



# “How to Guide” for Mitigating Livestock Predator Attacks

Based on the 2020-2023 Manitoba Livestock Predation Protection Pilot Project



# In this guide you will see tips and pointers on “How to” put different Risk Mitigation Practices (RMPs) into use on your farm



- Predator Resistant Penning
  - Deadstock Composting Pens
  - Solar Foxlights
  - ElectroNet
  - GPS livestock Trackers
  - Cow bells
  - Turbo fladry wire
  - Game cameras
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- For more in-depth information on each of the individual practices, you can find them on Manitoba Beef Producers’ website at <https://mbbeef.ca/producers/>

# Predator Resistant Fences



## Predator Resistant Penning

- Intent is to keep livestock free of harassment by predators
- Protect young calves/sick from canines, bears and felines
- Give stock enough time to gain strength before general release to pasture

## Deadstock Composting Pens

- Intent is to keep predators away from deadstock and reduce food sources which draw in predators
- To compost mortalities under deep cover of straw, coarse hay or sawdust.
- Stop avian species circling over pens
- Reduce lure of mortality smell

# Predator Resistant Fences

- Fence must stop incursions into pen by predators
- Fence must have gates to allow livestock entry/exit
- Gates must stand up to moving feed/moving manure
- Gates must have equal predator protection to fence
- Must work in all conditions
- Fence must reduce dig-under issues with coyotes and wolves
- Fence must hold up if bears try to climb over





# Predator Resistant Gates

- Fencing for coyote and wolf resistance is difficult enough, but the gate needs to be fortified too!
- Example includes ¼ inch welded hog mesh panel underneath, and hog panel hose clamped to top for jump resistance.





# Drill Stem Threshold

- Triple drill stem threshold
- Threshold floats on ground with  $\frac{1}{4}$  inch welded mesh for dig resistance
- 3-1/2 inch drill stem post pockets
- 2-7/8 inch drill stem post
- Gate 50 inches tall, 15.5 feet long
- Minimal clearance threshold/gate



