

# **Burrowing Rodent Fumigation Management Plan Template For Montana's Pesticide Applicators**

This Fumigation Management Plan (FMP) was adapted from one created by Degesch America, Inc. The Montana Department of Agriculture (MDA) has provided this FMP template to help pesticide applicators, who choose to use phosphine-based fumigants, to meet the requirements of the pesticide label. Pesticide applicators are free to adapt this template to meet their particular needs and preferences as long as the requirements of the FMP mandated by the label are fulfilled. Applicators with specific questions about their FMP should contact the pesticide manufacturer.

The document consists of three sections: section 1 helps you work through the FMP, section 2 is a check list to ensure you have covered all the elements (note the redundancy is there to ensure compliance), and section 3 consists of appendices and placards to record data and notify safety personnel and the public about fumigation activities.

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## **Instructions:**

- \_\_\_ Complete the Fumigation Management Plan (FMP) **prior** to the pesticide application.
- \_\_\_ Keep one (1) FMP on file at your home or company location for each fumigation.  
A field is considered a contiguous land area.
- \_\_\_ Update a copy of a previous FMP or create a new plan for each calendar year.
- \_\_\_ For each fumigation carried out at your location, create both a plan and a checklist.
- \_\_\_ Keep both the plan and checklist on file for a minimum of two (2) years; longer if your policy or the client requires records of pesticide applications be kept longer.

## **Comments/Suggestions**

The MDA welcomes your comments and suggestions to improve this FMP. Please send comments to:

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<https://agr.mt.gov/Vertebrate-Pests> publications and resources

# Burrowing Rodent Fumigation Management Plan (FMP)

Applicator Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Date FMP Prepared** \_\_\_\_\_

**Purpose of Fumigation** Elimination of Burrowing Vertebrate Pests: Species \_\_\_\_\_

**Type of Fumigation** Outdoor Area

- Closed-burrow system (pocket gophers, etc.)
- Open-burrow system (ground squirrels, prairie dogs, etc.)

## Preparation

\_\_\_\_\_ Read the pesticide label and the accompanying Applicator's Manual.

\_\_\_\_\_ Read and review with facility management and appropriate employees any existing FMP, Materials Safety Data Sheet (MSDS), Safety Data Sheet (SDS), product label, Applicator's Manual and other safety procedures.

YES NO **Outdoor rodent burrows** are within one hundred feet (100 ft) of structures where people or animals do or may reside or are in residential areas, nursing homes, schools (except athletic fields), daycare facilities and hospitals (If answer is YES; DO NOT FUMIGATE).

\_\_\_\_\_ Obtain Endangered Species Bulletin for your county and attach to this FMP  
(<https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins> )

\_\_\_\_\_ If controlling prairie dogs, you must perform a pre-control survey for endangered species and attach survey findings to this FMP. A sample of survey instructions can be found at <https://corpora.tika.apache.org/base/docs/govdocs1/367/367513.pdf>. Contact the U.S. Fish and Wildlife Service Endangered Species Specialist for details at 406-449-5225.

