Evaluating Virtual Fence Vendors



Webinar

Compare and Calcuate

September 22, 2026

THE UNIVERSITY OF ARIZONA

Comparison of Virtual Fence Companies











September 22nd 2026, Evaluating Virtual Fence Vendors Webinar

Natural Resources & the Environment

Flavie Audoin

THE UNIVERSITY OF ARIZONA Cooperative Extension

Introduction

VF companies available in 2026

Data ownership and access

Conclusion

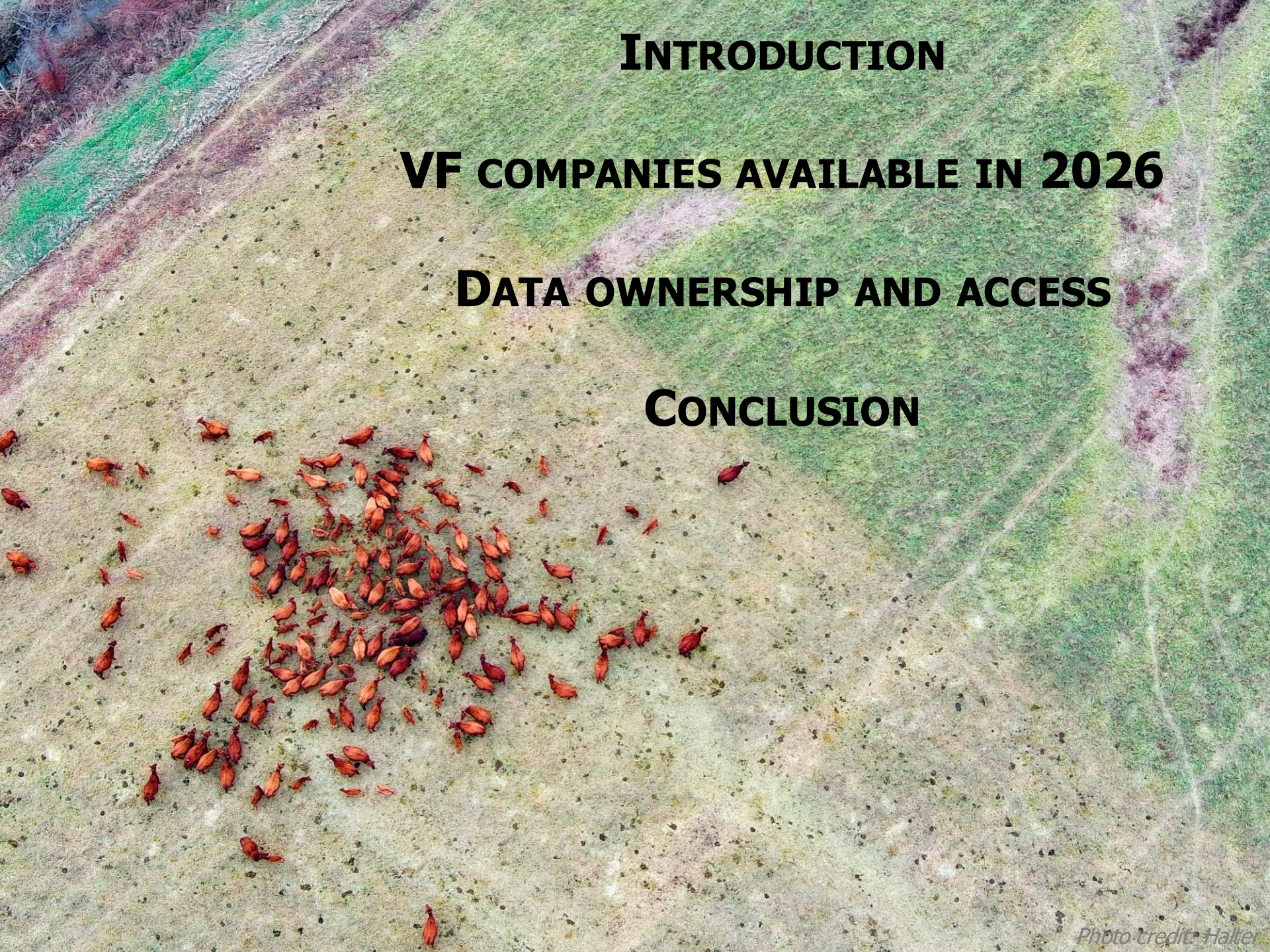


Photo credit: Halter

What is new?

- Snapshot of companies available in September 2026
  (always changing and evolving)

- No endorsement from the University, just presentation of the companies available
  ➔ Alphabetical order

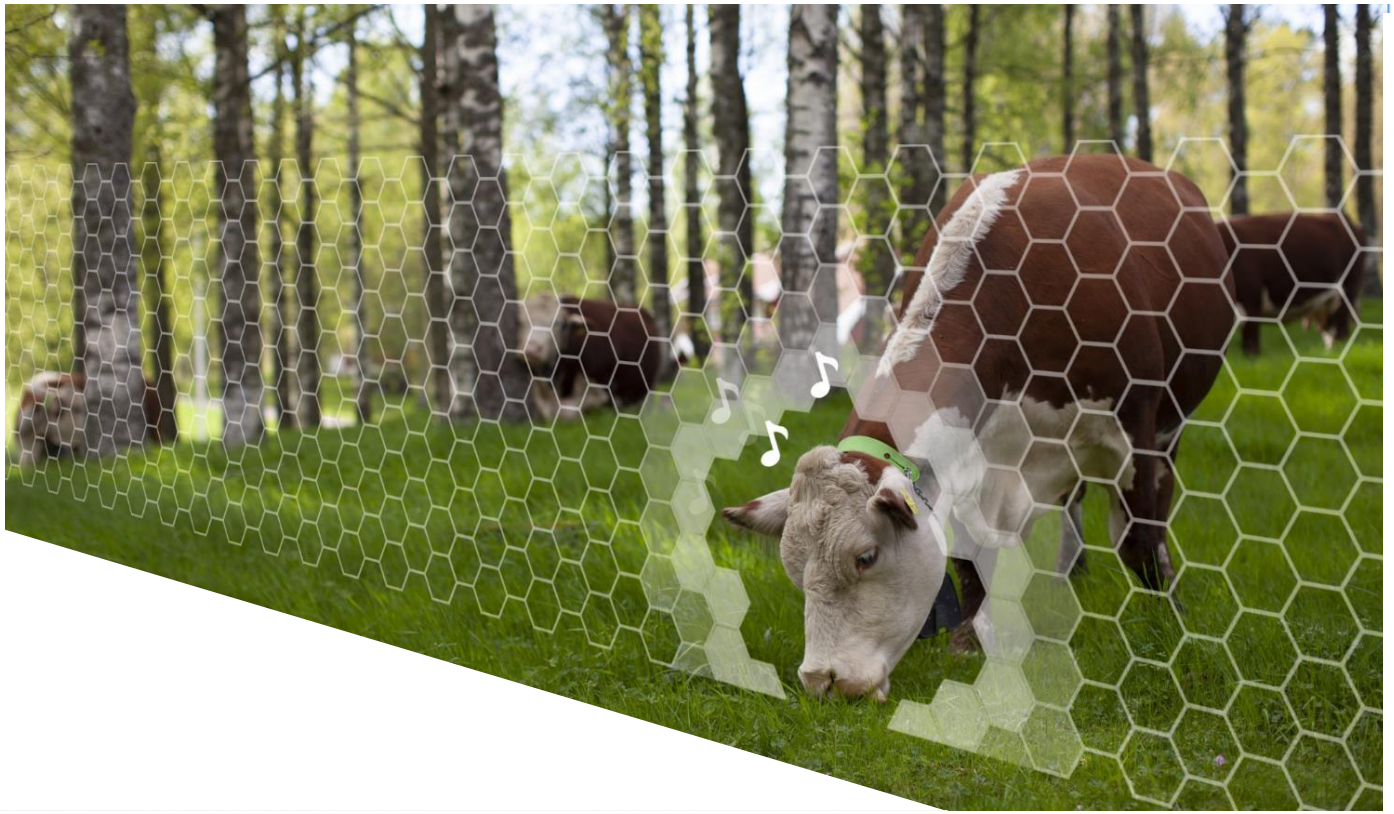
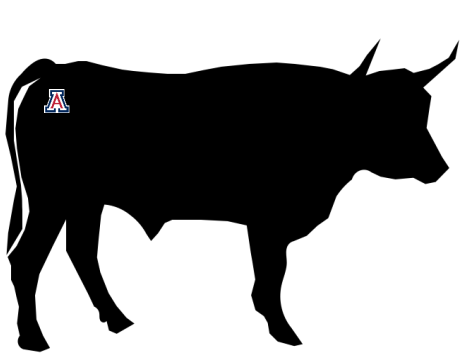
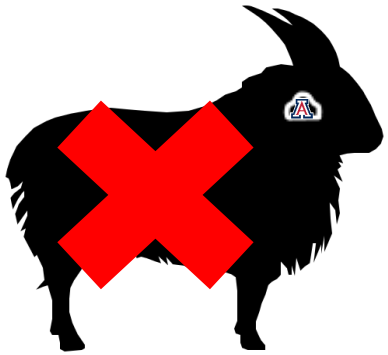


