NEW BYSTANDER RISK MITIGATION MEASURES (RMM) FOR SOIL FUMIGANTS Q&A

(June 21, 2010)

The EPA released final Reregistration Eligibility Decisions (REDs) in 2009 for many soil fumigants that will have a significant impact on production practices for several key crops in North Carolina including tobacco, peanuts, strawberries, tomatoes and forestry seedlings. The new safety measures for soil fumigant pesticides are intended to increase exposure protection for agricultural workers and bystanders - people who live, work, or otherwise spend time near fields that are fumigated.

Implementation of the REDs will be phased in from 2010 through 2012 according to the schedule below. What is actually expected of a fumigant user depends on when revised labels make it to the marketplace. An applicator is only expected to follow the label directions on the products that are being applied.

Phase A: 2010 Labels – 2011 Implementation

- ❑ **Handler respiratory protection**
- ❑ **Tarp perforation and removal restrictions**
- ❑ **Reentry restrictions**
- ❑ **Good Agricultural Practices (GAPs)**
- ❑ **Fumigant Management Plans (FMPs)**
- ❑ **RUP classification**
- ❑ **Registrant-provided handler information**

Phase B: 2011 Labels – 2012 Implementation

- ❑ **Buffers and buffer posting**
- ❑ **Restrictions near difficult to evacuate sites**
- ❑ **Emergency preparedness and response**
- ❑ **Registrant-provided training and community outreach programs**

Which chemicals are included in the new EPA RMM for soil fumigants?

The 2009 REDs apply to products than contain the following fumigant active ingredients:

- Chloropicrin
- Dazomet
- Metam sodium/potassium (including methyl isothiocyanate or MITC)
- Methyl bromide

Iodomethane is a fairly new soil fumigant that was first registered in 2007. Although iodomethane was not included in the recent REDs, the EPA provided the registrant with guidance on the expected new RMM. Thus, iodomethane products already have labels with mitigation measures similar to the new requirements for the older compounds. Products that contain only 1,3-Dichloropropene are not subject to implementation of the new RED requirements at this time. In 1998, 1,3-Dichloropropene went through the reregistration process and it will be up for registration review in 2013.

How did the final RMM differ from the original rules proposed in 2008?

EPA issued proposed Reregistration Eligibility Decisions in July 2008. The agency received numerous responses from organizations supporting the interest of NC farmers including NCDA&CS Commissioner Steve Troxler, several NC crop associations, the NC Farm Bureau and the NC Cooperative Extension Service. In issuing amended REDs (May 2009), the EPA acknowledged the impact of extensive stakeholder input and substantial modifications were adopted to enable the continuation of most use patterns while reducing the risk for bystander exposure. Following is a synopsis of many of the most significant changes:

- The initial REDs required fumigant users to provide state lead agencies with advance notification of every fumigant application. The amended REDs have this as a state option and NCDA&CS will not require advance notification.
- Data from new studies were included in EPA models that justified the reduction of buffer zone distances for some uses. The requirement for a minimum buffer zone of 25 ft. was maintained, but many NC fumigant users will be able to manage their programs to obtain the minimum level. In addition, fumigations that only need a 25 ft. buffer will be exempt from requirements for buffer zone monitoring or neighbor notification.
- The overlap of buffer zones was not allowed in the initial REDs. If a grower wished to subdivide a field to reduce required buffer zone distances (buffer zone tables are based on field size and product application rate), they would have to wait until the buffer zone period (48 hours) expired on the initial treatment before treating the other subpart of the field. The amended REDs allow for buffer zone overlap as long as the applications are separated by 12 hours. This means that a grower can treat side A on an afternoon and treat side B the next morning. The caveat is that any field that has a buffer zone overlap will be expected to have monitoring procedures or neighbor notification that is protective to 300 ft.
- In the initial REDs, a grower would have to get written permission from local authorities for buffer zones to extend onto public rights of way which could be a political and contentious process. With the amended REDs, permission from local authorities is only required when a sidewalk is present. Thus, rural growers with fumigant programs that only require the minimum buffer will likely be covered by the pavement and ditch banks that separate their fields from residences that are just across the road.
- The original REDs precluded the application of fumigants within 1/4 mile of certain locations such as schools, state-licensed daycare centers, nursing homes, hospitals and prisons (if occupied during the application and the 48-hour period following the application). This requirement would be especially onerous for pick-your-own strawberry operations located in urban areas. The amended REDs reduced the restrictive interval to 36 hours and the restricted distance to 1/8 mile (660 ft.) if the buffer zone is 300 ft. or less. Growers that are still impacted by this regulation may have some options if the facility can be vacated for the required period (e.g. schools during the weekend or holidays).
- The initial REDs established procedures for validating the integrity of the buffer zone. This involved monitoring for vapors at frequent intervals with detection devices <u>or</u> notifying neighbors to a prescribed distanced based on the size of the buffer zone. The monitoring option was perceived to be impractical due to requirement for samples at 1-2 hour intervals over the 48 hour buffer period (i.e. throughout the night) with devices of questionable accuracy. The amended REDs have made monitoring a much more viable option. MITC-based products (metam sodium), products which have chloropicrin as the active ingredient driving buffer requirements (includes 1,3-D or Telone combination products) and methyl bromide products that contain at least 20% chloropicrin may

use sensory detection instead of monitoring devices. During the buffer period the grower would need to visit specified points between the buffer zone and neighboring occupied structures and record any eye or nasal irritation that is indicative of buffer zone failure. Detection would trigger an emergency response plan. The checkpoints would require monitoring once during the day, at 1 hour after sunset, once at night and at 1 hour before sunrise. With the relaxed monitoring requirements, some growers may choose this option instead of neighbor pre-notification.