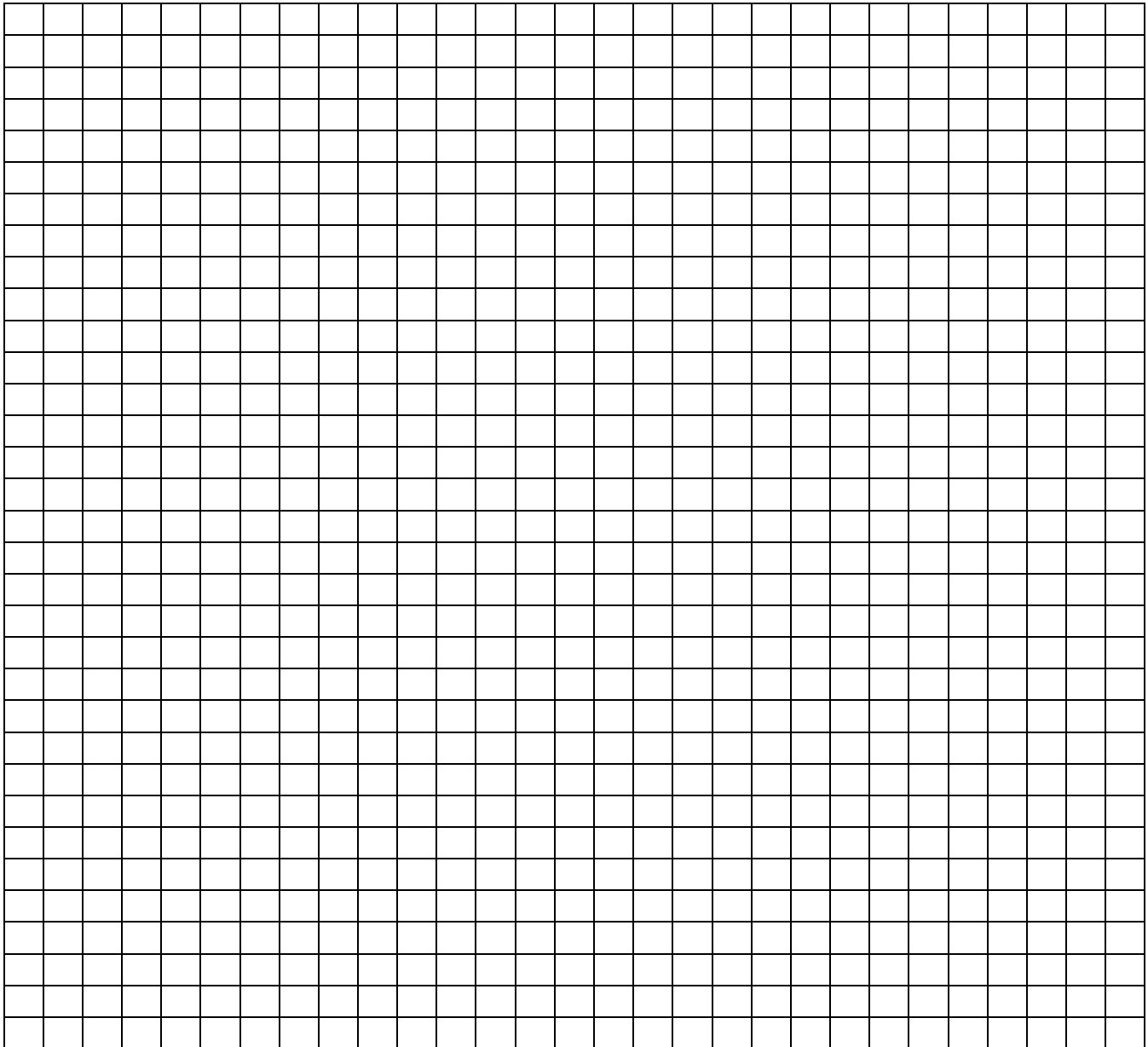
**Address/Description of Treatment Site:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<b>Certified Applicator (Fumigator) in charge:</b> Name: _____ License No. _____ Exp. _____ Phone: Day _____ Night _____ Cell _____
<b>Land Owner/Manager</b> Name: _____ Phone: Day _____ Night _____ Cell _____ Pager _____

<b>Emergency Contacts</b>
HOSPITAL EMERGENCY (ER duty nurse): <b>(911)</b>
POISON CONTROL: 1-800-222-1222
MT DEPT. OF AGRICULTURE: 406-444-5400
FIRE: _____ <b>or (911)</b>
POLICE: _____ <b>or (911)</b>
CHEMTREC: 1-800-424-9300
Pesticide Manufacturer's Emergency Line:

**Make a drawing of the site, showing (at minimum). (Attach to FMP)**

- location of right of ways, trails, access points requiring placards. Note: more warning placards will be needed for high traffic areas such as parks and athletic fields, than private rangeland, cropland, etc.
- location of water sources and livestock, pets, etc.
- location of nearest telephone or line of communication.
- location of treatment area and adjacent areas **NOT** scheduled for fumigation.
- burrows near buildings and/or occupied areas or pipes that lead to buildings that **WILL NOT** be treated. Attach the drawing to this FMP. Use of a Google Earth image that is labelled may also be helpful.



Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<p><b>Dosage Considerations:</b>  Note: Maximum application per burrow is 4 tablets <b>OR</b> 20 pellets.</p> <p>Fumigant to be used: _____</p> <p><input type="checkbox"/> Tablets (3.0 grams/tablet)</p> <p><input type="checkbox"/> Pellets (0.6 grams/pellet)</p> <p>If ambient temperature &lt;69°F DO NOT FUMIGATE</p>	<p><b>Recommended Label Dosage Rates</b>  Tablets—2 to 4 tablets per burrow/tunnel  Pellets—10 to 20 pellets per burrow/tunnel</p> <p><b>Dosage Used:</b>  Tablets: _____/tunnel or burrow  Pellets: _____/tunnel or burrow</p> <p><b>Fumigation</b>  Date _____ Time _____</p>
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**Personnel**

Label requires that at least one (1) state certified/licensed pesticide applicator be present and on site to oversee all phases of the fumigation procedure.

Instruct all personnel on the following:

- \_\_\_\_\_ Read the pesticide label and the accompanying Applicator’s Manual, SDS, and FMP prior to any fumigation.
- \_\_\_\_\_ Report any accident/incidents related to exposure and provide a telephone number for emergency response reporting.
- \_\_\_\_\_ Report to proper authorities any theft of fumigant and/or equipment related to the fumigation.
- \_\_\_\_\_ Inform all personnel of the established meeting area in case of an emergency.

List of personnel scheduled to apply pesticide.

- 1. \_\_\_\_\_ Pest Lic # \_\_\_\_\_
- 2. \_\_\_\_\_ Pest Lic # \_\_\_\_\_
- 3. \_\_\_\_\_ Pest Lic # \_\_\_\_\_

**Fumigation Exposure Monitoring**

Exposures to phosphine must not exceed the 8-hour time weighted average (TWA) of 0.3 ppm or the 15-minute short-term exposure limit (STEL) of 1.0 ppm phosphine. All persons are covered by these exposure levels. Record results in Appendix 2.

Fumigant levels will be monitored at intervals of \_\_\_\_\_ hours using \_\_\_\_\_  
(Specify device)

## Notification

### Placarding (Parks, non-parks or athletic fields)

- Ensure that all entrances are placarded. Placards must contain the following wording:
  - Signal word “DANGER/PELIGRO and the Skull and Crossbones signal in red,
  - DO NOT ENTER / NO ENTRE,
  - FIELD NOT FOR USE,
  - EPA Registration Number of the fumigant,
  - 24-hour emergency phone number, and
  - the contact number of the certified applicator responsible for the application.

All placards must be made of substantial material that can be expected to withstand adverse weather conditions, be at least nine (9) by eleven (11) inches in size, be placed at least eighteen (18) inches off the ground, be placed at each entrance to the treated area, and be left in place for at least two (2) days after the final treatment before being removed by the certified applicator or contracting party.

Signs may be obtained through safety suppliers or the pesticide manufacture. Placards may be removed two (2) days after final treatment.

- Confirm that the “Official Notification of Fumigation” (see Appendix 3) has been received by Fire/Police Chiefs twenty-four (24) hours prior to the fumigation, unless otherwise notified by the fire department. Record the signature of the Fire Chief/Authorized Personnel on this form.
- Notify local authorities of the fumigation (See Appendix 3) and ensure that safety information packets (i.e. SDS, Pesticide label) are delivered and accessible to appropriate personnel (i.e. on-call physicians, fire chief, police). Phone numbers, pager numbers and the location of the certified applicator in charge during the fumigation must appear on the hospital packets. Notification should occur prior to the fumigation (some local authorities require up to a week in advance) so that questions posed by local authorities can be addressed.
- Prepare a written Emergency Response Plan (see Appendix 1), which contain explicit instructions, names, and telephone numbers of local authority to notify if phosphine levels are exceeded in an area that could be dangerous to bystanders.