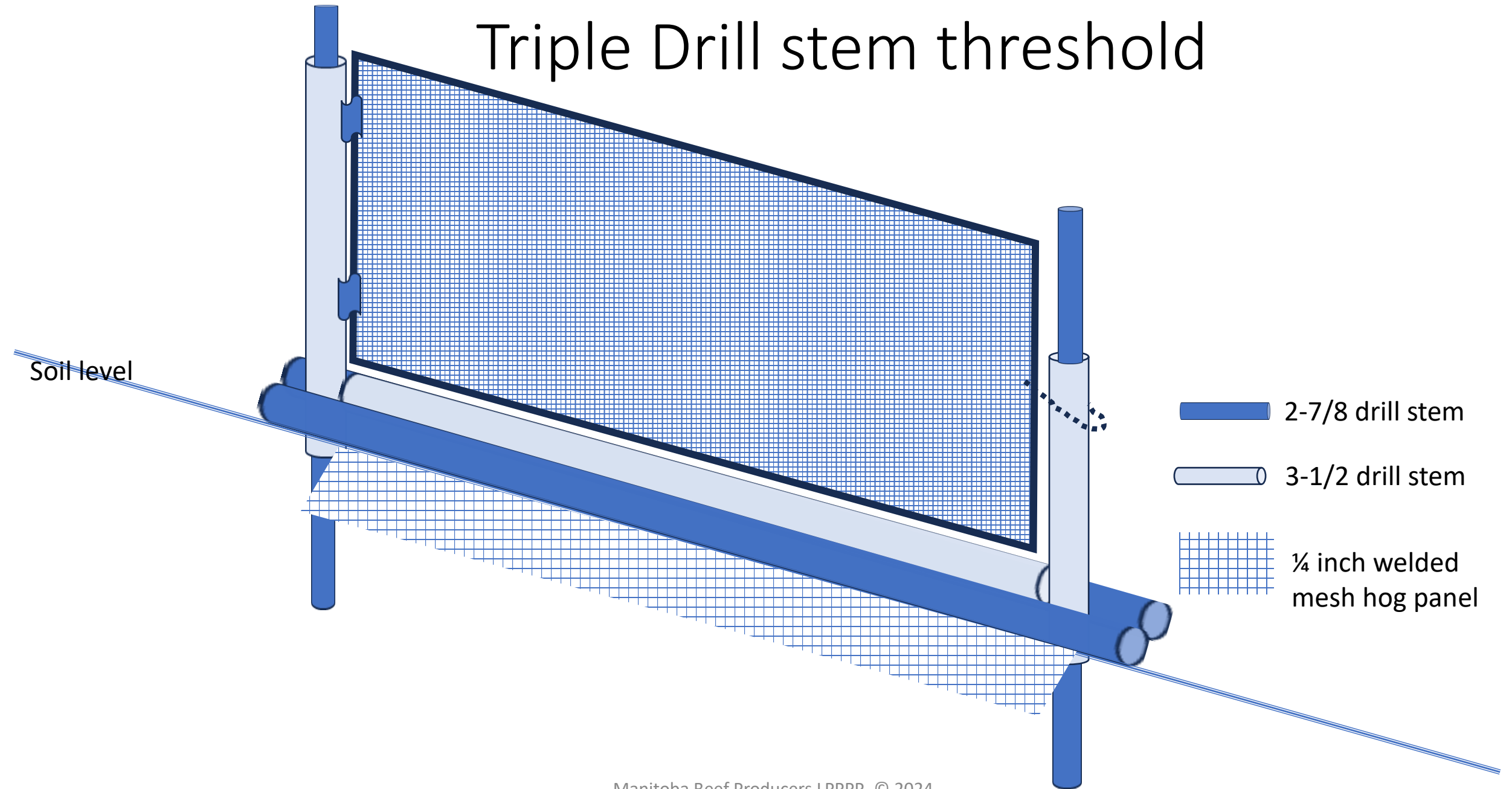


# Concrete Threshold

- Reinforced concrete threshold
- 3-1/2 inch drill stem post pockets
- 2-7/8 inch drill stem post
- 3-1/2 inch gate hinges
- Gate 60 inches tall, 15.5 feet long
- Gate 2 inch square welded mesh
- Concrete 24" wide, 17 feet long
- Minimal clearance threshold/gate

