

# Background & Instructions for “ACTA Smoker Nuggets” for identification of rabbit warren openings.

## BACKGROUND:

Despite the initial effectiveness of Myxoma virus and Rabbit Hemorrhagic Disease to reduce rabbit populations in Australia, the effectiveness of bio-control is waning and local rabbit populations are increasing in many areas. There remains a need to apply 1080 or pindone poisoned oats or carrots for large-scale control or to remove rabbits by fumigating and destroying warren systems. For fumigation the use of aluminium phosphide tables, that degrade to release lethal phosphine gas in the warren, is a cost-effective option.



**When seeking to effectively fumigate rabbits within warren systems, it is necessary to first identify all possible entrances and exits for the warren system and to block these openings. Failing to do this may mean that rabbits can escape or that the fumigation gases are quickly cleared from the warren, leading to much less effective control.**

In the past, the identification of rabbit warren openings in large and complex warrens was done using an expensive and cumbersome petrol engine device (the “Agmurph Fumigator”) that dripped diesel onto the hot exhaust to produce white smoke, which was blown into the warren to identify exit points. Now this can be done by a modern and lightweight device available from Jansen at a retail cost of around \$800. See <https://jensanfarmservices.com/smoker-units>



We recommend these petrol units for larger programs or very complex warrens.

However, many smaller warrens have only 1-5 openings and are located on small land areas where the expense of the larger smoker unit is unjustified. **It remains important to block all openings to maximise success of any fumigation.** To enable mapping of these less complicated warrens a team of innovators at the Bellarine Landcare Group in Victoria have developed a small low-cost pyrotechnic method to produce significant quantities of white smoke. For years this was provided to local rabbit action groups, but the developers have retired and passed the project to ACTA in the hope of national adoption. We thank the Landcare group for their trust in ACTA for making this available to all. In recognition, we pay a small royalty back to the group for each Smoker Nugget sold to support their local Landcare rabbit control initiatives.

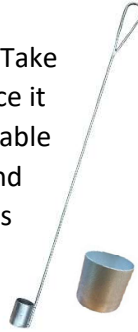
## HOW SMOKER NUGGETS WORK:

SMOKER NUGGETS are constructed from an aluminium capsule that contains a carefully calculated mix of ingredients. Once ignited with a small lighter torch (see details below), the nuggets will smolder vigorously for about 2 minutes while producing large quantities of white smoke. This smoke is non-irritating, but we recommend that users avoid breathing the smoke and advise that the nuggets must only be ignited outdoors.

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## USING THE NUGGETS IS SIMPLE:

1 Identify the entrance furthest upwind. Take one nugget from the box of 25 and place it into the nugget holder so that the ignitable surface faces the hole at the bottom end of the holder. Only one nugget holder is needed and these are available for purchase from ACTA.



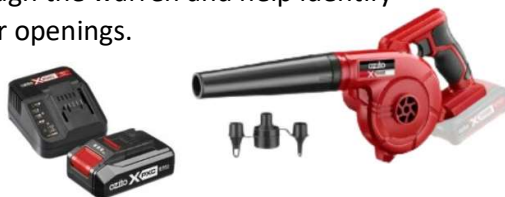
2 Ignite the nugget by using a direct flame from a lighter torch. (Hot Devil brand is recommended), we supply them in the ACTA Starter Kit or users can simply purchase one from a local supplier. Note matches and some other lighters do not have enough flame energy to ignite the nuggets.



3 Place the nugget holder with smoldering nugget about half a meter into the main burrow entrance.



4 A small battery blower (available from Bunnings separately as blower and battery/charger kit) or available from ACTA in the Blower Kit is used to force the smoke through the warren and help identify other openings.



5 Observe where smoke emerges from other burrow entrances nearby and mark these for blocking. We supply marker pegs with attached flagging tape for this, or markers can be a painted stone, garden stake or fence wire with some flagging tape. Even the smallest of holes must be identified and later blocked.



6 Block all identified exit holes before Place two aluminium phosphide tablets into the each entrance as far as possible using a plastic tube, blocking each immediately afterward with newspaper and dirt as you proceed. Work moving upwind.

7 Small warrens can be dealt with by identifying all entrances and ventilation holes using the smoker, blocking them with newspaper then dirt except for the entrance furthest upwind. Place at least two tablets in that entrance (as above) and seal. Each tablet is effective for about one cubic metre of space in the warren. This can be estimated by the amount of soil on the surface that rabbits have excavated.

8 Observe the next day to see if any holes have been reopened, and if so, re-smoke and refumigate.

**CAUTIONS:** The smoker nuggets are non-toxic but contain a pyrotechnic mixture that smolders vigorously once ignited.

**Do not** handle the burning nuggets and allow holder to cool before handling.

**Do not** use nuggets where there is a risk of fire such as in dry grass or around fodder storages.

**Keep unused nuggets away from moisture.**

## PURCHASE FROM ACTA:

- **Nuggets available in packs of 25**
- **Starter kit includes;**  
Applicator holder, 5 flagged pegs and Torch
- **Blower Kit includes;**  
Blower, battery and charger