## Application Procedures & Fumigation Period

- Plan carefully and apply the fumigant in accordance with the label requirements.
- Protective clothing: wear dry gloves of cotton or other material when applying aluminum phosphide tablets or pellets. Gloves should remain dry during use.
- Wash hands thoroughly after handling aluminum phosphide tablets or pellet products.
- Aerate used gloves and other clothing that may be contaminated in a well-ventilated area prior to laundering. DO NOT PLACE GLOVES OR OTHER CONTAMINATED MATERIAL IN VEHICLE CAB. Clothing must air out in a safe place with plenty of ventilation.

### Use Restrictions

- THIS PRODUCT MUST **NOT** BE APPLIED INTO A BURROW SYSTEM THAT IS WITHIN ONE HUNDRED (100 FEET) OF A BUILDING THAT IS, OR MAY BE, OCCUPIED BY HUMANS, AND/OR DOMESTIC ANIMALS.
- Aluminum phosphide must be applied to underground burrow systems located in noncrop areas, crop areas (such as pasture and rangeland), orchards, golf courses, athletic fields, airports, cemeteries, right of ways, earthen dams, parks and recreational areas and other non-residential institutional or industrial sites occupied

by woodchucks, yellowbelly marmots (rock chucks), prairie dogs (except Utah prairie dogs, *Cynomys parvidens*), Norway rats, roof rats, mice, ground squirrels, moles, voles, pocket gophers and chipmunks.

- All treatments for control of these species must be made outdoors.
- Tablets or pellets must be applied directly to underground burrow systems.
- Do not apply directly to water or wetlands (swamps, bogs, marshes and potholes). Do not contaminate water by cleaning equipment or disposing wastes.

## **Sealing of Treated Burrow Systems**

### **Open-burrow Systems**

Locate all entrances to each burrow system. Treatment of more than one (1) entrance in a system is often desirable as systems often overlap and are not defined. Treat all entrances except for those entrances you are sure connect to already treated entrances. Insert two to four (2 to 4) tablets or ten to twenty (10 to 20) pellets into each entrance to be treated. Use the lower rates for smaller burrows and/or when soil moisture is high. Use higher rates for larger burrow systems and when soil moisture is relatively low. Pack each treated entrance with crumpled paper and shovel soil to completely cover the paper. Using crumpled paper prevents soil from covering the tablets or pellets and slowing down their action. Rocks, clods of soil and cardboard also may be used for this purpose. Be sure to completely seal the openings of all untreated entrances by shoveling and packing soil.

### **Closed-burrow Systems**

Locate the main underground runway by probing with a smooth-sided rod twelve to eighteen (12 to 18) inches from a fresh mound. For pocket gophers, begin probing on the flat side of the mound. A sudden reduction in soil resistance to the probe indicates that the main runway has been located. Once the main runway is located, remove the probe and apply two to four (2 to 4) tablets or ten to twenty (10 to 20) pellets through the probe hole. Adjust treatment rate according to the level of soil moisture, using more pellets or tablets if the soil is relatively dry. Do not treat if the soil is extremely dry or if there are no signs of recent pocket gopher activity. Make a tight seal to close the hole by using a clod of soil, a sod plug or the heel of your shoe to push sod and/or soil over the surface opening. If the probe hole is more than one (1) inch in diameter, place crumpled paper in the hole before closing it with soil and/or sod. Two (2) days after treatment, you may check the area for residual pest activity by opening holes in main runways of burrow systems, flagging holes and inspecting them two (2) days later. You should treat all reclosed systems, on both sides of the plug.

# Burrowing Rodent Fumigation Management Plan (FMP) Checklist

Prepared for:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

## Type of Fumigation Outdoor Area

- Closed-burrow system (pocket gophers, etc.)
- Open-burrow system (ground squirrels, prairie dogs, etc.)