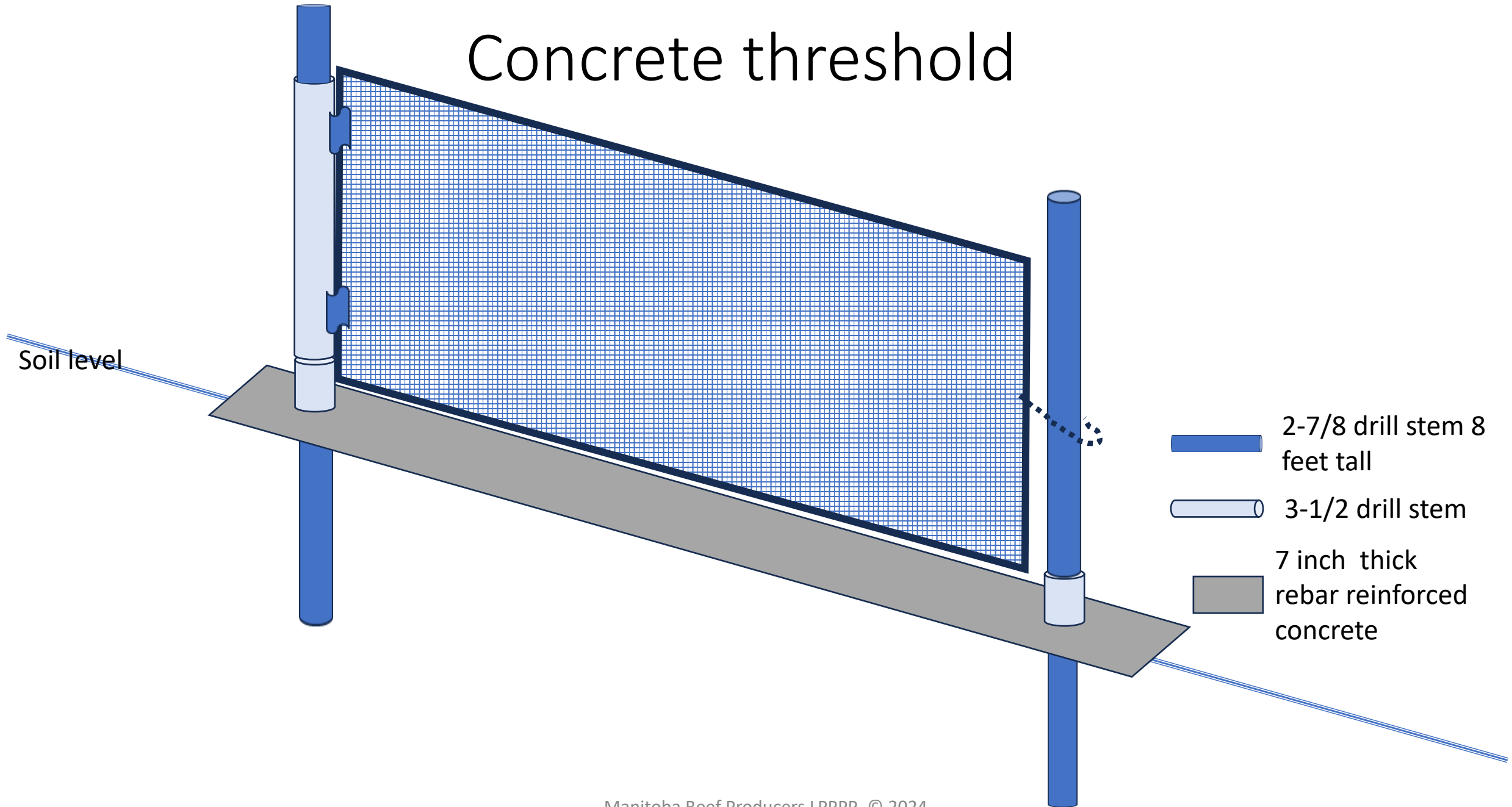


# Triple Drill stem threshold





# Concrete threshold



# 7 wire High Tensile

- 7 wire hi tensile electric wires
- 3 inches from soil surface (hot)
- Spacing 3", 6", 6", 12', 12", 12" 12"
- 63 inches total height
- Alternating Hot-Ground-Hot
- Pros:
  - Good predator resistance when voltage is high on all wires
  - Low cost of installation
- Limitations:
  - Strong fencer required
  - Grass, brush, dirt maintenance required to avoid ground outs
  - Spring water ponding
  - Winter snow depth





# High Tensile Page Wire With Apron

- Stay Tuff fixed knot fence with predator apron 12 Gauge Hi Tensile
- 60 inches total height
- 22 inch apron horizontal
- Pros:
  - Should be predator proof
  - No electric fence ground outs
  - No issue with water in spring
- Limitations:
  - ~\$4.00 per foot for wire
  - Extra strong bracing needed
  - Installation challenge is tightening 16 wires at once
  - Joining 16 wires



# Chain Link Wire With Top Bar Galvanized Pipe

- 60-inch chain link for residential/commercial fencing
- Single high tensile on top for electric bear resistance
- Buried 6 – 8 inches below ground
- Pros:
  - Should be dig proof
  - No electric fence ground outs
  - Can have electric top wire for bears
- Limitations:
  - Commercial top bar is light steel
  - Attaching chain link to top bar light with commercial wire ties, and heavy bears can pull down
  - Cost per foot