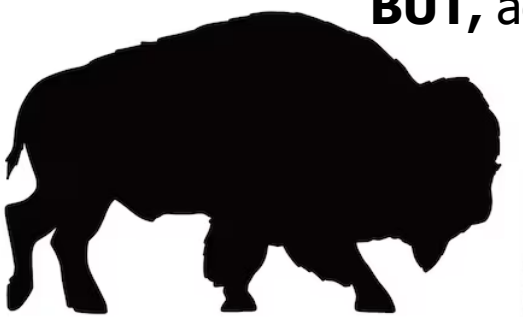
Photo credit: Nofence

Gallagher

- Also known as eShepherd neckbands
- New Zealand company
- VF neckbands available in the US since Spring 2024
- For cattle (also bulls), no plan to work on small ruminants.







BUT, actively deploying on Bisons!

- Neckbands are purchased (warranty 3 years)
  ➔ deferred payment available
- Solar powered
  ➔ estimated to last for 7-10 years



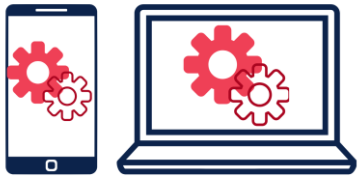
Photo credit: Gallagher

Gallagher

- Base station: coverage of 2 to 4 miles radius
- Launching new features
  - ➔ Bluetooth Mesh Capability: NBmesh™
  - ➔ Moving Fence™
  - ➔ Pregnancy and calving notifications
- Individually assess each part of the property to understand coverage
- Team solely made of producers

Weight: 5.5 lbs

Gallagher



VF software

Available on computer and mobile



Connectivity

Multiple base stations

OR

Cellular network



Herd size

> 20 animals

Gallagher



Pasture size

No max

(min 45 ft x 45 ft)



Up front cost

$250-300/ neckband
(depends on number of neckbands)

$5,000-6,000/base station
(if necessary)



Yearly cost

Base station: $18/neckband

OR

Cellular: $24/neckband

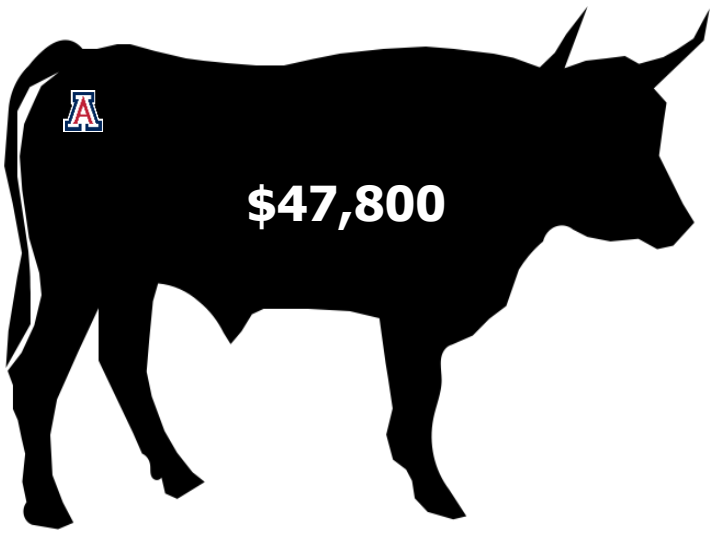
(Monthly subscription available)

Gallagher

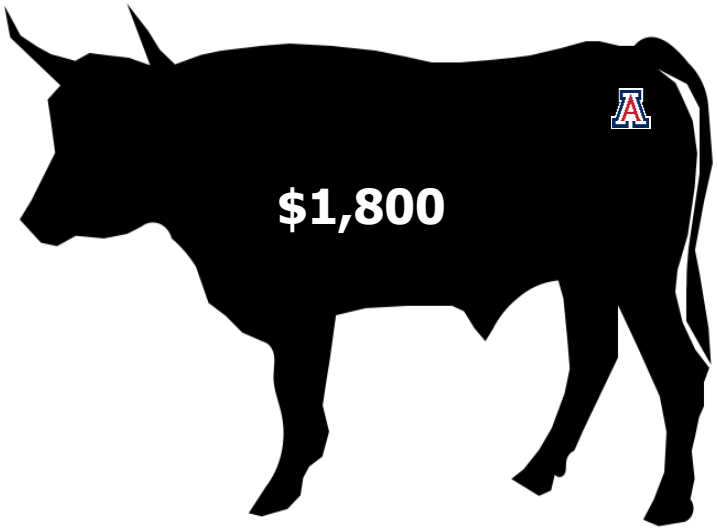
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ 4 base stations = (1 x $6,000) + (3 x $5,000) = $21,000
  - ➔ 100 neckbands = 100 x $250 = $25,000
  - ➔ $18/neckband/year = $1,800

1st year



Consecutive years



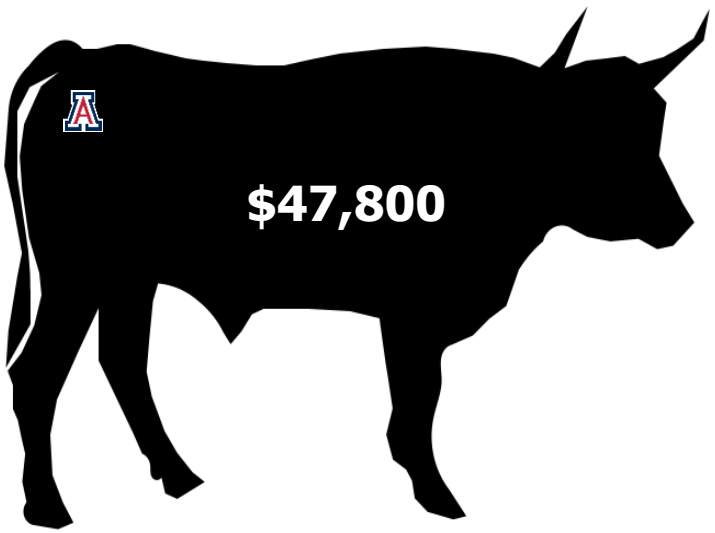
Cost for 5 years = $55,000 for 100 cows
So $550/cow/5 years or $110/cow/year

