# Section 6
# The 2004 FSIS Domestic Monitoring Plan
# Pesticides

## Phase I. Generating and Ranking the List of Candidate Compounds

### List of Candidate Compounds

The candidate pesticides of concern selected by the Environmental Protection Agency (EPA) members of the Surveillance Advisory Team (SAT) are presented in Table 6.1, *Scoring Table for Pesticides*. Since the Food Safety and Inspection Service (FSIS) wishes to prioritize which *analyses* should be conducted, compounds that are, or are likely to be, detected by the same analytical methodology have been grouped together.

### Ranking of Candidate Compounds

***Compound Scoring***

Using a simple 4-point scale (4 = high; 3 = moderate; 2 = low; 1 = none), members of the SAT scored each of the pesticides in each of the following categories. Note that some of these categories differ from those used for the veterinary drugs:

- FSIS Historical Testing Information on Violations
- Regulatory Concern
- Lack of FSIS Testing Information on Violations
- Pre-slaughter Interval
- Bioconcentration Factor
- Endocrine Disruption
- Toxicity

Definitions of each of these categories, and the criteria used for scoring, appear at the end of this section in the "*Scoring Key for Pesticides, FSIS 2003 Domestic Residue Program*."

The results of the compound scoring process are presented in Table 6.1. Where compounds were grouped together, the score assigned to each category is the highest score for all members of the group.

***Compound Ranking***

1. Background

Repeating Equation (4.1), we have:

$$\begin{aligned} \text{Risk} &= \text{Exposure} \times \text{Toxicity} \\ &= \text{Consumption} \times \text{Residue Levels} \times \text{Toxicity} \\ &= \text{Consumption} \times \text{"Risk per Unit of Consumption"} \end{aligned} \qquad (6.1)$$

As stated above, FSIS chose to employ techniques and principles from the field of risk assessment to obtain a ranking of the relative public health concern represented by each of the candidate compounds or

compound classes. However, unlike the case with veterinary drugs (see Section 4), FSIS does not have historical data on a sufficient range of different pesticide compounds or compound classes to predict violation scores (and thus risk per unit of consumption) using a regression equation. Therefore, a somewhat different approach (although related to that used for the veterinary drugs) was necessary to estimate the "Risk per Unit of Consumption" term.

2. Rating the Pesticides According to Relative Public Health Concern

The categories of "Regulatory Concern," "Pre-slaughter Interval" and "Bioconcentration Factor" were employed as predictors of risk per unit of consumption from pesticides in animal products. As indicated above, the "Regulatory Concern" category reflects EPA's professional judgment of the likelihood that a compound or compound class will exceed EPA's level of concern in meat, poultry, or egg products. Thus, it combines residue level and toxicity information. As with the "Withdrawal Time" category for veterinary drugs, the "Pre-slaughter Interval" category is expected to correlate with residue level because longer pre-slaughter intervals are less likely to be properly observed. When the pre-slaughter interval is not observed, the carcass may contain violative levels of residues since the time necessary for sufficient metabolism and/or elimination of the pesticide may not have passed. Bioconcentration is a measure of the extent to which a pesticide concentrates within the fat deposits of animals. Pesticides that bioconcentrate are more likely to accumulate to higher levels within animal tissue, which is expected to increase the potential for human exposure.

The "Toxicity" category reflects both the dose required to achieve a toxic effect and the severity of that effect. Since the numerical value assigned to toxicity is independent of other parameters, it can be used directly as a term in Equation (6.1).

EPA assigns a value to regulatory concern, pre-slaughter interval and bioconcentration factor to each pesticide compound or class of compounds. These values are multiplied by a weighted average and then by the toxicity value to give an estimate of the relative risk per unit of consumption. As with the veterinary drugs, we can refine the equation by adding a modifier for the category, "Lack of FSIS Testing Information on Violations." With an appropriate substitution, we obtain the following equation:

Relative Public Health Concern (6.2)
= Estimated relative risk per unit of consumption
x *modifier for* "Lack of FSIS Testing Information on Violations"
= Estimated relative exposure x Relative toxicity
x *modifier for* "Lack of FSIS Testing Information on Violations"
= Weighted average of {"Regulatory Concern," "Pre-slaughter Interval," "Bioconcentration factor"} x "Toxicity" x *modifier for* "Lack of FSIS Testing Information on Violations"

In comparing Equation (6.2), above, to Equation 4.3, it can be seen that the "Weighted average of {'Regulatory Concern,' 'Pre-slaughter Interval,' "Bioconcentration factor'}" has been used in place of "Predicted or Actual Score for 'FSIS Historical Testing Information on Violations'." Endocrine Disruption" was not included in Equation 6.2, because scores for this category were not available for most of the pesticides.

The pesticides in Table 6.1 are rated according to their relative public health concern by combining the scoring categories presented in Equation 6.2 using a weighting formula. The formula is presented in Equation (6.3) and in Table 6.1. FSIS selected this formula, based on a consensus about the relative importance of each modifier, and of how much each modifier should be allowed to alter the underlying risk-based score for Relative Public Health Concern. The value of the selected mathematical formula is that it formalizes the basis of FSIS's judgement. This enables others to observe and understand the

adjustments that were made, and it ensures consistency in how these adjustments were applied across a wide range of compounds.

