

Slide 1:

This is Keith Brown, I am a pesticide inspector for the main board of pesticides control, bringing you this information on soil fumigant label compliance. It is possible to receive a main board of pesticides control recertification credit for this presentation. Because this presentation is approximately 30 minutes, another presentation will also have to be viewed to receive one credit. Additionally, a test must be passed with a minimum score of 80% on each presentation. While there is no charge for viewing this information there is charge for taking each test, whether the tests are passed or not.

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First some background information. Soil fumigation has been found by experience to be an effective deterrent to certain soil born pests, The soil fumigation study manual lists wireworms nematodes fungi and some bacteria as targets for soil fumigation techniques. Unlike conventional spray or granular applications where the pesticide must pass through air to reach its target, soil fumigants are applied directly to the medium which in this case is the soil where the target pests are located. While the process is relatively new to the Maine potato industry, it is considered common practice in many other States such as Idaho, California, Florida, Georgia, North Carolina, Minnesota, Michigan, and Wisconsin. Although the record keeping and documentation process for application of soil fumigants is more involved than that for typical spray or granular applications it must be remembered that applicators across the country have been following these same procedures for many years.

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The objective of this presentation is to illustrate some of the label requirements associated with soil fumigant application in sufficient detail to show that the compliance process is a series of individual steps that can be completed in a systematic manner. A second objective is to show that adequate application documentation will reduce an applicator's exposure to complaints and if well thought out can also streamline documentation of future applications. This presentation will also show that proper application documentation is necessary to assure that the Maine agricultural community will be able to continue the use of soil fumigation techniques in a manner similar to competing farms in other States.

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Why does the application of soil fumigants require additional documentation in the form of a fumigation management plan? Because they ultimately become a vapor,

fumigants are among the most hazardous of all pesticides. The chemical properties that make fumigants so effective in managing difficult to control soil pests are the same properties that can be hazardous to applicators, handlers and nearby persons who might not be associated with the application. Even under optimum application conditions by the volatile nature of this product, fumigants have greater potential for off target drift than more conventionally applied spray applications under similar conditions.

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There are many benefits to be had from preparing and complying with label requirements for soil fumigant application. First of all, failure to comply will result in fines. The label is the law. Failure to comply will result in fines or other disciplinary action and could possibly jeopardize the use of these products in Maine. Secondly, it is a fact detailed pre-project planning results in more efficient operation that improves productivity and reduces costs. This has been proven by the construction industry, which had to develop pre project planning in order to administer the requirements of OSHA years back. Thirdly, well kept records can be referred to when planning for or reducing future applications. Finally well-documented records are a grower's first line of defense should a formal complaint arise.

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Past soil fumigant use inspections conducted by the board of pesticide control have shown that for the most part individual applicators are doing a pretty good job with fumigation management plan preparation. There is, however some room for improvement including better documentation of applicator certification and handler training, upgrading of application block diagrams, and better descriptions of emergency procedures.

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Consider soil fumigant documentation as a five-step process. Number one is documentation of the target pests. Number two is certification a personnel. Number three is preparation of a fumigation management plan. Step four is completion of the pesticide application log, and number five is completion of a post application summary.

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What is your target? When discussing soil fumigation I am often asked “what are the applicator's treating for?” Blight conditions can be predicted and observed.

Insect pests can be observed. Soil fumigant targets and short-term results of fumigant application are not readily visible to the naked eye. Because of this it can appear that soil fumigation is more of a mystery treatment than other pesticide application techniques. It is important to select fumigants that have been determined to be most effective against the target pests stated in the fumigant management plan and log book. “Increase yield” while an ultimate goal is not sufficient reason to justify soil fumigation. To this end the industry using soil fumigants needs to better establish pre- and post-application data to justify application of soil fumigants. At some point, absence of target data could result in increased regulation of the process.

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The second step in the process of preparation for soil fumigation involves obtaining certification and providing proper training for the people involved. There is a difference between certification as an applicator for granular/spray applications and soil fumigant applications. Persons involved in pesticide spray applications include a certified applicator and a WPS trained handler. For fumigant applications require a certified applicator in charge and trained fumigant handlers.

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In order to become a certified applicator for soil fumigants, one must hold either a State of Maine private applicator license or a commercial applicator license. Additionally certified fumigant applicators must also have passed a state of Maine category exam for soil fumigation. Further a certified applicator must also complete a soil fumigant training program offered by the U S EPA. A work of caution- There is only one source that provides EPA recognized certification, and that can be found at the website listed on this screen. Training certificates are provided that are dated and numbered. Once EPA training is completed, it must be renewed every three years. It must also be remembered that fumigant training is active ingredient specific. In other words, training for metam sodium products does not qualify one for application of chloropicrin products and vice versa.

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This is an example of the certificate received as a result of the EPA soil fumigant applicator training. Notice that the certificate includes indication of completion of the general training part and product specific parts, such as chloropicrin and metam sodium.

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As of January 1st, 2020, private applicators are required to have passed a private category for soil fumigation. There is no grandfathering provision, private applicators, who in the past operated a certified applicator and charge will in the future also need to qualify for the soil fumigation category by taking and passing the exam.

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The buck stops with a certified applicator in charge as far as soil fumigant application is concerned. Note that there is a difference between onsite supervision and direct supervision. With soil fumigation, on site supervision is required, and it means that the certified applicator in charge will remain onsite during the entire fumigant application process. This is different from direct supervision, as it relates to spray applications where it allows a supervisor to be offsite during the spray application.

