basket



#### Neck strap cattle

Neck strap for C2 Cattle collars. Green 32cm.

**\$25.00**

Add to Basket



#### Short neck strap sheep & goat

Short leather neck strap for sheep and goat. Leather 10 cm.

**\$25.00**

Add to Basket

### Chains



#### Chains 50cm Cattle

Pair of 50cm chains for cattle collars



#### Chains 70 cm cattle

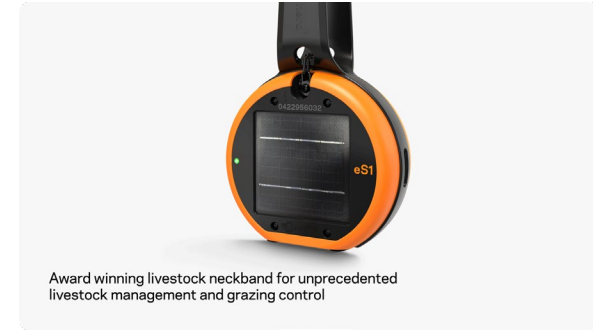
Pair of 70 cm chains for cattle collars



# VF brands - Gallagher eShepherd

<https://am.gallagher.com/en-US/new-products/eShepherd>

- Collars - ~\$250-350 each
  - \$18 to \$24 service per year
- Base stations - \$5000
- Accessories:
  - ?

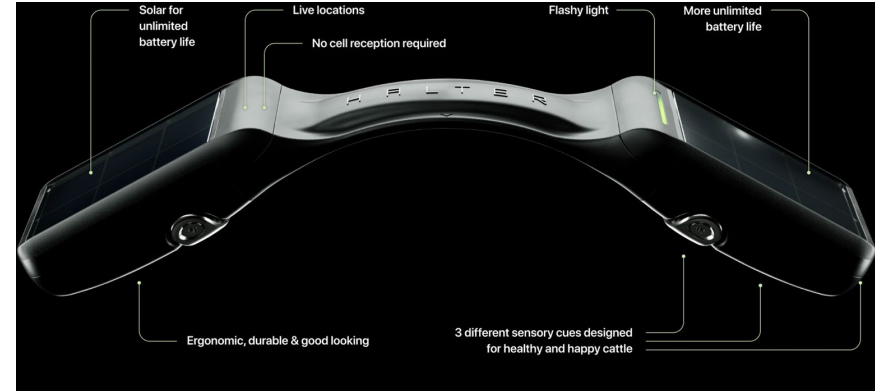


# VF brands - Halter



<https://www.halterhq.com/en-us/beef>

- Collars
  - \$66 service per year
- Base stations - \$4500
- Accessories:
  - ?
- They ask for a 36 month commitment



VF cost analyzer (This is a ShinyApp)

<https://reuter.shinyapps.io/vfcostr/>

# New version demo

<http://127.0.0.1:3627/>

# Takeaways

	Useful life (yr.)	High intensity*			Low intensity*		
		Qty.	Price (\$)	Total (\$)	Qty.	Price (\$)	Total (\$)
<b>Computer</b>							
Computer	5	1	3,000	712	1	3,000	712
Software	5	1	---	---	1	---	---
Internet	---	12	100	1,200	12	100	1,200
Tech assistance	---	1	500	500	1	500	500
<i>Subtotal</i>				<i>2,412</i>			<i>2,412</i>
<b>Collars</b>							
Collar lease	---	300	55	16,500	300	55	16,500
<b>Base stations</b>							
Base stations	20	6	12,500	21,796	3	12,500	3,269
Base station <del>maint.</del>	---	1%	75,000	750	1%	37,500	375
<i>Subtotal</i>				<i>22,546</i>			<i>3,644</i>
<b>Management</b>							
Collar checks (labor)	---	6	1,000	6,000	3	1,000	3,000
Gathering cattle	---	2	1,200	2,400	2	(1,200)	(2,400)
Defining fences on software	---	180	40	7,200	180	40	7,200
<i>Subtotal</i>				<i>15,600</i>			<i>7,800</i>
<b><i>Total cost per year</i></b>				<b><i>57,058</i></b>			<b><i>30,356</i></b>

Dana L. Hoag\*, Ryan Reuter, Daniel F. Mooney, Jeff Vitale, John Ritten, Nathan DeLay, Paul H. Evangelista and Anthony Vorster. 2025. *The economic fundamentals of virtual fencing compared to traditional fencing*. Rangelands. IN PRESS.

# Takeaways

*Cost of example VF vs barbed-wire under different combinations of acreage, stocking rate, and number of interior pastures. Values are annual economic advantage (USD) to VF.*

Average of High and Low Intensity					
Physical fence cost (\$/kilometer)					
Hectares	4050	6075	8100	10125	12150
41	-25409	-24483	-23557	-22630	-21704
101	-24415	-22950	-21486	-20021	-18556
203	-23339	-21268	-19196	-17125	-15053
810	-20021	-15878	-11735	-7592	-3449
2025	-16856	-10305	-3754	2797	9348
4050	-14179	-4915	4350	13614	22878
6075	-12765	-1418	9928	21274	32621
12150	-11615	4431	20477	36524	52570
Number of Pastures					
Hectares	1	2	4	9	16
41	-24483	-23907	-23093	-21704	-20314
101	-22950	-22040	-20753	-18556	-16359
203	-21268	-19981	-18160	-15053	-11946
810	-15878	-13304	-9663	-3449	2766
2025	-10305	-6235	-479	9348	19174
4050	-4915	842	8982	22878	36775
6075	-1418	5631	15601	32621	49640
12150	4431	14401	28500	52570	76639
Stocking Rate (Hectare/head)					
Hectares	81	54	41	27	20
41	-24455	-24469	-24483	-24510	-24538
101	-22882	-22916	-22950	-23019	-23088
203	-21130	-21199	-21268	-21405	-21543
810	-15328	-15603	-15878	-16428	-16978
2025	-8930	-9617	-10305	-11680	-13055
4050	-2165	-3540	-4915	-7665	-10415
6075	2707	644	-1418	-5543	-9668
12150	12681	8556	4431	-3819	-12069



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# Who should adopt VF right now?

- Enjoy new technology
- Low stocking rate
- High fence construction cost
- Need to exclude irregular/temporary areas
- Can tolerate some fence failure

# Exploring the Boundaries of Virtual Fence



Access factsheets, videos, webinars & more resources

[rangelandsgateway.org/virtual-fence](https://rangelandsgateway.org/virtual-fence)



Webinar 1

Virtual Fence 101 & Vendor Comparison



Webinar 2

Applications for Rangeland & Livestock Management