The new regulations will still require substantial time and effort, but the adopted amendments restore the viability of most fumigant programs.

If fumigant products with labels requiring the new RMM do not make it to suppliers in 2010, do I need to continue exploring alternatives to methyl bromide (MeBr)?

Growers are only expected to follow the use directions that are on the products in their possession and containers with the first new labels are not expected to be at supplier locations until after December 1, 2010. The new RMM are based on potential exposure issues for handlers and bystanders. The phase-out of MeBr is an older but continuing program based on concerns about the degradation of the ozone layer. Critical use exemptions for methyl bromide are still being issued for certain uses where alternative options do not provide adequate pest control.

What changes will I need to make in 2011? How about in 2012?

Products hitting supplier locations in December 2010 will have labels that <u>require</u> the use of certain good agricultural practices (much of which is already <u>recommended</u> on existing labels), new respiratory protective measures for handlers, requirements for the perforation and removal of tarps, new restrictions for entering treated areas and Fumigant Management Plans (FMP). In addition, product manufacturers will provide fumigant applicators with training information for handlers that must be communicated to all workers within 12 months prior to their participation in the fumigation process.

The second wave of RMM should appear on product labels at the end of 2011. This will include the establishment/posting of buffer zones, the option of neighbor notification or buffer zone monitoring and mandatory distances between fumigated areas and difficult to evacuate sites. Registrants will be required to provide detailed training to fumigant applicators every three years that will cover the provisions of the rules and how to calculate the distances of regulated areas.

What is a fumigation management plan?

The FMP will be a comprehensive listing of information on the fumigation site, the applicator, handlers, training programs, application procedures, emergency response plan and buffer zone details. Information on over 20 Good Agricultural Practice items will be required to be documented in the FMP. The NCSA will work closely with fumigant registrants, public institutions and regulatory agencies to develop templates and checklists to help NC strawberry growers with the implementation of FMP requirements.

If I hire my fumigation through a custom applicator, will they take care of everything?

Custom application may relieve much of the burden of the field operations and even provide substantial portions of the FMP. However, EPA views the grower and any contractor operating on their behalf as being liable for label violations. Growers should obtain a label for the fumigant being provided and have a contract that clearly details the obligations of the custom applicator. Some requirements of the RMM involve follow-up activities, post-application monitoring and documentation of certain items that may not be appropriate for delegation to a third party.

Will all my workers in the field need to wear respirators?

Respirators requirements for applicators and handlers vary with the product, the task being performed and whether or not there are detectable levels of the fumigant. The product label will specify the respiratory protection requirements. Products that are highly irritating (i.e. metam sodium or products containing at least 20% chloropicrin) may not require respirators for the initiation of work, but the sensory detection of fumigant will require respirators for anyone that continues to work in that field.

Even if a product allows the initiation of field activities without the use of respirators, the contingencies in the fumigant REDs requires that "at minimum two handlers have the appropriate respirator and cartridges available and that these handlers are fit-tested, trained, and medically examined." In addition, the possibility of a severe leak requires that "at least one air rescue device (e.g., SCBA) is on-site and is ready for use in case of an emergency."

How can I figure out buffer zones? What about those schools and daycare centers nearby?

Buffer zones and restrictions on difficult to evacuate sites (DTES) will be required in the second year of RMM implementation. Product labels appearing near the end of 2011 will have tables that specify the distance of the buffer zone based on the application rate and the size of the field. The label may have several buffer zone tables and applicators will need to use the one specific for their method of fumigation (e.g. "shank bedded with tarps"). In addition, the label will have a section on buffer zone credits. The value from the table may be reduced if certain application parameters or environmental conditions are met. The minimum buffer zone for all fields will be 25 ft. regardless of table values or buffer credits. As discussed above, it is especially advantageous to have a buffer zone that is 300 ft. or less so the required distance to DTES is only 1/8 mile (instead of 1/4 mile). The calculation of buffer zones will be covered in training programs from registrants and public institutions/agencies.

How will I learn how to manage all this?

The product specific training programs registrants are developing for handlers and applicators have already been mentioned. In addition, the Tobacco Trust Fund Commission has provided the NC Agromedicine Institute with a grant to develop a holistic training approach to help growers/applicators with the transition to the new RMM. This initiative has led to a close collaboration between medical/health professionals, regulatory personnel, crop production experts and pesticide educators that are dedicated to providing useful training and support materials that is relevant to the particular

phase of implementing the RMM. The training will include how to develop a fumigation plan that is best for your pest control needs, the details of the new RMM, how to calculate important parameters and a respiratory protection program (use instruction / fit testing / medical clearance).

In addition to special fumigant training programs, it is anticipated that many general field tours, county/state Cooperative Extension Service meetings and NCDA&CS Agronomic Division workshops will include some aspects of the new RMM.

Where can I find out more now?

Additional background on the REDs for soil fumigants can be found at the website listed below. The site contains additional links to more detailed information on many of the sections in this Q&A. Generic FMP templates are available at this same web location.

http://www.epa.gov/pesticides/reregistration/soil_fumigants/