Gallagher

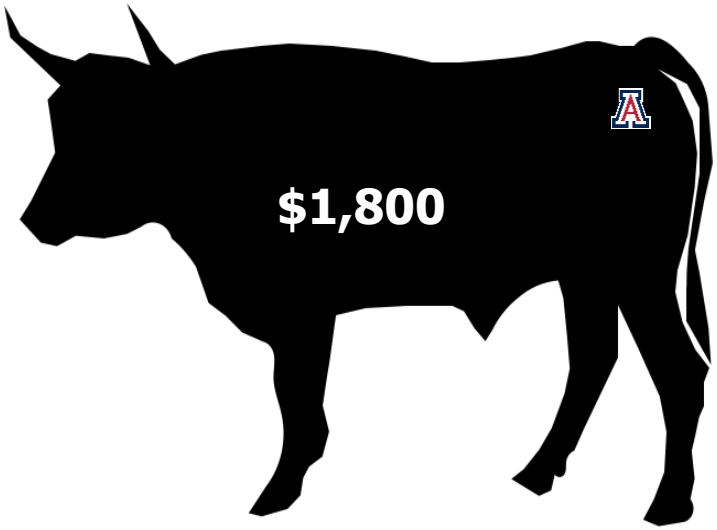
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ 4 base stations = (1 x $6,000) + (3 x $5,000) = $21,000
  - ➔ 100 neckbands = 100 x $250 = $25,000
  - ➔ $18/neckband/year = $1,800

1st year



Consecutive years



Cost for 10 years = $64,000 for 100 cows
So $640/cow/10 years or $64/cow/year

Gallagher

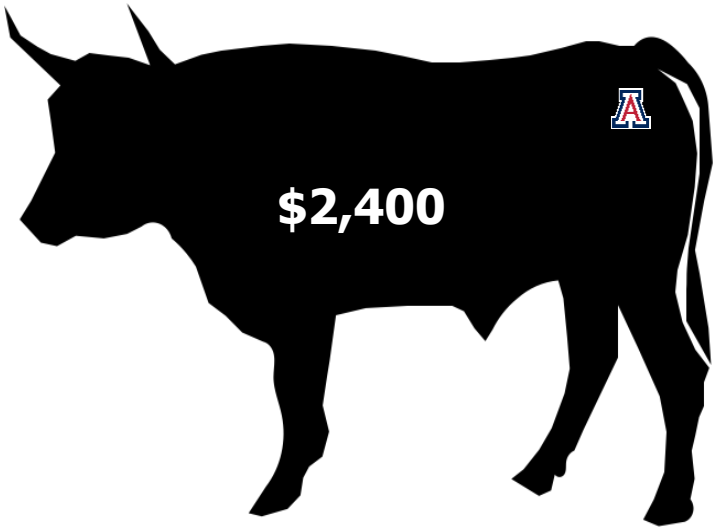
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ Cell service
  - ➔ 100 neckbands = 100 x $250 = $25,000
  - ➔ $24/collar/year = $2,400

1st year



Consecutive years



Cost for 5 years = $37,000 for 100 cows
So $370/cow/5 years or $74/cow/year

Gallagher

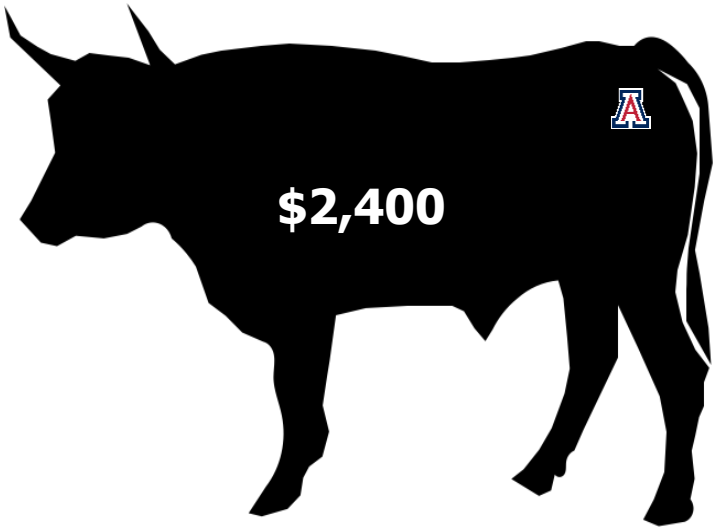
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ Cell service
  - ➔ 100 neckbands = 100 x $250 = $25,000
  - ➔ $24/collar/year = $2,400

1st year



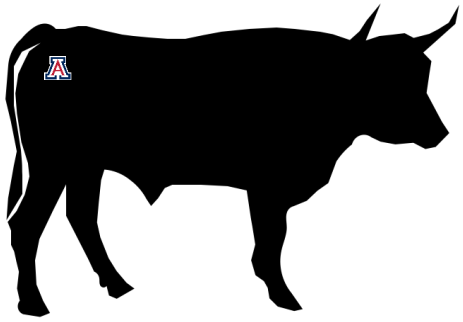
Consecutive years

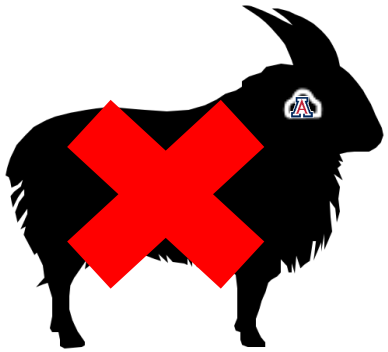


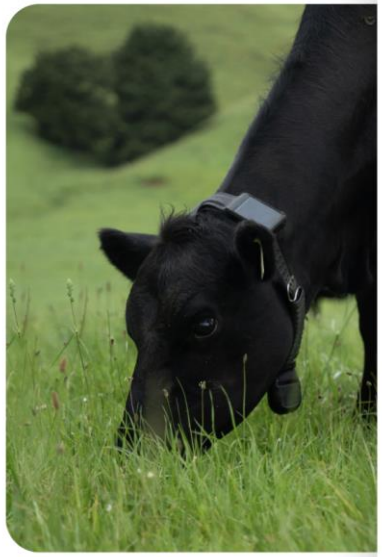
Cost for 10 years = $49,000 for 100 cows
So $490/cow/10 years or $49/cow/year

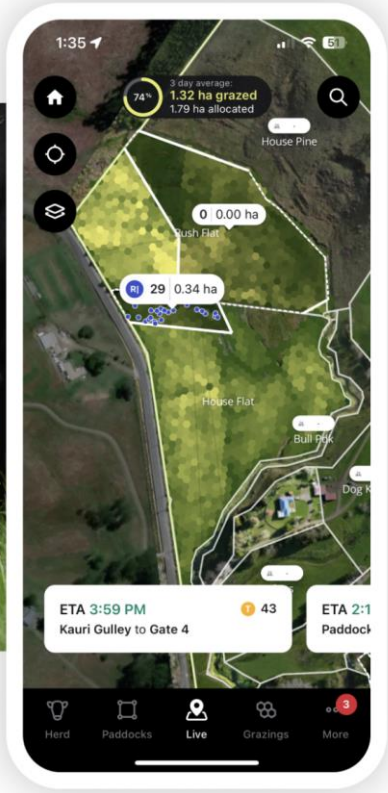
Halter

- New Zealand HQ with US office (CO)
- VF collars available in the US since Summer 2024
- Only for cattle, no plan to work on small ruminants









- Collars are not purchased (36 months contract)
- Solar powered ➔ estimated to last for 5 years (lifetime warranty)
- Directional audio cues and vibration for shifting

Photo credit: Halter

Halter

- Collars can be put on animals over 8 months old
- Operating system for animal behavior and pasture insights

