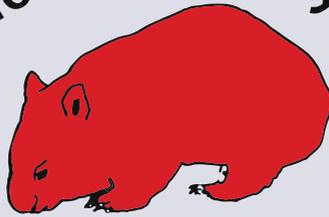


Wombat Protection Society of Australia



Treating Wombats to prevent & reverse mange



Wombat Awareness Organisation Ltd

The Wombat Protection Society has been working for many years with groups and individuals to eradicate mange throughout Australia. This booklet is for people who want to develop a treatment program in their area.

Disclaimer: The products described herein are licensed for use on wombats. Off registration use of products can be directed by a Veterinarian. The use of veterinary medicines must be in accordance with instructions or under veterinary supervision.

When the Society first investigated mange in wombats little was known about how it spread or why wombats were chronically affected by this mite infestation.

Even less known was how wombat mange might be treated. The one known treatment regime (still effective but not appropriate for free living wombats) was a series of *Ivermectin* injections. Since mange has spread to the Southern Hairy-nosed wombat population of South Australia some research has been undertaken, but virtually nothing has been published about treating free living wombats.

There are a range of issues that have to be taken into account when treating wombats with mange. Free living wombats often don't cope well with captivity and if you are to capture a wombat you need good fitness and training in handling and transportation. There are no dedicated wombat hospitals in Australia and very few places with secure wombat pens so there is often nowhere to take the animal. Most wombats live on private land and their health and

wellbeing is dependent on the landowner's interest – or otherwise – in wombats. When these issues are taken into account a simple method of treating wombats with mange and preventing its spread – which is able to be done with the wombat in situ and by people unskilled in wombat handling – is the wombats' best chance for survival and of keeping properties clear of mange.

The burrow flap and *Cydectin* method of treating wombats individually and on mass is currently the simplest treatment delivery method as it involves no need to handle or disturb the wombat, no particular skills in animal management, and the flaps can be placed and monitored by amateurs. This work can be done during daylight hours adding an additional benefit for non nocturnal humans.

'Hands off' mange treatment programs are also the safest considering a Bare-nosed wombat can weigh 40 kg and on occasion a distressed wombat can deliver a scratch or bite.



Sarcoptes Scabiei, the mite that causes mange.

Mange is an animal cruelty issue. Unless treated the infestation progresses and eventually the wombat is so severely compromised it dies.

HOW TO BEGIN

Wombats suffering from severe infestations may be seen out during the day and some trained wombat carers treat these wombats by simply walking up behind and downwind of them and pouring on the product directly. This method only works for a month or so,

because when the wombat's ears and eyes heal they bolt before they can be reached because they are hearing and seeing better. Eventually, as they recover, they return to nocturnal behaviour which means they are no longer seen during the day. Making use of seeing one out during the day by following it to its burrow means you can ensure a longer period of effective treatment. Tracking and mapping burrows in an area is the next best approach, but in areas where there are too many burrows to treat all of them, working out which burrows are active and treating those will be the best option.

FINDING BURROWS

Some burrows are very obvious and easy to locate, others are more discrete. If you can't locate the particular burrow a wombat is using, you may need to locate and 'treat' all the burrows in an area. This is necessary anyway if you see a large number of wombats with mange using an area.

Wombats use tracks that have overhangs and often go under logs and branches while kangaroos and wallabies tend to use clear tracks. So if you are following a track and have to jump over or duck under trees and logs, you are likely to be following a wombat track. Burrows are often in gullies and close to creeks. Wombats will have scat sites and scratching places nearby.

Wombats with mange become very thirsty as their skin 'leaks' so they are likely to be close to a water source. This is a good tip for those treating wombats with mange – make sure they have access to easy water.

Wombat scats are a squarish set of pellets, usually eight or so in a group, some squashed together and often found up on a rock or a log as wombats use their



Mange being treated.



Wombat tracks.

scats as scent markers. The pellets range in size from a 1 x 1 x 1.5 cm which would be roughly equivalent to a 10–15 kg wombat to a 2 x 2 x 2.5 cm for a fully grown adult of 30–35 kg. Scat size and the number of pellets are affected by their feeding pattern. If you observe fresh scats in your area over a number of days you can develop a record for aging scats that may help identify recently used tracks and burrows. Wombat scats either dry out or are decomposed by a beetle and both the amount of colour change as scats dry and the time of beetle infestation and subsequent scat disintegration can be timed specific to your area.