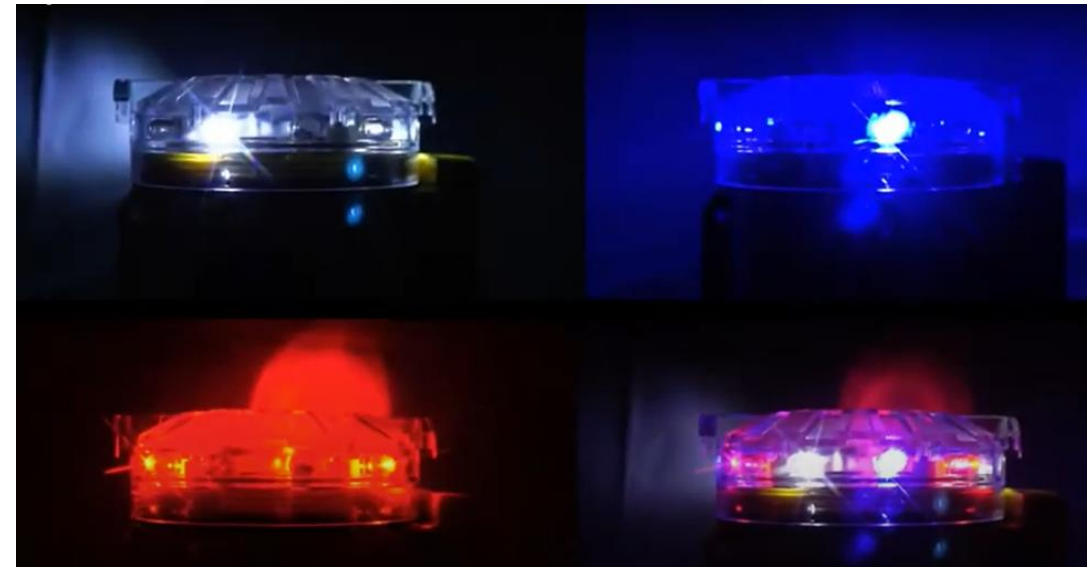
# Welded Wire With Top Bar Galvanized Pipe

- Tuff Strand 60-inch welded wire for residential/commercial fencing 14 gauge
- Single high tensile on top for electric bear resistance
- Buried 6 – 8 inches below ground
- Pros:
  - Should be dig proof
  - No electric fence ground outs
  - Can have electric top wire for bear incursions
  - Easy to install
- Limitations:
  - Commercial top bar is light steel
  - Attaching wire to top bar light with commercial wire ties, and heavy bears can pull down
  - Cost per foot is less than chainlink or apron wire



# Solar Foxlights

- Simple, short-term deterrent for canine predators, foxes, coyotes, wolves
- Simply hang the foxlight from a fence wire at eye height to a canine
- Solar energy charges batteries
- Light show starts at dusk
- Use for up to a max of two months
- 1 per acre of coverage suggested
- \$164.95 (2021 price)





# ElectroNet for Sheep

- ElectroNet is a portable poly wire netting intended to keep sheep in, and predators out
- Ideal to prepare site by mowing prior to install
- Ideal to run off high-powered plug in 110-volt or 220-volt fencers with steel wire perimeter fence feeding ElectroNet power
- Ideal with livestock guardian dogs
- Move fences for rotational grazing and clean ground
- Not intended for cattle or tall grazing animals
- Buy in packages of 164 feet
- \$194 per package (2021 pricing)



# GPS Livestock Trackers

- Livestock GPS trackers allow you to track your animals on pasture from your smartphone or laptop computer
- Models communicate with satellite or cell phone LTE system
- Some models are battery-operated, while others are self-charging with solar power
- Models are ear tags, some are collar based
- Suggestion 5% herd coverage so easier to find
- Attach to bulls for bull health and locating
- Project tested five brands of GPS collars





# Digitanimal GPS Collar

- Green plastic case with nylon collar
- Requires a base station that communicates with cell system
- Battery change every year required with an annual subscription charge
- Very reliable for project cooperators
- All weather compatible
- Collars may be inappropriate for bulls
- Cost projection \$460 per year per collar based on a purchase of 10 collars





# Ceres Solar GPS Ear Tag Attached to a Collar

- Solar battery power ear tag
- Satellite communication anywhere on earth
- Updates location every 6 hours
- Battery and solar strength stops in October due to insufficient sun intensity in Manitoba in fall and winter
- Four-year contract
- Removable from ear and replaceable in spring.
- Able to find location, movements, and irregular behavior
- Cost projection \$557 for 2 summer pasture seasons



