



December 28, 2004

Risk-Based Inspection Targeting Strategy for Worker Protection Compliance Monitoring Activities

States and tribes should verify compliance with the Worker Protection Standard (WPS) through both routine inspections and inspections targeted to focus on establishments or situations that pose the highest risk to pesticide workers and handlers in agriculture. Both the Office of Enforcement and Compliance Assurance (OECA) Program Element Review (FY2000) and the Office of Pesticide Programs (OPP) National WPS Assessment (FY 2000-2002) revealed that many of the states/tribes did not have an adequate targeting strategy or priority setting process in place for guiding WPS activities. All states and tribes were to have developed such a targeting strategy as part of their original WPS State Implementation Plans (SIP) and compliance monitoring strategies. In light of the limited resources for this program, OECA feel it is essential for states/tribes to revisit their WPS Compliance Monitoring Strategy so their worker protection outreach and compliance monitoring activities are focused on establishments or situations that pose the highest risk to pesticide workers and handlers in agriculture. EPA is suggesting that a targeting strategy focus one-third (33%) of the available resources for WPS routine (neutral scheme) use inspections to assure coverage of the regulated community and the remaining two-thirds (66%) of resources on high risk targets and responding to tips/complaints.

As part of the 2005-2007 Pesticide Enforcement Cooperative Agreement activities for pesticide worker safety, states/tribes must include a written risk-based targeting strategy in your annual pesticide workplan that clearly defines the criteria used for conducting targeted WPS Ag-use inspections. The Agriculture Branch of the Office of Compliance has prepared this risk-based Guidance for targeting worker protection inspections. This is simply a **recommended** approach for targeting worker protection inspections. Use of this particular risk-based strategy is not required, but rather it is provided as an **optional** strategy in developing a WPS inspection targeting strategy. For example, a state/tribe may revise the national risk-based strategy, in order to incorporate specific data available within that state. Existing state/tribal WPS targeting plans also are acceptable if the targeting strategy identifies the establishments and situations in the state or area of tribal jurisdiction that represent the highest risk to pesticide workers and/or handlers and describes how the state/tribe will target those sites for their compliance monitoring activities (Tier I inspections).

A risk-based targeting strategy for WPS inspections could be used by each state, for example, at the beginning of each quarter (or other appropriate time frame) when the state/tribe needs to select targets for worker protection inspections from a broad universe of potential sites. Using the risk-based targeting strategy, a list of 40 potential inspection sites, for example, could be pared down to 20 sites and prioritized based on factors associated with a greater potential for risk.

Each potential site could be run through a risk-based matrix and be assigned a priority level for inspection.

A number of factors should be taken into consideration when developing a risk-based targeting strategy for worker protection inspections. These factors include information concerning:

- pesticide product toxicity
- crop(s) grown
- production activity (level of hand labor)
- potential for worker exposure
- historical problems with product
- previous compliance problems at the site
- the number of workers employed
- establishment type (farm, forest, nursery, greenhouse, labor contractor, commercial applicator)

The significance and type of product toxicity will vary, depending on whether the inspection target audience is for affected workers or pesticide handlers. The type of crop(s) grown and harvest method will help indicate the amount of hand labor involved in harvest activities, and the level of exposure. The degree of worker exposure may also be affected by the total foliage area associated with a particular crop, with a higher degree of exposure presented by crops such as citrus fruits and sugarcane.

Incidents caused by use of a particular product or active ingredient, such as those which may be documented in a state/tribal illness investigation database, can also help prioritize risk-based inspections. Civil violations or notices of noncompliance previously issued against a site, in particular for misuse violations at farm sites, can also be an important factor. The number of workers employed and the type of farm can also indicate the potential degree of worker exposure to pesticides. Greenhouses and nurseries, which require more hand-labor, can pose greater worker exposure conditions than those on forests and farms. In addition, the larger the number of workers employed at these establishments, the greater the potential for workers to be exposed.

Possible Factors to Consider for WPS Inspection Targeting

When developing a risk-based targeting strategy, states/tribes can use the following factors or add factors applicable to local conditions to identify high risk situations. EPA realizes that states/tribes may not have all the types of data needed to plug in to all the factors listed below. In such circumstances states/tribes should use the best information possible and do the best they can with developing some kind of inspection targets. States/tribes may use any of these factors as the basis for their targeting scheme.

