Invasive plants and animals

Feral pig control in the wet tropics

DECLARED CLASS 2

Feral pigs (*Sus scrofa*) are the major pest animal in the wet tropics area of far north Queensland. They damage the natural environment and pose a major threat to the conservation values of the Wet Tropics World Heritage area. They cause significant losses to agricultural enterprises in the region, and harbour and spread diseases affecting native animals, stock and humans.

Feral pigs are declared Class 2 pests under *Land Protection (Pest and Stock Route Management) Act 2002*. Declaration requires landholders to control declared pests on the land under their control. A local government may serve a notice upon a landholder requiring control of declared pests.

Feral pigs are difficult to control for a number of reasons, including:

- pigs are intelligent, adaptable and secretive. They are mainly nocturnal, camping through the day in thick, inaccessible vegetation wherever possible
- their reproductive potential is such that repeated, intensive control programs must be conducted before any sustained population reduction is achieved
- their omnivorous feeding habits give pigs a wide range of available food sources
- home ranges are large - so control programs need to be conducted over a large area (often including several properties) to be effective.

Pigs in the wet tropics can grow quite large. A single large individual can do a significant amount of damage to the environment and crops.

Pig diggings destroy the natural environment and allow weed establishment

Control techniques

There are four basic control techniques — trapping, hunting, fencing and poisoning. Each method has benefits and drawbacks.

Hunting with dogs is the traditional and most common method of pig control in the wet tropics. However, advances in trap design and trapping techniques has proven trapping to be the most effective and economical method of catching large numbers of pigs in the region. Trapping has become more widely accepted due to the efforts of the past Community Based Feral Pig Trapping Program.

Poison baiting is potentially a good method of control but the current lack of a pig specific bait generally precludes its use in closely settled areas.

Fencing can be effective for small, critical (economically or environmentally) areas, though maintenance costs are high.

1. Trapping

Trapping is the most effective technique for reducing feral pig numbers in the wet tropics.

In the wet tropics region special care must be exercised when trapping due to the presence of non-targets including native species (e.g. wallabies) and rare and endangered species (e.g. cassowaries). Many animals are attracted to commonly used trap baits such as bananas and other fruits and there is a chance of catching non-targets. To minimise this risk pig traps must be made with a trigger mechanism that is selective for feral pigs. The pig specific trigger recommended is a heavy lifting bar activating a side swinging gate (see section on “Trap Design” below). Trapping is flexible and can be incorporated into routine property management activities making use of existing labour and materials.

Steps to good trapping

The key elements to catching whole groups of pigs in traps at one time while excluding non-target species are appropriate trap design, free feeding, suitable trap locations, maintenance of the door mechanism, and regular inspection once the trap is "set".

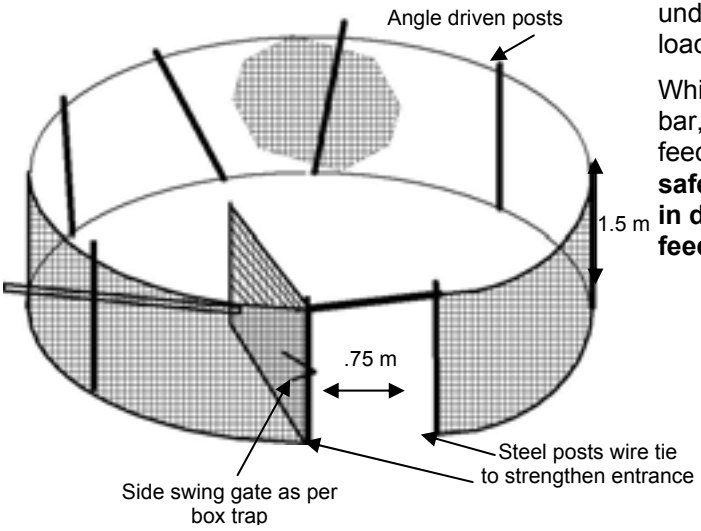
Additional recommendations when trapping:

1. Stop all activities that will disturb normal feeding. For example, do not undertake any shooting or dogging.
2. The trapping site should be in a shady area with as much natural vegetation cover as possible. It should also be close to pig sign. Vehicle access is recommended as carrying large amounts of bait to a trap on foot will soon become a chore.
3. Traps should be located in a circuit to make for easy daily checking. This task could possibly be included in other daily duties.
4. Pre-feeding should be carried out at several potential sites prior to trap placement, with the sites showing most pig activity being selected. Once the trap is set up, place fresh bait material both outside and inside to keep the pigs feeding at the site. Once the pigs settle down and are regularly feeding put fresh bait inside the trap only. Undertake feeding within the trap for several nights before it is set. It is important to ensure that all the pigs in a group are going into the trap before it is set.
5. The bait used should initially be whatever pigs are naturally eating. Pigs feeding on one crop (e.g. sugar cane) will often not take to an alternative food (e.g. Bananas). However, experimenting with a few different baits (e.g. fermented grains, molasses) can produce good results. Bait should be readily available at low or no cost as large quantities will be required; where bananas or other waste fruit is available these can produce good results.
6. Set the trap every night and check each day. If the trap cannot be checked daily then shade and water **must** be provided.
7. Trap triggers set too finely often only catch the first pig in. Even small traps with reasonably coarse trigger settings often catch the entire mob. When trapping a group of pigs put more bait at the back of the trap than under the trigger. It only takes one pig to set off the trigger.
8. Do not be deterred if pigs are hesitant to enter the trap at first, as a little time should overcome this. Some ideas for enticing shy pigs into the trap include:
   - disturbing the ground inside the trap with a hoe
   - using aromatic attractants such as vanilla essence, aniseed, or fish oil;
   - laying a bait trail from the pad or fresh diggings to the trap.
9. While pigs are being caught at one site continue to pre-feed at other sites so that the trap can be moved and immediately continue to catch pigs when the first site is exhausted.
10. Always use the lifting bar trigger, which is normally a straight branch about 100 mm in diameter. Ensure the slot on the door end is wide enough and releases freely, and the other end of the bar is tied down to the trap wall. Do not use trip wires as less pigs will be caught and possible non-target species (e.g. cassowary, wallaby) captures can result.
11. Use of a door latch will prevent trapped pigs from opening the door once trapped.
12. Keep activity in the area of the trap to an absolute minimum ie. don’t leave unnecessary human scent near the trap site by urinating or smoking and don’t have a dog present.
13. Stop hunting and the use of dogs on the entire property while trapping is in progress. Dogging and hunting make pigs nervous and trap shy.
14. Destroy or remove trapped pigs from the trap as quickly and humanely as possible.
15. Trapping when agricultural feed is in short supply (e.g. after the cane harvest) often produces good results. Maintaining a trapping program in the off season also reduces the potential for damage to the next seasons crop.

Trap design

There are a lot of trap designs, but all are essentially an enclosed area with one-way gates. The trap can be almost any size or shape and can be built utilising materials on-farm. The best material is steel mesh with a grid no greater than 100 x 100 mm. The minimum height needs to be at least 1.5 m. although if a roof is used the walls can be shorter.

Traps that are built specifically so they can be easily transported on a standard trailer or ute and dropped on site are called Box traps. Silo (roll of mesh staked in a rough circle) and panel traps (rigid panel sides that lock together) are built on-site.



Silo trap with side swing gate

For silo traps, star pickets need to be placed no more than 1.5 m apart and driven far enough to ensure that adult pigs can not push them over or lift them and the attached mesh walls up out of the ground. In soft or very sandy soil the pickets need to be put in at a 45^0 angle. For box traps and panel traps a rough guide is one picket for each side of the trap.

Details of the 'Box trap' design are available on a separate sheet. Full design plans and construction methods are provided with a full materials list.

In the wet tropics where food is generally plentiful pigs will not readily push against a door to gain access to traps as they will in drier areas. A large, wide opening door works best in the wet tropics.

Group of pigs caught in a trap

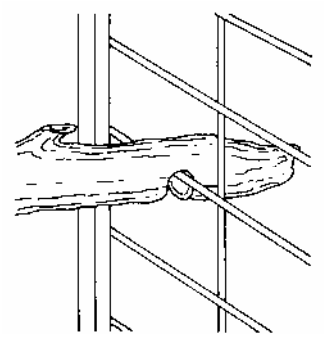
Gate trip mechanism

A pig-specific gate trip mechanism has been developed and widely tested. It minimises the chance of catching non-target species such as cassowaries and wallabies.