Weight: 2.7 lbs

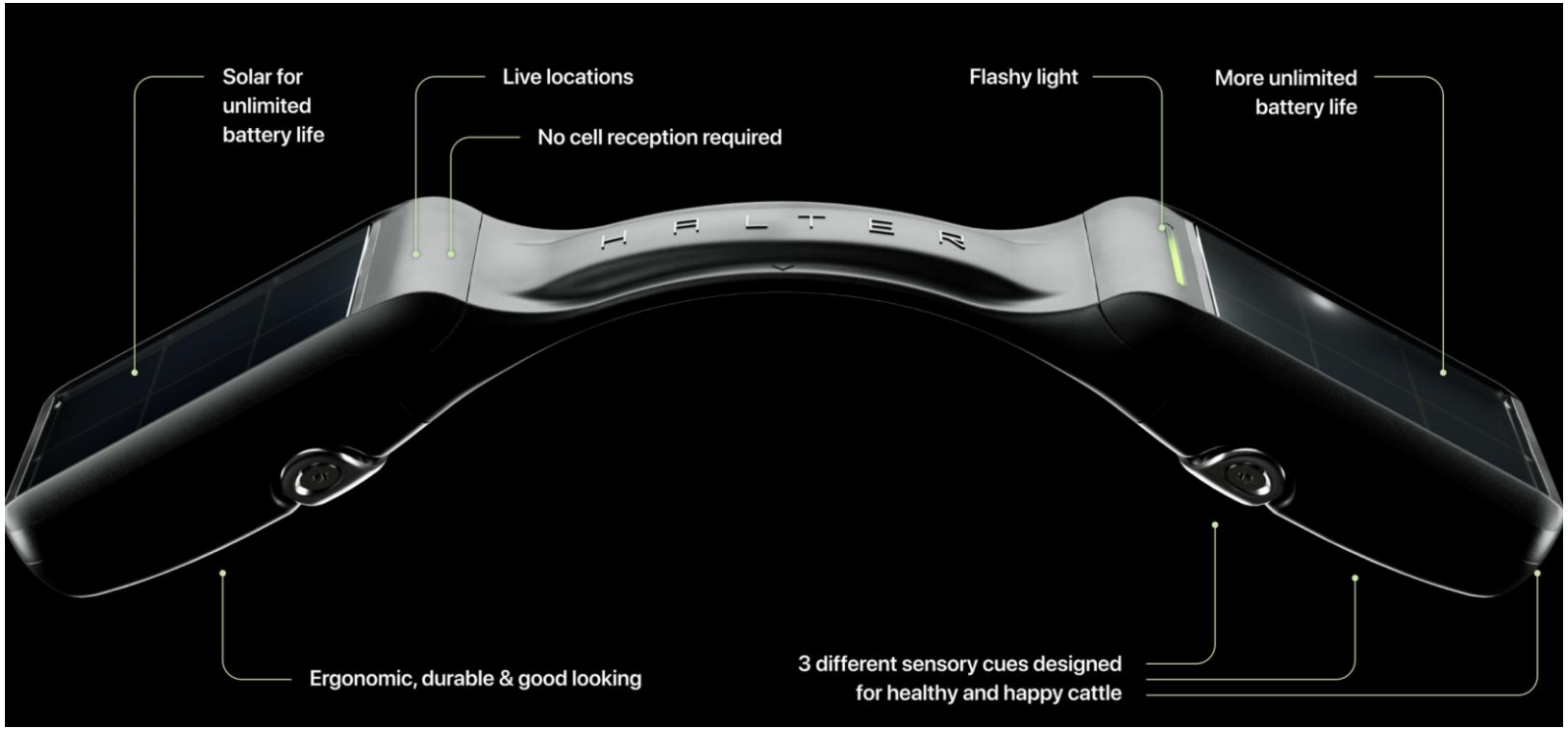
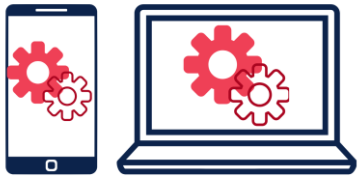


Photo credit: Halter

- Beef Pro package ($24/collar/year) & Repro package in beta testing

Halter

Halter



VF software

Available on mobile app and **computer**



Connectivity

Direct-to-satellite (June 2026)



Herd size

> 100 animals

Halter

Halter



Pasture size

No max

(min 32 sq ft)



Up front cost

$1,500 deployment/ shipping fee

(includes high resolution satellite imagery and topographical data of your ranch)



Yearly cost

$96/collar

Halter

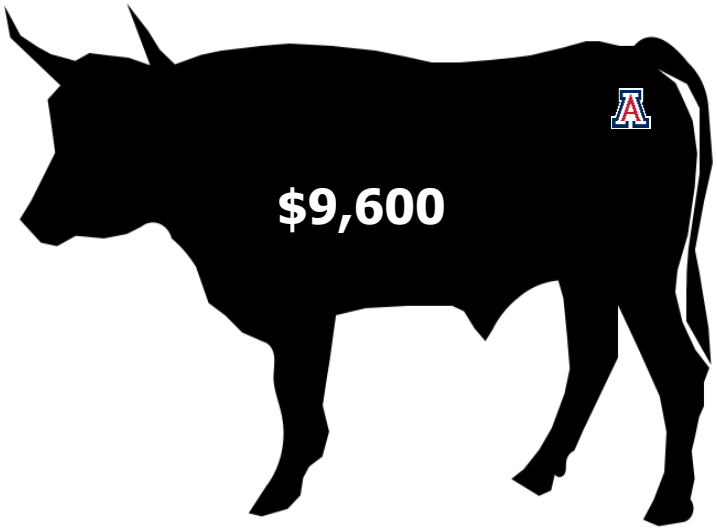
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ Direct-to-satellite
  - ➔ One time deployment / shipping fee = $1,500
  - ➔ 100 collars = $96/collar/year = $9,600

1st year



Consecutive years



Cost for 5 years = $49,500 for 100 cows
So $495/cow/5 years or $99/cow/year

Halter

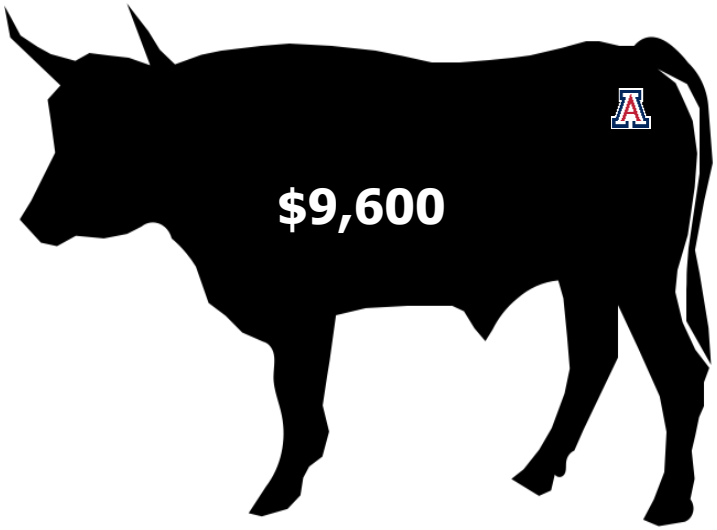
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ Direct-to-satellite
  - ➔ One time deployment / shipping fee = $1,500
  - ➔ 100 collars = $96/collar/year = $9,600

1st year



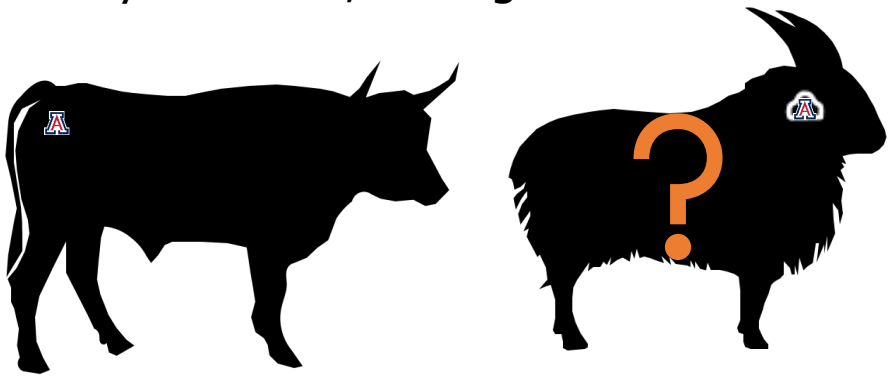
Consecutive years



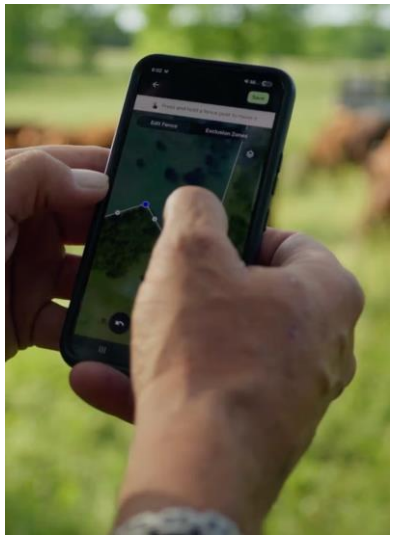
Cost for 10 years = $97,500 for 100 cows
So $975/cow/10 years or $98/cow/year