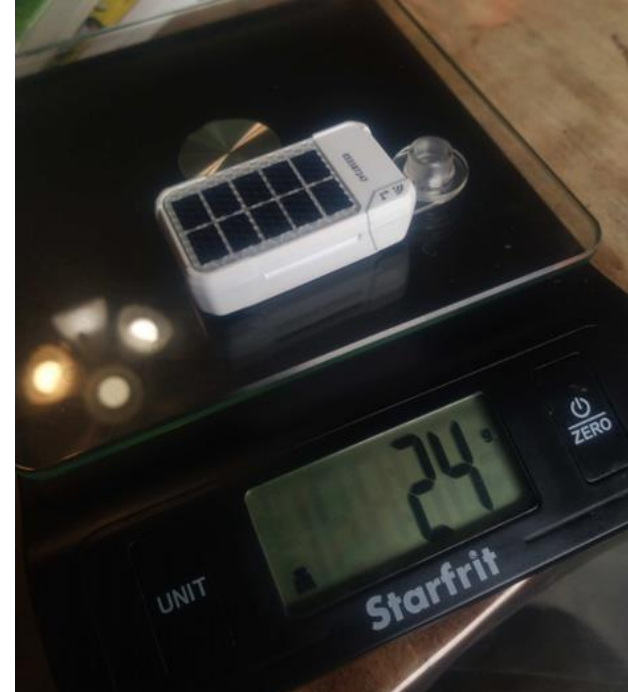
# Tractive Dog GPS Collar

- Battery-powered GPS collar
- Requires strong cellular LTE service
- Battery typically lasts two days between charges to a USB home charger
- Collar must be removed for charging
- Yearly contract
- Able to find location, movements, and live tracking of dog
- Cost projection \$333 for three-year term



# LoneStar GPS tag for Livestock

- Solar battery power ear tag
- Satellite communication anywhere on earth
- Updates location every six hours
- Battery and solar strength stops in October due to insufficient sun intensity in Manitoba in fall and winter
- Three-year contract max, not reusable after year three
- Removable from ear and replaceable in spring
- Able to find location, movements, irregular behavior
- Cost projection \$439 for three summer pasture seasons





# Yabbi 3 GPS Collar for Dogs, Other

- 4 x AAA battery power (lithium)
- Satellite communication anywhere on earth
- Updates location every 30 minutes
- Year-round operation
- 183 grams, good for medium to large dogs.
- Can be used on other items such as vehicles or other livestock with an appropriate collar
- Able to find location, movements, and irregular behavior
- Cost projection >\$888 for three-years



# Cow Bells

- Kentucky cow bells
- Nylon strap collar
- Apply to 5% of herd
- Suggest to apply to:
  - aggressive cows
  - cows with compromised young that will try to protect calf
  - Slow, older cows
- \$33 per bell-collar (2022 prices)





# Turbo Fladry Wire

- Turbo fladry wire is a polywire with sewn poly flags attached
- Turbo refers to wire powered by an electric fencer
- Only affects canine predators, not cats and bear
- Best for exterior fencing as flags can get chewed
- Best for short periods up to 60 days
- Not for sole fence unless livestock is well fence-trained for uses such as night penning
- 2021 costs of building materials about \$1471 per 1,320 foot roll
- Available from Minnesota sewing shop on a special order basis only





# Game Cameras

- Capture photos of wildlife with date and time, day or night
- Photos uploaded to your smartphone or laptop
- Activity alerts upon picture snap
- Powered by solar and batteries
- Steel bear boxes and locks available
- Communicate in poor cellular areas with additional yagi antenna (top of photo)
- Ideal for trappers and hunters
- Small memory card units \$199
- Full-featured LTE units up to \$1033
- 2021 pricing



# Manitoba Livestock Predation Prevention Project

- Three-year project ran 2020-2023
- Funded by the Province of Manitoba, Manitoba Beef Producers, and Manitoba Sheep Association
- Representatives from:
  - Manitoba Beef Producers, Manitoba Sheep Association, Manitoba Agriculture, Manitoba Conservation, Manitoba Trappers Association, Agriculture and Agri-Food Canada, Manitoba Agricultural Services Corporation.
- For more in-depth information on each of the individual practices, you can find them on Manitoba Beef Producers' website at
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