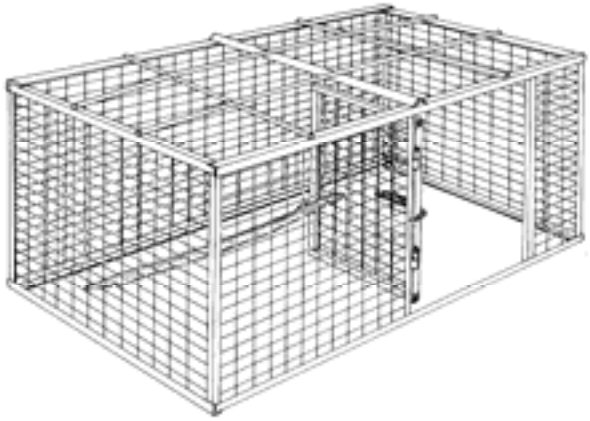
The principle incorporates a horizontal rigid bar 20 to 30 cm above the ground and fixed by one end to the trap wall. The other end holds the side swinging trap gate open by a slot which slides over the mesh in the gate.

When the trap is set the area behind the trigger bar should be no more that 60 cm wide.
Non-targets can feed over the bar, but pigs feed under it and end up lifting the bar off the spring loaded side swinging door allowing it to shut.

While non-target species can also feed under the bar, they tend to be less vigorous than pigs in their feeding habits and don't lift the bar. **An additional safeguard is to make the lifting bar about 100mm in diameter and heavy so that only the vigorous feeding activity of pigs will set it off.**



Close up of lifting bar trigger attachment to side swinging door



Box trap showing lifting bar trigger mechanism

2. Shooting and the use of dogs

In wet tropic areas shooting and dogging is not an effective long-term pig control technique. While it often seems to remove pigs from an area, it simply shifts most of them away from the area being hunted to somewhere else and has little effect on overall pig numbers. For these techniques to be effective on farm the hunting effort needs to be intensive and sustained, regardless of whether pigs are being found or not. Dogging in particular changes pig behaviour which disrupts more productive control techniques such as trapping. Dogs can also cause considerable disturbance and destruction of native wildlife if they are poorly trained.

Trained dogs can be effective in removing the few remaining pigs after trapping campaigns, as they can locate and flush pigs from inaccessible areas or those that are 'trap shy'. However, dogging should be avoided when trying to trap pigs in an area.

Trapping beside mature cane with pigs already feeding on the crop is often not successful. Dogging at this time might be the only short-term option.

3. Poisoning

Poisoning is regarded throughout Australia as the most effective method of quickly reducing feral pig numbers. Sodium fluoroacetate (1080) is the recommended poison and can only be supplied through persons authorised under the *Health Act* i.e. your local Land Protection Officer or your Local Government Pest Control Officer.

However, at this stage there is no bait material available for general use in the wet tropics which is pig specific so poison baiting is not the primary method of pig control in the region.

4. Fencing

Research and experience has shown that the most successful pig-proof fences are also the most expensive. Fencing can offer successful pig control but the high cost must be balanced against pig damage.

For crop protection pig-proof fences need to be constructed before the pigs are a problem. Once pigs have learnt to feed on the crop, the construction of most pig fences will not keep them out. The most effective pig-proof fences use fabricated sheep mesh held close to the ground by a plain or barbed wire and supported on steel posts.

Electrifying conventional, non pig-proof fences greatly improves their effectiveness. A well constructed and maintained electric fence can dramatically reduce crop damage.

Developing a control strategy

No single control method or combination of methods is suitable for all situations. Land managers should consider each pig problem individually, and select the best method or combination of methods to solve their particular pig problem.

Factors to consider:

1. Control should preferably be conducted over a large area (several properties) due to the extensive home range of feral pigs. A co-ordinated approach with neighbours is more effective then ad-hoc individual approach.
2. Feral pig populations can rapidly increase in good seasons. Under such conditions, that part of the population removed by control measures can easily be replaced **every year** thus maintaining pig numbers at an undesirable level. This makes it essential that effective follow up control is undertaken.
3. Feral pig control should be recognised as an **integral part of property management**. Control should be incorporated into the farm management plan, and implemented when control is the most effective or when the economic impact of pigs will be greatest. A sustained effort each year will be required to minimise pig damage.

For additional information on the distribution, ecology and impact (including diseases and parasites) of Feral Pigs see DPI&F Pest Fact PA6. For additional information on control see DPI&F Pest Fact PA7.

Further information

Further information is available from animal control/environmental staff at your local government, or if your council does not have animal control staff, from your local Department of Primary Industries and Fisheries Land Protection Officer: contact details available through 13 25 23.

Pig damage in bananas

Pig damage in sugar cane