Monil

- Norwegian company
- VF collars available in the US since June 2026
- Only for cattle, testing on small ruminants







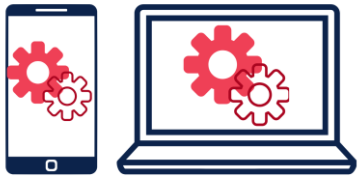
- Collars are purchased (warranty 10 years)
- Solar powered
  ➔ estimated to last for 5 years
- New features available in future: heat and calving detection

Weight: 2.2 lbs (cattle)

Photo credit: Monil

Monil

monil



VF software

Available on mobile app



Connectivity

Cellular network



Herd size

> 6 animals

Monil

monil



Pasture size

No max

(30 ft diameter)

Up front cost

$320/collar for cattle
(includes 1st year of subscription)

Discount on quantity

Yearly cost

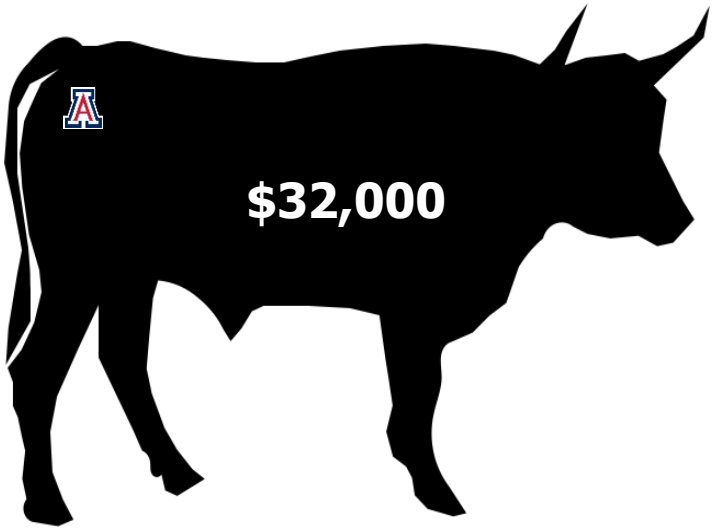
$32-40/collar
(Depending on number of collars)

Cost change between Year 1 & Year 2+

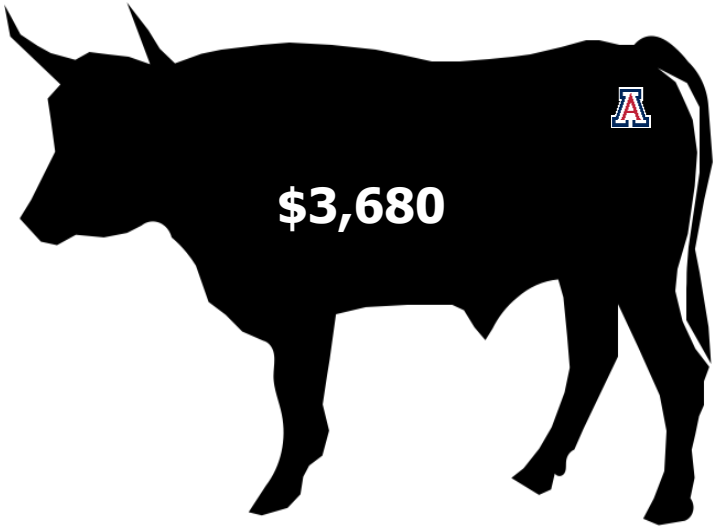
Monil

- **Scenario:** Rancher has 100 cows on 10,000 acres
- **Equipment:**
  - ➔ Cell service
  - ➔ 100 collars = 100 x $320 = $32,000 *(includes 1st year subscription)*
  - ➔ $40/collar/year for 40 collars = $1,600 *(after the 1st year)*
  - ➔ $36/collar/year for 40 collars = $1,440 *(after the 1st year)*
  - ➔ $32/collar/year for 20 collars = $640 *(after the 1st year)*

1st year



Consecutive years

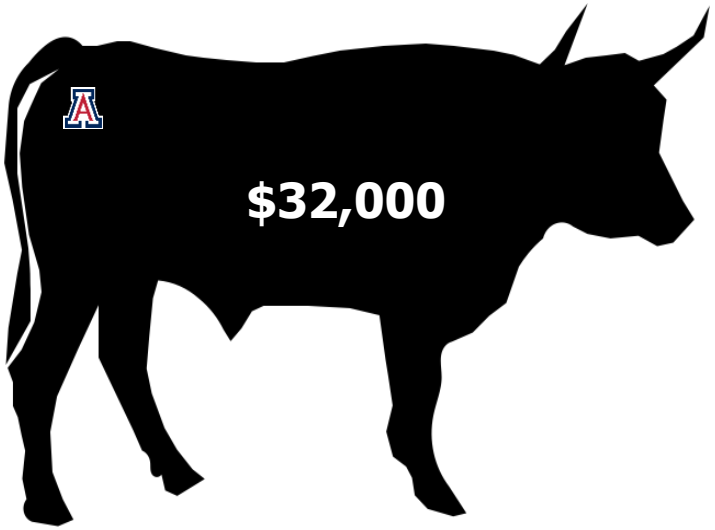


Cost for 5 years = $46,720 for 100 cows
So $467/cow/5 years or $93/cow/year

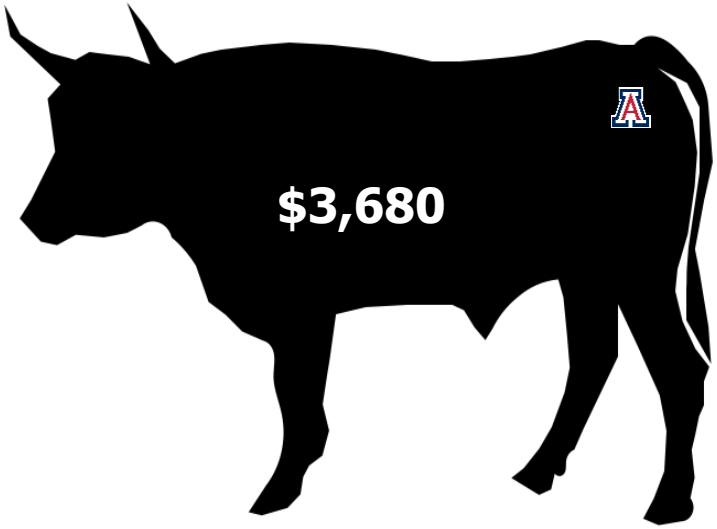
Monil

- **Scenario:** Rancher has 100 cows on 10,000 acres
- **Equipment:**
  - ➔ Cell service
  - ➔ 100 collars = 100 x $320 = $32,000 *(includes 1st year subscription)*
  - ➔ $40/collar/year for 40 collars = $1,600 *(after the 1st year)*
  - ➔ $36/collar/year for 40 collars = $1,440 *(after the 1st year)*
  - ➔ $32/collar/year for 20 collars = $640 *(after the 1st year)*

