Deer Fencing Demonstration Day: Yarra Valley

29 November 2023

Summary Notes

Feral deer can have a devastating impact on gardens, agricultural and horticultural crops and biodiversity. While landscape control of feral deer is vital, in some cases the only way to completely protect damage to assets is to install deer exclusion fencing. Landowners have tried various ways of excluding feral deer from assets ranging from hanging visual deterrents such as shade cloth or hail mesh over fences in small situations through to expensive but highly effective tall mesh fences or lower electric options.

Photo Credits: Luke Woodford Peter Bradford

Feral Deer are good at getting through traditional fences:

The Victorian Deer Control Community Network hosted a field day to demonstrate different approaches to fencing out deer.

The field day visited two sites:

- Yarra Valley Estates: Gallagher Electric fencing demonstration site recently developed and installed to protect an area where biodiversity restoration was taking place
- ECOSS : Demonstration site funded by DEECA to present several types of more traditional tall mesh fencing.

Both electric and non-electric exclusion fencing to exclude feral deer can be effective and have their advantages and disadvantages. Landowners and managers need to choose the option that is the best fit for their situation. Below is a summary of what was presented at each site.

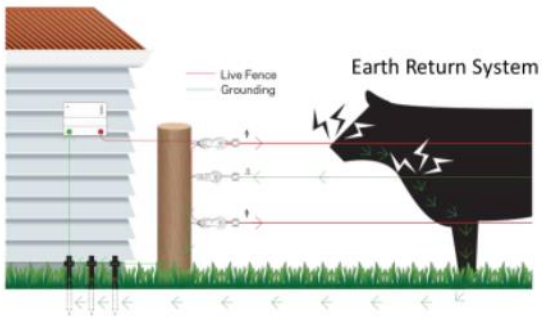
Gallagher Electric Fencing: Yarra Valley Estates

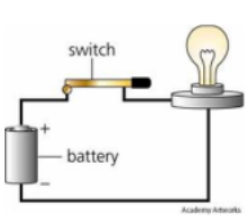
Gallagher representatives presented information on their approach to feral animal exclusion using electric fencing methods. This was followed by a visit to a newly constructed “Sanctuary” design electric fence.

Below is a summary of the presentation and demonstration. The complete Gallagher presentation is separately available on this webpage

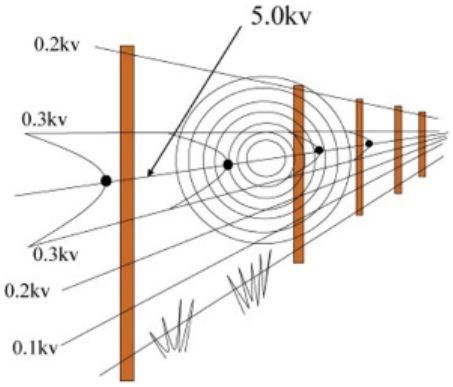
How does electric fencing work?

An electric fence consists of a fencing system and a power source. An energiser provides the fence with a short sharp but harmless shock along as insulated wire. When an animal makes contact between a live wire with a good earth a memorable shock is delivered.





Induction also acts as a deterrent by the transfer of voltage from an electrified wire to a neutral wire by electromagnetic field, not by physical contact.



Benefits of electric fencing.

The traditional approach to exclude deer often states that fences should be a minimum of 1.9 m in height, have a mesh netting of 17/190/15, and posts spaced at a maximum of 10 m. The advice goes back thirty years according to Gallagher and summarizes in part what farmers had to adhere to when commercially farming deer. Gallagher believe that this advice has been superseded by modern technology.

Gallagher described enhanced options available to consider including modern technology which include permanent plain wire with electricity. Along with a shock delivered from direct contact, the electric field also provides a deterrent as deer approach the fence so the fence can be significantly lower than 1.9 metres. There is no need for barbed wire or high mesh netting and the weight of steel used is considerably lower. A permanent electric fence provides both a physical barrier, and a formidable psychological barrier formed by the memorable shock that an electric fence provides.