1. **ESTABLISHMENT TYPE AND NUMBER OF WORKERS:** Identify the farm type (farm, greenhouse, nursery or orchards) and the number of workers to help estimate the amount of potential use of, and exposure to pesticides at the farm. (States may have some sort of cumulative data on their establishments or should make an effort to start recording information so that it could be used in subsequent years)
2. **HISTORY OF NONCOMPLIANCE:** Identify agricultural operations/sectors with a **history of non-compliance** or enforcement problems (states/tribes should use compliance and enforcement data from their field inspections to identify such areas or should start maintaining information so that it be used in subsequent years to update their targeting strategy and refine their risk-based targets).
3. **PESTICIDE APPLICATION METHODS:** Identify crops/commodities that rely on **pesticide application methods** that have high potential for applicator exposure or exposure through drift such as air-blast spraying, high pressure applications, fogging, or fumigation. Special emphasis should be placed on identifying those situations where these application methods are employed in combination with the use of high-risk pesticides (e.g., air-blast spraying of azinophos-methyl)
4. **HAND LABOR:** Identify crops/commodities that traditionally rely on high **hand labor** inputs in their production and/or harvest practices (e.g., orchard crops and vegetables). Special emphasis should be placed on identifying those crops/commodities with specific cropping or cultural practices that may involve high-risk pesticides being used at times that coincide with labor-intensive practices that result in extensive contact with pesticide treated foliage or surfaces; for example, peach thinning following methyl parathion applications, strawberry harvesting following Captan applications, staking tomatoes following carbamate insecticide applications, or moving nursery/greenhouse material after certain pesticide applications.

[NOTE: States/Tribes should refer to the USDA crop profiles or consult with the County Extension Service for assistance in identification of these situations.]

5. **HIGH RISK PESTICIDES:** Identify crops/commodities whose current production practices relies heavily on the use of **high risk pesticides** (e.g., signal word, toxicity category I & II pesticides, fumigants). The significance and type of product toxicity will vary, depending on whether the inspection's target audience is for affected workers or pesticide handlers. The toxicity of the product's active ingredient will have a greater risk impact for workers (REI is based on the active ingredient), whereas the toxicity of the end-use product will have a greater risk impact for handlers (PPE requirements are based on the acute toxicity of the end-use product). Special emphasis should be placed on identifying those situations where products with the most stringent WPS protections (e.g., products that have label requirements for respirators or double notification) are used .

Using the above factors, the following WPS Risk-Based Inspection Targeting Form was

developed as an example for state use in prioritizing WPS use inspections. Use of these factors obviously necessitates that the state have information in these areas. If a state does not have any information on one particular factor, that factor could be eliminated from the risk-based matrix if necessary. The use of this form by a state/tribe is not required and only recommended.

WPS Risk-Based Inspection Targeting Form Instructions

Each potential inspection site is listed along the vertical axis of the matrix. The five factors outlined above, associated with risk for use-based inspections, are listed horizontally across the top of the risk-based matrix as the headings for the columns. The definitions of each of these five factors and their use, as part of the Risk-Based Matrix, are outlined below. Each potential site for a Use inspection should be rated under each factor, based on a priority rating from 1 (lowest) to 5 (highest) as follows.

- Establishment Type/Number of Workers: Represents the type of establishment targeted for inspection and/or the potential number of workers employed over the year. The establishment type will also help dictate the amount of worker exposure to pesticides at the farm. Greenhouses and labor contractors should be rated 5, nurseries and commercial applicators rated 4, orchards 3 and other farm types as 2 or 1. Establishments using high number of workers should receive a high priority regardless of the type of establishment, since a larger number of workers at the site indicates a potentially higher exposure rate.
- History of Non Compliance at Site : Check the state data base or files for any enforcement actions taken against the potential inspection site within the last 5 years. A combination of previous warning letters, criminal or civil administrative enforcement actions and other enforcement actions taken against an agricultural employer, Farm Labor Contractor, or commercial handler employer by federal or state agencies for pesticide violations should be considered. Accordingly, a site with 5 or more separate historical enforcement actions the weight should be 5, for four separate actions the weight should be 4, for three actions the weight should be 3, for two actions the weight should be 2, for one action the weight should be 1 and if no compliance history exists the weight should be 0.

For clarification, any enforcement action is counted as 1 for the purpose of this targeting if it results from a single site visit/inspection at an establishment (including multiple visits at the same site for a single state case number) at which one or more WPS violations were detected. The state/tribe should also consult their WPS Enforcement Response Policy (ERP) (or EPA WPS ERP in the absence of a state-specific one) in deciding how major (for example, no safety training, no PPE, entry within REI, etc.) and minor (for example, application records missing an item, decontamination site out of towels, etc.) violations factor into this counting and history of noncompliance.