## Preliminary Planning and Preparation

- Read and review with facility management and appropriate employees any existing FMP, MSDS, SDS, product label(s), Applicator's Manual and other relevant safety procedures. Read and review with facility management the Notice of Fumigation Emergency Management Plan (Appendix 1).
- Copies of FMP, SDS, product label(s), Applicator's Manual, and other pertinent documents given to client and made available to applicators.
- Obtain or develop a drawing of the area to be treated. This drawing is to be used as part of the FMP to verify measurements and to make site-specific notes.  
Note the location of:
  - water
  - access points (such as roads or trails)
  - structures where people may be present
- Attach the drawing to the FMP and update it yearly, or prior to each fumigation.
- Inspect the site to determine its suitability for fumigation. Do not apply directly to water or wetlands (swamps, bogs, marshes and potholes).
- Obtain a copy of the EPA Endangered Species Bulletin for your county. Attach a copy to the FMP.
- If treating a black-tailed prairie dog town, you must perform a survey for the Black-footed ferret. An example of guidelines can be obtained at <https://corpora.tika.apache.org/base/docs/govdocs1/367/367513.pdf>. Contact the U.S. Fish and Wildlife Service Endangered Species Specialist (406-449-5225), [montanafieldoffice@fws.gov](mailto:montanafieldoffice@fws.gov) or <https://www.fws.gov/office/montana-ecological-services>) to obtain additional survey requirements. Attach a copy of the survey findings to the FMP.
- Consult with facility management in the development of procedures and appropriate safety measures for nearby workers, bystanders and nearby residents who will be in and around the area during application and aeration.
- Take appropriate measures to assure that persons in adjacent or connected areas are not exposed to the fumigant. Such measures include placarding doors, gates and entrances to treated areas, and taking gas readings in adjacent or attached areas at periodic intervals while fumigation and aeration are taking place. Document measures taken on the FMP.
- Obtain a sufficient number of properly constructed warning placards to notify individuals not to enter the treated area. Proper placards are available from the pesticide manufacturer.

## Personnel

- Schedule personnel for the fumigation. Product labeling requires at least one (1) state certified/licensed pesticide applicator to be present and on site to oversee all phases of the fumigation procedure. Only licensed personnel certified in the Agricultural Vertebrate Pest Control category may apply fumigants. Personnel must also be trained in the use of personal protection devices, including detection equipment.
- Notify all persons with potential access to the site and other interested parties of the treatment well in advance and **in writing**. Use the Notification of Fumigation and Emergency Response Plan (Appendix 1). Instructions should include that personnel are not to enter any areas while fumigation signs/placards are posted.
- Instruct all personnel on the following (see Appendix 1):
  - To report any accident and/or incidents related to fumigant exposure and to provide a telephone number for emergency response reporting.
  - To report to proper authorities any theft of fumigant and/or equipment related to fumigation.
  - To know the established safety procedures and meeting area for all personnel in case of an emergency.
- Determine sign-in and sign-out procedures so all facility employees and any other contractors or visitors are accounted for prior to beginning the treatment (see Appendix 2).

## Monitoring

### Safety Monitoring

- Check safety equipment required for the job. Ensure that the detection equipment necessary for monitoring gas levels and clearing fumigated areas is available and calibrated, if necessary. If detection equipment utilizing detector tubes are to be used, ensure that detector tubes have not expired.
- Conduct phosphine gas monitoring periodically during the fumigation to prevent excessive exposure and to determine where exposure may occur. Document results (See Appendix 3). When monitoring log records document there is no phosphine present above the safe levels, subsequent monitoring is not routinely required; however, spot checks must be made occasionally, especially if conditions significantly change. Monitoring must be conducted during aeration and corrective action taken if gas levels exceed the allowed levels in an area where bystanders and/or nearby residents may be exposed.
- Retain monitoring records with the FMP for two (2) years or longer if required by your company's policy or your client's policy. Montana Department of Agriculture requires records be kept for two (2) years.