These electric fences can be set up with 24/7 digital monitoring, which enables reporting of fence performance/faults through 4G and satellite connectivity remotely, reducing the need for physical inspections. Gallagher suggest this is a competitive initial capital investment with lower maintenance over time as longevity of the suspension fence is robust, easy to repair and integrity is enhanced by being able to use the electro-magnetic energy to change the behaviour of feral deer and many other invasive animals.

The materials are largely environmentally friendly using Recycled HDPE (High Density Polyethylene) for intermediate posts.

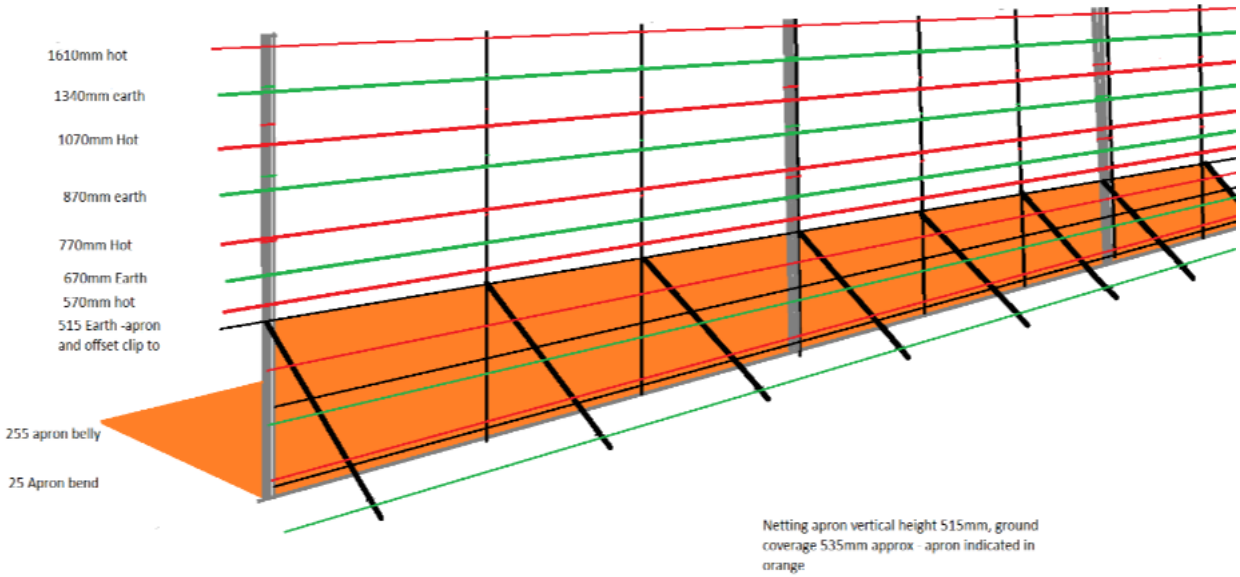
Disadvantages or constraints of electric fencing

- In some areas Council guidance and/or approval for specific fence designs is required and differs between Councils. Mandatory electric fence signage must be installed.
- May not be a preferred option for some semi urban or populous areas where there is a risk of unintended human interaction with electric wires.
- Invasive animal management is the priority. However, protection of native species from fatal shocks and wildlife movement across the landscape needs to be considered on a case-by-case basis. This can be managed through the installation of additional electric fence cut-out switches and/or fence design modifications.
- More technical to install and a basic understanding of electric fencing required.
- Seasonal vegetation management may be needed around lower wires.
- The CFA states it is It is a common practice to switch off electric fences at times of extreme fire danger and during Total Fire Bans although Gallagher states that it is extremely unlikely that dry vegetation touching an electric fence can cause fires. May need to consider modifying or turning off an electric fence on an extreme fire danger day. Some Fence Energizers also have an adjustable output target voltage, so can be turned down in dry conditions to reduce higher fence voltages.

Sanctuary Fence

The sanctuary fence is a design developed by Gallagher. This fence is an example, located in the Yarra Valley and put in place to protect an area for biodiversity restoration. The fence is designed to exclude feral deer and rabbits, protect new enclosure plantings and provide future haven for endangered species.