- Crop(s) Grown/Harvest Method : Identify the crops produced at the site. You can obtain

this information by reviewing the geographical area, consulting with a state inspector with field experience, or contacting the county extension service or state grower and commodity organizations. The type of crop produced will determine whether hand labor or machines are used for harvesting. Fruit, flowers, and vegetables are associated with intensive hand labor while grain crops are associated with machine labor. If harvesting is done completely by hand at the site, then it should be rated 4-5, if a combination of harvesting by hand and machinery is used at the site, it should be rated 2-3, if harvesting was done completely with machinery at the site, then it would be rated 1.

- **Methods of Application** : Identify crops/commodities that rely on **pesticide application methods** that have high potential for applicator exposure or exposure through drift. Aerial, fumigation, misting, fogging methods, air-blast spraying or high pressure applications of pesticide application should be rated 4-5, truck mounted low pressure spraying should be rated 2-3 and using back pack spraying or irrigation application method or granular formulations, should be rated 1. (Rate other methods of applications according to their potential for applicator exposure or extent to which pesticides drift from or rest outside of target crop)
- **Historical Incidents With The Product's Active Ingredient**: Based on the total number of incidents reported within the state for specific pesticide product(s) used on a targeted site during the past year. An "incident" is classified as a reported human illness or contamination of the environment resulting from use of the pesticides. If five or more reported incidents were reported, the weight should be 5, for 4 incidents the weight should be 4, for 3 incidents the weight should be 3, for 2 incidents the weight should be 2, with one reported incident the weight should be 1 and for no incidents reported within the past year the weight should be 0. A historical problem with a specific product that affected many workers at once could also be rated as 5.
- **Product Toxicity** : If possible, identify the product used at the site. If more than one product is used, for purposes of the matrix, base the classification on the product with the highest toxicity classification. Tox I products would be rated 4 or 5, Tox II products would be rated 2 or 3 and Tox III and Tox IV products would be rated as 1.

Routine inspections should include a variety of sizes of operations (small, medium, large), crop sites and pesticide uses, to assure overall coverage within a state/tribe. Some inspections should be conducted at family run establishments, some of Farm Labor Contractors, and some of commercial handler establishments. Inspections may also be conducted during worker and handler training programs to assure compliance with the regulation.

EPA believes that grower/employer compliance with the WPS is best assured through continued monitoring by use inspections. States/tribes should maintain a WPS Inspection Targeting Scheme that revisits all applicable establishments, even if in full compliance previously, on a regular schedule every 5-8 years (depending on state budget, inspector workforce, number of establishments, and competing priorities). Compliant facilities need not be

re-inspected more than once every 5 years, unless they have a previous history of noncompliance. If a state/tribe has reached a stage after a number of years conducting WPS compliance monitoring at which all potential establishments have been inspected under 5 years, then that state/tribe should seek advice and assistance from their appropriate EPA Regional office for assistance in WPS inspection targeting, or lower their initial WPS inspection commitments in exchange for related compliance assistance activities.

Reporting to EPA

A written risk-based WPS Inspection Targeting Strategy must be included in all state/tribe workplans for FY 2005. This Strategy may be an existing plan previously used by the state/tribe as provided formerly in the revised WPS SIP, incorporating many of the factors identified above. Alternatively, a state/tribe may create a new Strategy modeled after the Form herein provided. Subsequently, as the state/tribe utilizes your Targeting Strategy to target WPS inspections, a copy of this decision-making and/or a copy of the completed Form herein suggested may be provided to EPA as part of your state/tribe accomplishment report to be provided semiannually to annually (depending on the state/tribe reporting agreement with your EPA Region).

EPA has attached the Risk-Based Targeting Form created in Excel that has the above formula embedded to simplify its use. When you replace the “0” in each column with the correct priority rating (1 lowest to 5 highest) the total score will appear. The Excel filename is “WPS Risk-Targeting Form. xls” and is a separate file. If you need a copy of the file, please contact Amar Singh (OECA/OC) at 202-564-4161 or singh.amar@epa.gov. If you do not have Excel, fill out hard copy of the form (included below) and manually calculate each score.

RISK-BASED INSPECTION TARGETING FOR WPS INSPECTIONS

STATE /COUNTY _____

FISCAL YEAR _____

DATE OF REPORT _____

EACH SITE SHOULD BE RATED UNDER EACH FACTOR BASED ON A PRIORITY RATING FROM 1 (LOWEST) TO 5 (HIGHEST)

Site Name	Establishment Type	History of Non Compliance at Site	Crop(s) Grown/Harvest Method	Methods of Application	Historical Incidents with the Products Active Ingredient	Product Toxicity	Total Score
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							