Typical track used by a wombat. Notice the squarish shaped scats in the mid bottom, the narrow track under the log at the top.



Wombat scats can tell a story – often placed on a rock or log to help scent location, these squarish pellets range in size depending on the age of a wombat.

GPS systems are helpful if you plan to monitor a large number of burrows, however some carers report that in dense bush with

accuracy restricted to a couple of metres, you may need to develop some other marker system to ensure you can find the burrow again.

SETTING UP A FLAP

Once you have found your burrow the flap is arranged in the most suitable manner depending on the burrow entrance shape. A wire frame should be pushed into place taking care to spread it to the edges of the hole rather than keeping it square.



Plywood burrow flap with wire frame spread to prevent blocking burrow entrance.

The wire holds the flap but it shouldn't get in the wombat's way or they will rub against it or flatten it. One design uses plant guard wire, but any firm wire bent into shape will work. A plant guard is 60 x 30 x 60 cm and this suits most burrows where the soil allows them to be pushed in. A plywood flap or an ice cream container lid is hung from this frame using tie wire or string.

Can't find a burrow but do know a track? While burrow flaps placed in the entrance to burrows provide the best direct treatment, there may be occasions where it is more practical to use a track that is being used by wombats. The issue to consider is whether you will treat a particular wombat you are targeting as effectively. Most Bare-nosed wombats use a single burrow although they will share it if under duress. Flaps over

burrows are more likely to directly treat a particular wombat. Wombat tracks are frequently used by more than one wombat and may also be used by other animals – hence the likelihood of getting any particular animal on a track is lower than directly in front of a burrow.



Flap on animal track.

While the work of monitoring large areas where wombats are being treated is relatively new, one large treatment area reported that wombats may move from their burrow if a flap is left in place. A number of other carers have had no issues and wombats continued to use burrows throughout the treatment schedule with flaps left in place all the time, empty or filled. Another site monitoring two wombats with mange using three holes reported after six weeks one hole was no longer used. The wombat moved to another burrow closer to a creek which subsequently had a flap set up over it. Bare-nosed wombats will move burrows periodically, following feed, water or breeding cycles. Bare-nosed wombats are also known to enjoy sunning themselves at the entrance to their burrows so large flaps which block sun could potentially interfere with their afternoon sunning. If flaps can be checked the following day and lifted up/off out of the way until the next treatment, any concerns about the flap interfering with the burrow entrance are addressed.

A TYPICAL 'WOMBAT HUNT'

A wombat is spotted and a closer look confirms mange so it is watched and followed.



Wombat on the move.

The wombat is approached to within 50 metres when it becomes aware and faces the noise. After that a noise is intentionally made to get the wombat to head to its burrow. It is followed and disappears so burrows are checked. A wombat bottom confirms the right burrow has been located.



Wombat in burrow.

A flap is set up (leaning down from the top of the burrow). The wombat continues to sit blocking the entrance to his burrow with his back. This behaviour explains why some people use a syringe or a cap on a stick to treat wombats. Some burrows are very long though, and once the wombat is beyond reach the stick method can't be used. The flap ensures the wombat will get a treatment next time it leaves.



A burrow flap in place made from wire and an ice cream lid. The white cap is filled with Cydectin and the wombat treats itself as it walks in and out of the burrow.

WOMBATS WITH MANGE AROUND PROPERTIES

The most plausible reason for the many wombats with mange that are reported coming into homesteads and yards near dogs is because they are seeking water. Many people comment on how the wombat ignores dogs barking but often dogs barking alerts property owners to the fact they have a wombat with mange visiting. It may also explain why many wombats with mange are found under sheds. While mites clog ears and eyes and affect hearing and sight and probably smell, intense thirst and the need to shelter near water may explain this behaviour. Carers who have hand reared wombats often report a wombat they have released many years previously returning if they are hurt – including when they get mange.

Many carers with release sites now treat wombat burrows on a regular basis as a means of keeping mange out of their property.



Wombat with mange under a house.