### Application Procedures/Fumigation Period

- Ensure that all entrances to the area being treated have been locked/secured (if practicable) and confirm placement of warning placards at all entrances (roads, foot trails, etc.) to the treated area. Placards available from the pesticide manufacturer.
- Thoroughly check areas to be fumigated to ensure that all personnel other than the fumigation team have left the area and are so indicated on a sign-out sheet, if appropriate.
- Place the fumigant only after all personnel other than the fumigation team have evacuated the premises. Only licensed personnel certified in fumigation may participate in the placement and distribution of the fumigant.
- Apply fumigant in accordance with label requirements and in the least hazardous manner.
- Take gas readings from within the fumigated area to ensure levels are below 0.3 ppm where the applicator(s) are working. Record results in Appendix 2.



## Post-Application Operations

- Return all unused fumigant product to an approved, locked chemical storage area.
- Do not** place contaminated gloves or clothing inside a vehicle cab. Place them in an area where they may air out safely.
- Re-inspection/Re-treatment
  - Open-burrow Systems: Inspect treated areas one or two (1 or 2) days following treatment for signs of residual activity of target species. Treat all reopened burrows in the same manner prescribed above.
  
  - Closed-burrow Systems: Two (2) days after treatment, you may check areas for residual pest activity by opening holes in main runways of burrow systems, flagging holes and inspecting them two (2) days later. You should retreat all reclosed systems on both sides of the plug.
- Remove warning placards when site is safe for reentry (two (2) days after last treatment) and notify personnel, contractors or others that they may be allowed to re-enter the aerated area.

# Appendix 1:

## Notification of Fumigation and Emergency Response Plan

Applicator Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Applicator/Company Address: \_\_\_\_\_

Target Species of Burrowing Rodent Fumigation: \_\_\_\_\_

Treatment Location: \_\_\_\_\_

The area will be fumigated with phosphine on \_\_\_\_\_, at approximately \_\_\_\_\_ AM/PM \_\_\_\_\_ DAY  
(DATE)

No unauthorized personnel may be in the treated area during the fumigation. Re-entry will be allowed only after aeration and monitoring indicates gas concentrations are well below the allowable safe exposure limit. Personnel are not to re-enter until warning signs/placards are removed from the entrances.

In case of an emergency situation, contact the fire department or medical emergency by dialing 911. Then contact:

\_\_\_\_\_  
(CONTACT NAME) (PHONE)

\_\_\_\_\_  
(CONTACT NAME) (PHONE)

In the event the area is evacuated, personnel should report to the area listed below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The nearest phone away from the treatment site is located at: \_\_\_\_\_

**In the event of an emergency which requires evacuation of nearby residents, local authorities should contact the following residents or businesses:**

\_\_\_\_\_  
(CONTACT NAME) (PHONE)

\_\_\_\_\_  
(CONTACT NAME) (PHONE)

\_\_\_\_\_  
(CONTACT NAME) (PHONE)

\_\_\_\_\_  
(CONTACT NAME) (PHONE)

**Appendix 2:**

**PHOSPHINE FUMIGATION GAS MONITORING REPORT**

Applicator Name: \_\_\_\_\_

Treatment Location: \_\_\_\_\_ Application Date: \_\_\_\_\_

**Safety/Air Quality Monitoring**

<b>Location</b>	<b>Time</b>	<b>Reading</b>	<b>Initials</b>	<b>Comments</b>

**Site Cleared for Re-entry**

Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Appendix 3:**  
**OFFICIAL NOTICE OF FUMIGATION**

\_\_\_\_\_ at \_\_\_\_\_  
(Applicator/Company Name) (Address)

has planned a fumigation at the following location: \_\_\_\_\_

Pesticide Being Used: \_\_\_\_\_

Date of Application: \_\_\_\_\_

**Permit Required?** YES NO

**Label/Use Info Attached?** YES NO

**SDS Attached?** YES NO

Certified Applicator In Charge	Date	Fire Chief/Police/Authorized Official Signature*	Date
	Office		Office
	Cell		Cell
	Pager		Pager

***\*Notice to the Fire Chief, Police Chief, and Authorized Officials***

Please return this notification via facsimile/email to *(insert your name/company name here)* to acknowledge receipt of notice of fumigation. My/our contact information is below:

e-mail \_\_\_\_\_

Fax: \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_