1st year



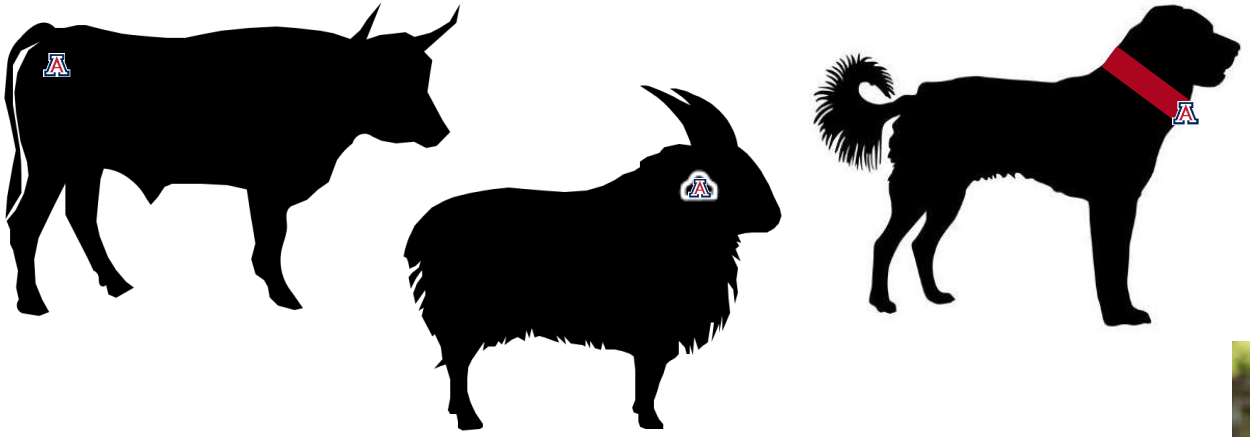
Consecutive years



Cost for 10 years = $65,120 for 100 cows
So $651/cow/10 years or $65/cow/year

Nofence

- Norwegian company
- VF collars available in the US since Spring 2024
- For cattle and small ruminants **AND** livestock guardian dogs!





- Collars are purchased (warranty 10 years for cattle, and 5 years for small ruminants/dogs)
- Solar powered
  - ➔ estimated to last for 5-10 years
  - ➔ N3 cattle collar (non removable battery)
  - ➔ small ruminants collar (removable battery)





Photo credit: Nofence

Nofence

- Launching new features (2027)

  ➔ Heat detection

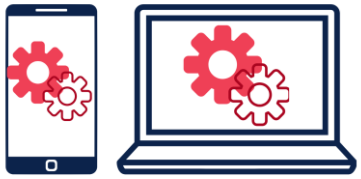
  ➔ Calving detection

- Collars can be put on animals over 6 months old (cattle)

Weight: 3 lbs (cattle)
1.1 lbs (sheep/goats)

Nofence

Nofence



VF software

Available on mobile and computer
(view mode only)

(Nofence app)



Connectivity

Cellular network & direct-to-satellite
(cattle, Sept 2026)

Cellular network
(small ruminants)



Herd size

> 5 animals

Nofence

Nofence



Pasture size

Up to ~25,000 ac

(min ½ acre)

Up front cost

$199-239/collar for cattle
(depends on number of collars)

(includes 1st year of subscription)

Discount on quantity

Yearly cost

$45-60/collar
(depends on number of collars)

(Monthly subscription available)

Nofence

Nofence



Pasture size

Up to ~25,000 ac

(min ½ acre)

Up front cost

$239-269/collar for sheep/goats
(depends on number of collars)

(includes 1st year of subscription)

Discount on quantity

Yearly cost

<100 animals $45/collar

OR

>100 animals $35/collar

(Monthly subscription available)

Nofence

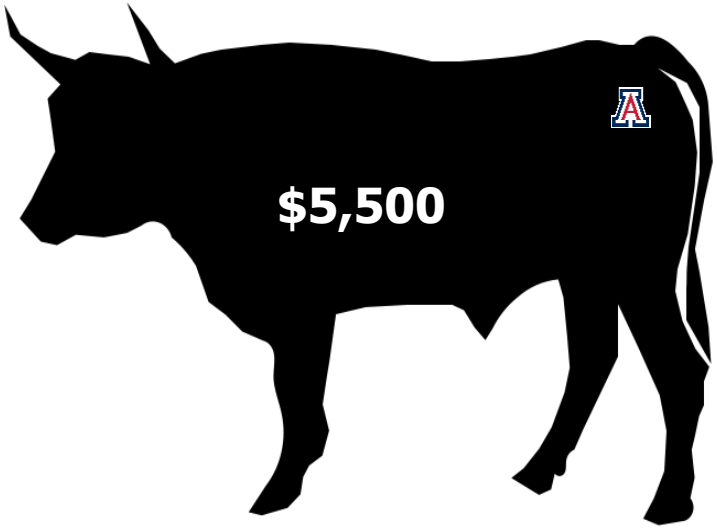
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ Cell service & Direct-to-satellite
  - ➔ 100 collars = 100 x $215 = $21,500 *(includes 1st year subscription)*
  - ➔ $55/collar/year = $5,500 *(after the 1st year)*
  - ➔ 2 chargers = $100 *(1 charger per 50 collars)*

1st year



Consecutive years



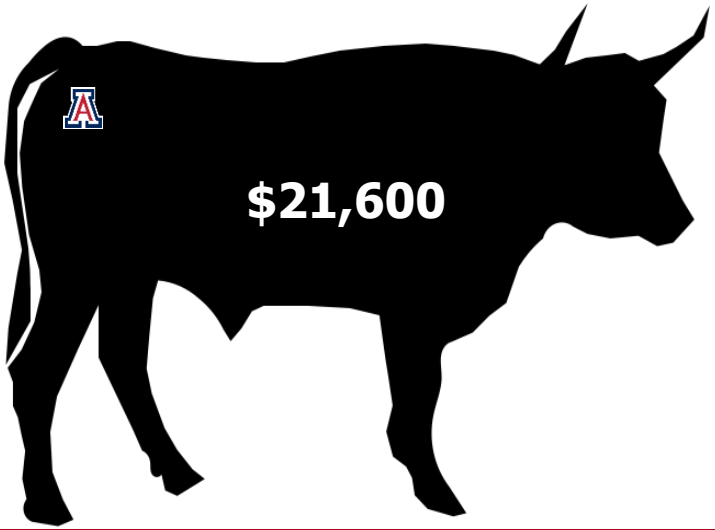
Cost for 5 years = $43,600 for 100 cows
So $436/cow/5 years or $87/cow/year

Nofence

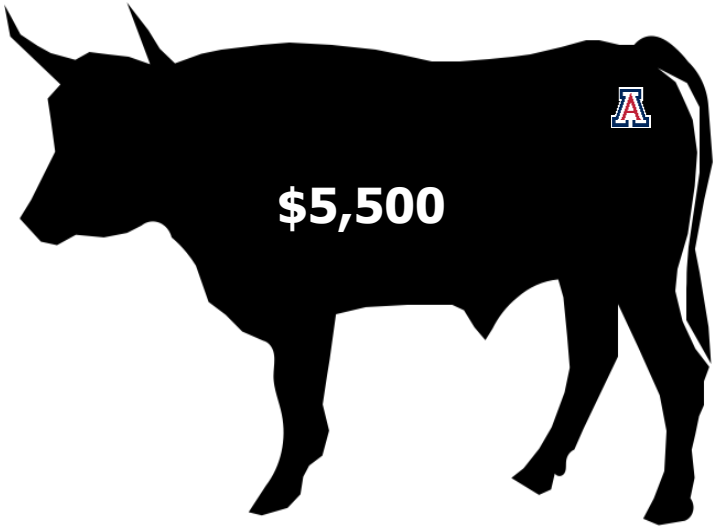
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ Cell service & Direct-to-satellite
  - ➔ 100 collars = 100 x $215 = $21,500 *(includes 1st year subscription)*
  - ➔ $55/collar/year = $5,500 *(after the 1st year)*
  - ➔ 2 chargers = $100 *(1 charger per 50 collars)*