Sanctuary fence



Some feedback from the inspection:

- The apron is to exclude rabbits that may not be an objective in some situations.
- This design in situ doesn't currently allow for the movement of other smaller native wildlife across the landscape and can be fatal to echidnas that get caught on the lower wire. Gallagher indicated that the fence design can be modified to allow safe passage of small native animal movements and to avoid fatalities of echidnas in this case.

Other electric fence designs

A Gallagher design used to protect a pine plantation. This fence is the conventional fence height of around 1.2 metres only but the induction effect deters animals.
Upper Ovens Valley Landcare

Electric fence installed in steep and rough country utilising less materials for handling than conventional fencing.
Gallagher

Suspension provides impact protection to reduce damage and make repairs easier.
Gallagher

Existing fences can be modified to include electricity.

Gallagher

Mesh Fencing ECOSS

The ECOSS facility at Wesburn has been impacted significantly by feral deer. A Yarra Valley fencing contractor Advanced Ag Services presented three variations of tall mesh fencing that have been constructed at ECOSS, Wesburn. These fences were funded through a grant from the Victorian Government's Deer Control Program to help protect the property from Sambar Deer, and provide an opportunity to demonstrate different fence designs with interpretive signage.

How does a high mesh fence work?

The mesh fence is a strong and high physical barrier to invasive animals such as feral deer. The mesh is strong and tight and repels any large animal trying to penetrate the fence. At 1.9 metres or so high, feral deer find it very difficult to scale the fence. On rare occasions it does happen.

Benefits of high mesh fences

- The physical barrier is unlikely to have penetration of feral deer.
- They are suitable for urban areas or other places where electric fences are not suitable for a range of reasons.
- Vegetation management around the fence not generally needed.
- They can be designed and constructed to provide for native wildlife movement at ground level if needed.

Disadvantages or constraints of high mesh fences

- More and heavier material and labour and potentially more expensive.
- Have to be physically monitored on site for damage.
- Impact of tree fall or other serious impacts likely to be substantial and difficult and costly to repair.
- Deer may work their way under the fence with no shock deterrent.

Fence One

200mm gap at base for native animal movements

3 hinge joint supporting wires

1 plain wire on top

3m black star post spacing leaving 1900mm to top of steel post

15 vertices graduated 1500mm tall mesh.

Fence Two

2m high posts

1 steel 1 pine post

2.4m pine posts 100mm diameter

3m post spacing

1500 netting 3 support wires

1 plain on top

Same fence wire style with different post combination to reduce costs.

Fence Three

1900 graduated mesh

4 support wires

All steel posts

3 m spacing

Mega anchor end assembly

Other mesh fence designs

All steel 1.9 metre high mesh fence to protect threatened species from feral deer and feral horses on the Bogong High Plains, Alpine National Park. Collapsible for snow period. *Peter Jacobs*

Cost comparisons

The table below lists the approximate costs for the fencing options described above. Fencing costs will always vary, depending on the fence location, length, accessibility, contractor, and other variables.

Design	**Description**	**Cost per metre including materials and labour (approx.)**
Yarra Valley Estates Electric	1.6 m Gallagher Sanctuary Design	$35
ECOSS Fence 1	1.8 m Waratah Blue mesh; timber and steel	$56
ECOSS Fence 2	1.9 m high; pine posts and steel combo	$44
ECOSS Fence 3	1.9 m high; all steel	$46-$48
Electric: HVP Porepunkah	1.2 metre Gallagher design	$24

Summary

In considering options some feedback was:

- **Establish objective first;** i.e. what do you want to achieve: e.g. total exclusion of deer, partial exclusion; (may accept some breach), native wildlife movements, other species exclusions such as rabbits : then pick best design/option for circumstance.
- **Check the setting/regulations**: e.g. is electric appropriate; impact on the landscape, does the LGA have standards to meet/permits.
- **Gates:** how will these by constructed and maintained
- **Predator control:** may take opportunity to exclude introduced predators in design.
- **Fire:** is this a concern?
- **Maintenance**: capacity to physically inspect or rely on remote sensing.
- **New fence or upgrade existing fence with electric**: outriggers, top wire etc…

Contacts

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There are several deer fencing contractors that provide a services in most areas. The VDCCN is willing to add other fencing contractor or supplier details if sent to us but we cannot endorse or vouch for any particular business.