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A fumigant handler is anyone who participates in the application of a soil fumigant. This can be a person that monitors fumigant air concentrations, provides clean up after a spill, handles or disposes of fumigant containers, cleans, adjust, or repairs equipment, or for any reason, enters the application block between the start of the application and the end of the buffer zone period. Fumigant handlers also perform any handler task as defined by the worker protection standard. Annual fumigant handler training is required and the training must be documented by the certified applicator in charge.

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Farm mechanics who work on fumigant equipment should also receive fumigant handler training. Training includes information regarding what fumigants are and how they work, safe application and handling, air monitoring and respiratory protection, signs and symptoms of exposure, emergency response, and incident reporting.

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Respirators used as part of a soil fumigant application must meet all of the label requirements for a given product. WPS requirements regarding fit test medical certifications and training are also required. Medical certifications and training certificates should be included in the general fumigation management plan.

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In today's world perception is often taken as truth, regardless of facts at hand. Use of pesticides is coming under increasing scrutiny by many people. A well-prepared fumigation management plan will ensure, demonstrate and verify the applicator's intent to make application in accordance with the product label. Fumigation management plans prevent accidents because they define procedures to follow during application, in the event of an accident or the occurrence of unforeseen events or circumstances.

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Preparing a fumigation management plan for each application block results in a duplication of effort. Consider developing a general fumigation management plan for an entire farm operation that can be supplemented with additional information pertinent to each application block as it occurs. Development of an overall fumigation management plan for an entire farm operation can ultimately save time and provide for a more efficient planning process. Once completed, an overall management plan can be amended for individual application information.

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The following slides are included to provide compliance assistance when preparing a fumigation management plan. This example is based on a template for a chloropicrin fumigation management plan template taken from the EPA website. However, other active ingredient specific templates are similar in nature.

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Be sure to include your proof of training certificate number along with your pesticide applicator license number from the state of Maine in the box that calls for license and or certificate number. Be specific regarding the date and location of completed EPA approved certified applicator training.

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The application block location must be described in enough detail to allow a person unfamiliar with the area to locate the site either by using software such as Google Earth or to travel to the site using a GPS. A site-specific diagram can readily be developed from the overall block map.

Slide 22:

This is an example of what an overall block map could look like. This was developed using Google Earth. Soil and Water Conservation District Offices or other organizations can provide assistance preparing these diagrams.

Slide 23:

Individual site-specific application block maps can be generated from the overall farm block map.

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Some sections of the template are self-explanatory.

Slide 25:

Buffer zone credits need to be well-documented. If a buffer zone credit is claimed, provide sufficient information to help a person reviewing the plan, replicate your determination of the applicability of that credit.

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A well-developed emergency response plan can be part of the general fumigation plan for the entire property, reducing work for site specific plan preparation.

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Although onsite communication between the applicator, owner and other onsite persons may be readily obvious to the person preparing this plan, one or two sentences written down at this location can really explain that process and make it clear that the person preparing the plan has given the plan a well thought out process.

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Specific handler information for those persons who will be working on a particular application should be considered part of the site-specific plan that is an addendum to your general plan. List the specific persons that will be present during this application.

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Make sure your description of the soil matches wording found in the USDA soil classification method. A copy this method is described in the next slide.

Slide 30:

This free download explains how a person can estimate soil moisture by feeling and appearance in a manner that can be accurately described on the fumigation management plan.

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Don't hesitate to include as much detail as possible under section eight, emergency preparedness and response measures.

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The air monitoring plan should be completed well in advance of the first application. It can be included as part of an overall fumigation management plan. Do not just write "air pump". Remember details are evidence of good project planning. Upload this information into the general plan as soon as you receive the monitoring equipment to avoid duplication for each application.

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Similar to the air monitoring plan, Good Agricultural Practices should be part of the general fumigation management plan. GAPS conducted as part of your normal farm operating procedure can be incorporated here.

Slide 34:

The right hand column on this sheet limits the number of individuals to three persons. Include respirator information for each individual in the right hand column.

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All pesticide applications must be recorded in some form of an application log. As far as application logs are concerned, the Board of Pesticides Control interprets the word sprayer to mean any form of powered application rig, be it granular, liquid or a fumigant. The application log does not necessarily need to be the pesticide applicator log book shown. The application information can be kept electronically, but the same information required by the log book must be maintained in a manner that can be presented in a suitable format upon request by the Board of Pesticides Control. Don't forget to include all applications made, including pre-plant seed treatments.

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Document the procedure that was used to calibrate the application equipment.  
GPS records of area covered related to the amount of fumigant applied.

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Include fumigant information in the pesticide key along with other pesticides applied for a given year.

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Information contained in an applicator log is more specific than what is captured in the fumigation management plan or in the post application summary.

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the purpose of the post application summary is to serve as a means for your documentation that the fumigation management plan was followed. Any deviations can be written down in the post application summary, and it also provides opportunity to document any incidents or complaints by butters. The Post Application Summary and the Fumigation Management Plan must be maintained for two years.

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Remember that how well applicators adhere to the fumigant application process will have an impact on the entire industry. A problem created by one application may have an impact on everyone. Due in part to recent publicity regarding glyphosate, pesticide use in general is coming under more close scrutiny.

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This screen is an example of one incident where one applicator created a problem that resulted in new regulations that affected the entire industry within that state of California.

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To summarize, make sure you document the pests targeted by your application. Become properly certified and train all handlers accordingly. Prepare a site specific fumigation management plan, maintain your pesticide applicator log in a form that can be readily reproduced when requested and prepare a post application summary.

Slide 43:

Navigating the Label Regulatory Requirements for Soil Fumigant Application  
Maine Board of Pesticides Control, Keith Brown, District 5 Inspector

Above all don't guess on compliance. Call the main board of pesticides control if you have any questions regarding compliance with pesticide regulations. Thank you for taking the time to watch this presentation.