1st year



Consecutive years



Cost for 10 years = $71,100 for 100 cows
So $711/cow/10 years or $71/cow/year

Nofence

- **Scenario:** Rancher has 100 sheep or goats on 10,000 acres

- **Equipment:**
  - ➔ Cell service
  - ➔ 100 collars = 100 x $239 = $23,900 *(includes 1st year subscription)*
  - ➔ $35/collar/year = $3,500 *(after the 1st year)*
  - ➔ 10 Chargers = $390 and 10 spare batteries = $490

1st year



Consecutive years



Cost for 5 years = $38,780 for 100 sheep or goats
So $388/sheep or goat/5 years or $78/sheep or goat/year

Nofence

- **Scenario:** Rancher has 100 sheep or goats on 10,000 acres

- **Equipment:**
  - ➔ Cell service
  - ➔ 100 collars = 100 x $239 = $23,900 *(includes 1st year subscription)*
  - ➔ $35/collar/year = $3,500 *(after the 1st year)*
  - ➔ 10 Chargers = $390 and 10 spare batteries = $490

1st year



Consecutive years



Cost for 10 years = $56,280 for 100 sheep or goats
So $563/sheep or goat/10 years or $56/sheep or goat/year

Vence

- American company, Merck Animal Health

- VF collars available in the US since 2021

- Only for cattle, no plan to work on small ruminants

Weight: 2.5 lbs

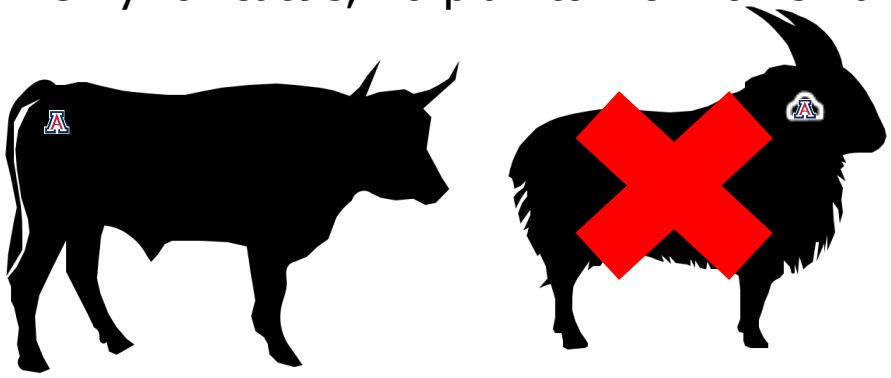




Photo credit: Vence

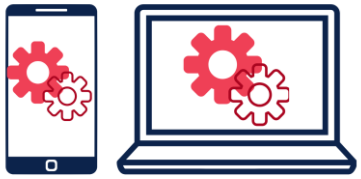
- Collars are leased
(collar replacement included with annual subscription)

- Not solar powered
  - ➔ New collar available in Spring 2027 for new customers
  - ➔ Single-use battery estimated to last 1 year depending on use
(twice as long as the old battery)

- Base station: optimal coverage up to 15 km radius (~ 9 miles)

Vence

VENCE™



VF software

HerdManager available on computer and **mobile**



Connectivity

Multiple base stations



Herd size

> 100 animals

Vence

VENCE™



Pasture size

No max

(min 200 ac)

Up front cost

Pro installation $12,500/ base station

OR

Self installation $10,000/ base station

Yearly cost

$40/collar

AND

$20/battery

Vence

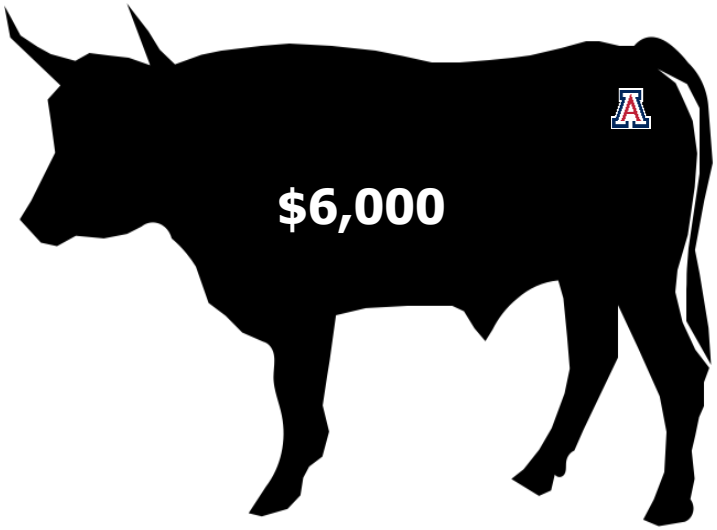
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ 2 base stations with pro installation = 2 x $12,500 = $25,000
  - ➔ 100 collars = 100 x $40 = $4,000
  - ➔ 100 batteries = 100 x $20 = $2,000

1st year



Consecutive years



Cost for 5 years = $55,000 for 100 cows
So $550/cow/5 years or $110/cow/year

Vence

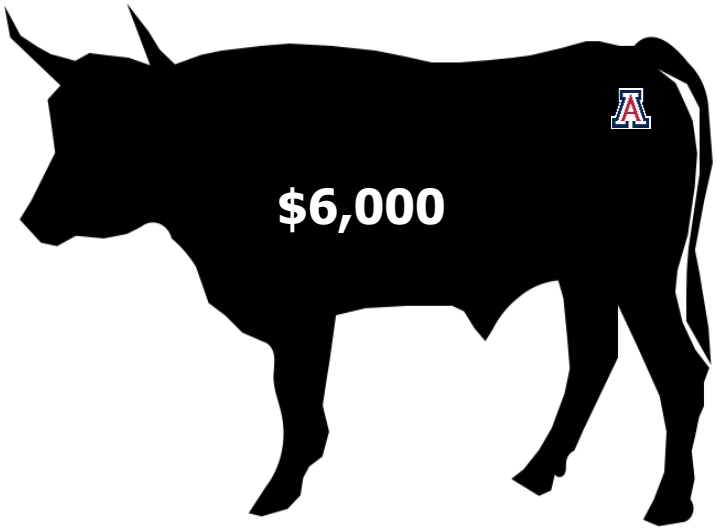
- **Scenario:** Rancher has 100 cows on 10,000 acres

- **Equipment:**
  - ➔ 2 base stations with pro installation = 2 x $12,500 = $25,000
  - ➔ 100 collars = 100 x $40 = $4,000
  - ➔ 100 batteries = 100 x $20 = $2,000

1st year



Consecutive years



Cost for 10 years = $85,000 for 100 cows
So $850/cow/10 years or $85/cow/year

Virtual Fence Vendors for Cattle

Basic Comparison (June 2026)

	VF software	Connectivity	Collar battery	Herd size	Pasture size	Up front cost	Yearly cost
eShepherd from GALLAGHER	Gallagher from computer or mobile app	Multiple base stations *OR* Cellular	Solar charged 7-10 years*	20+	~45ft X 45ft No max	$250-300/collar** $5,000-6,000/ base sta	*Base station:* $18/neck
Halter	Mobile app *AND* computer	Direct-to-	Solar				
						(includes year 1 subscription)	$35-45/collar**
	mode only mobile app	Multiple base stations	Replaceable one-time use ~6 months	100+	>200 ac No max	$10,000-12,500/ base station	$40/collar + $10/battery/ collar***

Will be updated by October 1st

*According to vendor **Variable pricing based on herd size ***Year-round use requires ≥2 batteries/collar/year

Virtual fence components from different vendors are generally not interoperable or interchangeable. Specific components, GIS data needs, software protocol, software training, frequency and duration of the cues, GPS error, livestock collaring, and livestock training protocols may vary depending on the vendor. Follow the vendor's recommendations and guidelines. Contact vendors for more information on pricing and availability. The University of Arizona does not endorse a specific product.

Questions? Contact Flavie Audoin (faudoin@arizona.edu)

Access more virtual fence information at RangelandsGateway.org/vf

Supported from USDA NIFA WSARE (WPDP22-016) and AFRI IDEAS (2023-68014-39715).