HOW LONG TO TREAT A WOMBAT WITH MANGE

Based on the mite life cycle and results from carers treating wild wombats, a wombat will need to have more doses of *Cydectin* if they have mange than the dose rate recommended as a preventative. The simplest treatment which appears to be the most effective is to get a dose of pour on *Cydectin* (or similar product) onto the wombat – by whichever method – weekly for about eight weeks and then to continue to treat fortnightly for another eight weeks. This seems to have the best overall results possibly because of the mite life cycle, the thickness of wombat skin and their slower metabolic rate. It takes about six weeks before changes are seen, particularly if the animal had heavy scabbing prior to the start of treatment. Not getting worse is a positive sign. A report from a carer described treating a large free living wombat for a period of four months. At the beginning he was blind and unresponsive. Seven weeks into the treatment he was responsive and alert. A later report indicated that new healthy hair was growing, his eyes were totally clear and he looked well. Some of the deepest pieces of keratinised plaque (scab) were still growing out with the new hair. Mites interfere with the keratinisation process (the process from which hair and nails are grown) and some of what appears to be scab on wombats is actually thick plaques of keratin. It is better to get spot on products onto clean skin and hair as the scabby plaque area compromises dermal absorption.

If burrow flaps are set up over the burrow the wombat uses, this effectively means having someone happy to refill the lid of the burrow flap weekly for two months and then fortnightly for two months.

This makes weekend treatment programs a suitable way to care for wombats in a given area. Occasionally there may be the need to clean the flap container and very occasionally, if a wombat does a major burrow entry renovation, a new flap may have to be installed. Otherwise refilling the container on a weekly basis, and if done over weekends lifting up the flaps the following day, is all the work needed.



Cydectin syringe rod.

HOW LONG BEFORE THE TREATMENT WORKS?

Hair regrowth takes quite some time, partly because the hair follicles have been compromised by the female mite tunnelling through the skin. The spread of mange over the animal should stop within a month, but often there is a localised effect with the back and the head getting the majority of the dose therefore improving faster than under the arms and behind the legs. Hearing and eyesight seem to improve by week four and generally some hair regrowth is seen from six to eight weeks. The wombat can still look motley for some time but close inspection will show that scabs have dropped off or are growing out. Hairs often grow through scab so the scabs 'lift' growing up with the hairs, giving the appearance of the wombat still being scabby although the skin underneath is healed and beginning to grow hairs.



Wombat following eight weekly treatments of Cydectin pour-on.

The hair regrowth pattern shown above is indicative of a localised effect from the pour on – the back and head which get the bulk of the pour on clear up first. New hair is growing on its side, underbelly and face indicating the systemic effect. The eyes and ears are clear of the scab that encrusted them at the start of treatment. Keratinised scab is growing out around the left cheek and back legs. The wombat is putting on condition and will be treated for another two months at fortnightly intervals.

HOW YOU CAN HELP

You can help by making burrow flaps, or finding someone who can. A two litre ice cream container lid is ideal. Use a milk bottle top or a soft drink bottle top and cut a suitable slot out of the lid, approximately midway or lower. The slot will hold the lid. The lid will hold the *Cydectin* – most lids conveniently hold 4 ml of *Cydectin* corresponding to a large wombat dose. If using an ice cream lid you can cut the slot out using craft knives, scissors or a soldering iron to burn the slots out. The lid fits in and is held in place without the need for glue by the remaining plastic 'tongues'. If using plywood, a jigsaw or hole-saw will be necessary and the lid is glued or puttied

onto the plywood. As the width of plywood is quite narrow most glues failed field trials. We suggest cutting a slot and having a 'shelf' the lid can be glued to, or alternatively use a two part epoxy putty available from hardware stores, e.g. steel putty or car bog, to hold the lid in place.

Some areas that get rain use a 'roof' to stop the lids filling with water. In the plastic flap model this is a slot into which a suitable sized piece of plastic from the container or another lid is placed. In the plywood model a small piece of plywood is inserted into a slot to perform the same function. Round off any sharp points on roofs or shelves. Corrugated cardboard can also be used but is less durable.

FURTHER INFORMATION

Further information, conference papers and photos can be viewed on the website of the Wombat Protection Society of Australia www.wombatprotection.org.au

BURROW FLAP INSTRUCTIONS

Burrow flap instructions can be viewed at www.mangemanagement.org.au where a pdf file designed by John Merrick can be downloaded. The Wombat Protection Society of Australia acknowledges the organisation Mange Management for use of this information.



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