THE UNIVERSITY OF ARIZONA

Data ownership & access

Who owns the data?

- Customers/Producers (GPS locations, VF settings, property information, maps)

"eShepherd owns the technical data and proprietary systems that make the eShepherd System work, along with data we have aggregated and deidentified so that no individual customer, farm, or livestock operation can reasonably be identified."

"We will not sell or disclose your farm data in identifiable form to a third party without your consent."

- 2 categories of data

➔ Customers own the Customer Data (contact, farm, and animal information)

➔ Halter owns the data collected or generated by its collars and systems including movement signals and derived insights.

- Halter uses data to provide and improve the service, while customers can access the insights and reports made available through the platform.

"We do not sell the information collected about your farm or ranch. We are not affiliated with USDA, the federal government, or any livestock tracking mandate."

Data ownership & access

Who owns the data?

monil

- Customers/Producers

"Buyer retains all right, title, and interest in and to data generated through Buyer's direct use of the Products and Services."

Nofence

- Customers/Producers

"Data collected are aggregated to improve product."

VENCE™

- Customers/Producers

"Collected data are used to provide services and improve products."

Data ownership & access

Data access

GALLAGHER

- Data available upon request

- Research partners can access raw data at the request and approval of the producers
"Approved researchers retain ownership of qualifying research results while the underlying data remains protected under the agreed framework"

- Type of data available: GPS locations, VF boundaries (others TBD, cost?)

Halter

- Producers can access insights and reports through the platform
- Public agency or non-profit organization: producers can request and share a csv file of their VF boundary history
- Research partnerships:
  - ➔ producer needs to be involved in the project and needs to give written permission
  - ➔ type of data: GPS locations, VF boundaries (no cost)
  - ➔ can provide additional data under an explicit research agreement
  - ➔ data access questions at research@halter.co.nz

Data ownership & access

Data access

monil

- No automated self-service solution for exporting raw data currently (in the future)
- Customers can request data at support@monil.com
- Data available: GPS locations, VF boundaries
- Collars with limited on board storage so old data may be overwritten
- Research partners can access additional datasets (needs to be planned and agreed upon on, may come with additional cost)

Nofence

- Raw data can be directly exported from the app
➔ Only the primary admin of the account can export data
➔ If a researcher is a partner, rancher can send data to them
- Data can be exported at any time and at no cost
- Data available: GPS locations, cues, VF boundaries, battery voltage, solar charge, external temperature, humidity, pressure

VENCE™

- Customers can request GPS location and time stamp data (no extra cost)
- Customers own the data and must approved access for others

Data ownership & access

Data point frequency

GALLAGHER

15 min

Halter

10-15 min

(to conserve battery power, GPS location only when movement)

monil

20 min

Nofence

15 min

(HerdNet can provide updates every 2 min)

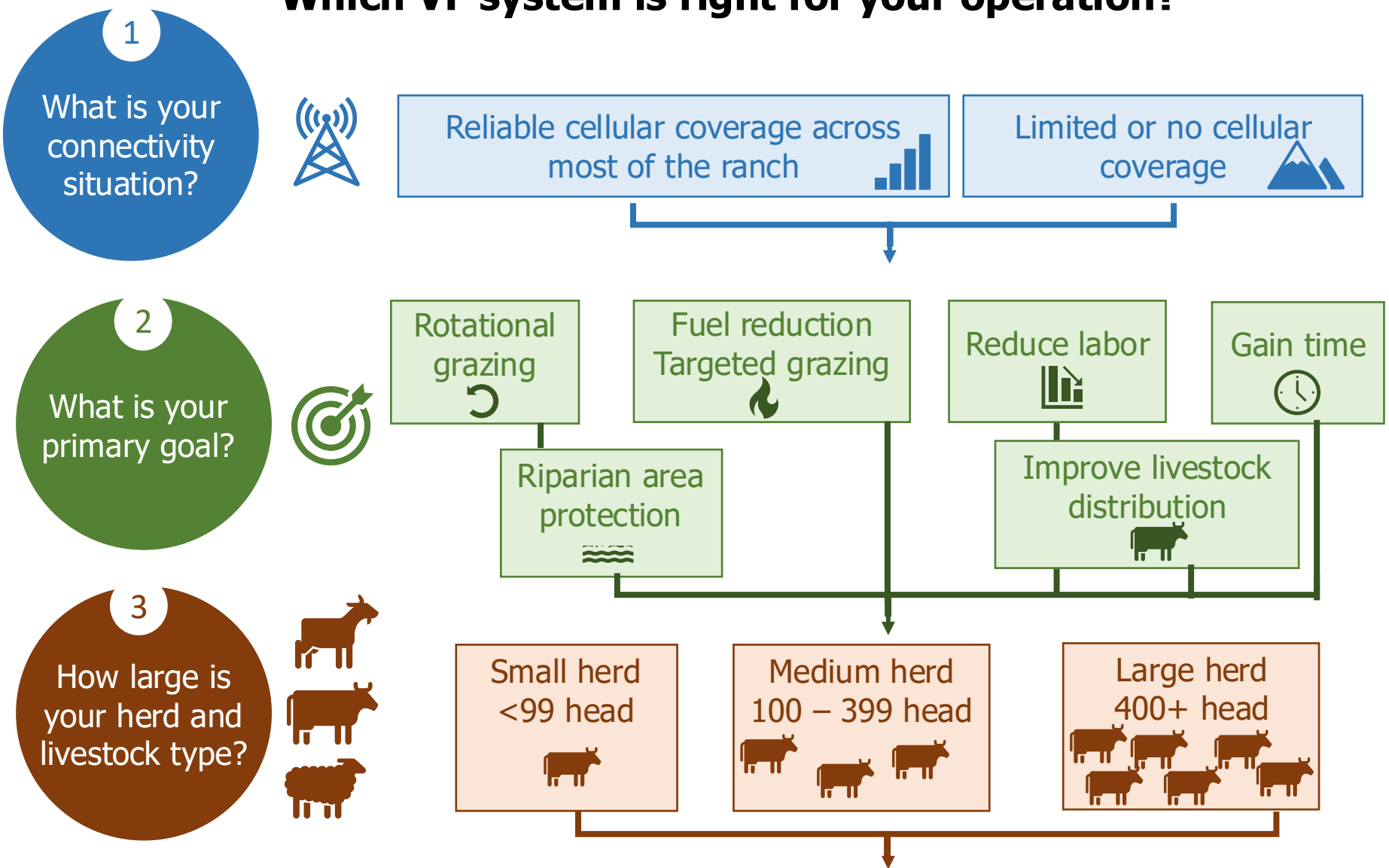
VENCE™

30 min

(configurable)

Virtual Fence Decision Tree

Which VF system is right for your operation?



Virtual Fence Decision Tree

Which VF system is right for your operation?

4 How much infrastructure are you willing to manage?

- **Minimal infrastructure is preferred**
  - Simple deployment
  - No need to change batteries
- **Infrastructure is acceptable**
  - Base stations
  - Change batteries

5 What level of data do you need?

- **Basic location tracking**
  - Animal locations
  - Grazing distribution
- **Advanced monitoring**
  - Reproduction information
  - Health and welfare indicators

6 What is your technology comfort level?

- **Beginner**
  - User-friendly interface
  - Strong customer support
  - Easy onboarding
- **Experienced**
  - Advanced features
  - Data integration opportunities

Virtual Fence Decision Tree

Which VF system is right for your operation?

FINAL DECISION

Choose the system that best matches:


Connectivity


Management goals


Herd size & livestock type


Infrastructure preference


Data needs


Labor availability


Budget

The best VF system is not the cheapest, nor the one with the most features, it is the one that best fits your operation!

EACH LIVESTOCK OPERATION IS DIFFERENT!

For public lands grazing, bringing permittees to the table is critical for successful virtual fence implementation!

Thank you

Any Questions?

Flavie Audoin
faudoin@arizona.edu
(520) 621-5442