Relative public health concern rating, pesticides = {[(2*R+P+B)/4]*T}*{[(L-1)*0.05]+1}  (6.3)

Where: R = score for "Regulatory Concern"
P = score for "Pre-slaughter Interval"
B = score for "Bioconcentration Factor"
T = score for "Toxicity"
L = score for "Lack of FSIS Testing Information on Violations"

In formula 6.3, the variable for regulatory concern (R) is given twice as much weight as the pre-slaughter interval (P) and bioconcentration factor (B) because FSIS considers regulatory concern to be more of a direct measurement of exposure. Moreover, as with the veterinary drugs, the final ratings of compounds or compound classes receiving scores of 4, 3, 2, and 1 in "Lack of FSIS Testing Information on Violations" are increased by 15%, 10%, 5%, and 0% respectively. In other words, the rating of a compound or compound class that had never been tested by FSIS (in the production classes and matrices of concern) would be increased by 15%, while the rating of one that had been recently tested by FSIS (again, in the production classes and matrices of concern) would remain unchanged.

Formula 6.3 and formula 4.4 have been normalized to give the same maximum value so that their values appear to be comparable. However, because formula 6.3 for the pesticides uses variables that are derived from terms (scoring categories) that are not the same as the terms used in formula 4.4 for the veterinary drugs, their scores are not precisely comparable. The scores for the pesticides and drugs were normalized to provide a rough comparison between these two different categories of compounds.

In Table 6.2, *Rank and Status for Pesticides*, the pesticides are ranked by their rating scores, as generated using the selected weighting formula (Equation (6.3), above). The scores presented in Table 6.2 enable FSIS to bring consistency, grounded in formal risk-based considerations, to its efforts to differentiate among a very diverse range of pesticides and pesticide classes in a situation that is marked by minimal data on relative exposures**.** These rankings do not account for differences in exposure due to differences in overall consumption. Data on relative consumption are applied subsequently, in Phase IV, when relative exposure values for each compound/production class (C/PC) pair are estimated.

# Phase II. Selecting Pesticides for Inclusion in the 2004 NRP

Once SAT completed ranking the pesticides according to their relative public health concern, the ranking scores were used to select compounds for the 2004 NRP. Using professional judgment, SAT participants decided that the pesticide compounds and compound classes that received a ranking of fifteen or higher represent a potential public health concern that is sufficient to justify their inclusion in the 2004 NRP.

Once these high-priority compounds and compound classes had been identified, it was necessary for FSIS to apply considerations beyond those related to public health to determine the compounds that would be sampled. The principal consideration that was not related to public health was the availability of laboratory resources, especially the availability of appropriate analytical methods within the FSIS laboratories. Based on this constraint, only the chlorinated hydrocarbon/chlorinated organophosphate (CHC/COP) compound class can currently be included in the NRP. There are 39 compounds in this compound class that FSIS will analyze for quantity and chemical identity. There are 4 additional compounds that will only be identified. The compounds are:

HCB, alpha-BHC, lindane, heptachlor, dieldrin, aldrin, endrin, ronnel, linuron, oxychlordane, chlorpyrifos, nonachlor, heptachlor epoxide A, heptachlor epoxide B, endosulfan I, endosulfan I sulfate, endosulfan II, trans-chlordane, cis-chlordane, chlorfenvinphos, p,p'-DDE, p, p'-TDE, o,p'-DDT, p,p'-DDT, carbophenothion, captan, tetrachlorvinphos [stirofos], kepone, mirex, methoxychlor, phosalone, coumaphos-O, coumaphos-S, toxaphene, famphur, PCB 1242, PCB 1248, PCB 1254, PCB 1260, dicofol*, PBBs*, polybrominated diphenyl ethers*, and deltamethrin* (*identification only; not quantitated)

The sampling status of each compound or compound class in the 2004 Monitoring Plan is provided in Table 6.2. For each highly ranked compound or compound class that was not scheduled for inclusion in the 2004 NRP, a brief explanation of the reason for its exclusion is provided. This table will be used to identify future method development needs for pesticides for the FSIS NRP.

It can be seen that a number of highly ranked pesticides could not be included in the 2004 NRP due to methodological limitations. FSIS will apply methodology capable of capturing chlorinated hydrocarbons and chlorinated and non-chlorinated organophosphates when such methodology can be implemented.

# Phase III. Identifying the Compound/Production Class (C/PC) Pairs

The CHC/COP class includes pesticides that may be present in the foods animals eat, creating the potential for the occurrence of "secondary residues" (i.e., residues that are not the result of direct treatment) in all classes of animals. Other compounds within this class (such as the PCBs) are environmental contaminants to which any animal may be exposed. **For the 2004 NRP, FSIS has suspended monitoring testing for CHCs and COPs for the following production classes: minor species (ducks, geese, ratites, rabbits, squab, and bison); horses; and bob veal. However, horses are of concern for residue violations and enforcement testing will continue. Not scheduling the minor species will allow FSIS to focus those resources on the development of methodologies in areas that are of high public health concern.** FSIS will continue sampling for CHCs and COPs as a means of monitoring for the occurrence of accidental contamination incidents.

# Phase IV. Allocation of Sampling Resources

Since only the CHC/COP compound class will be included in the 2004 NRP, this phase is relatively straightforward. FSIS has sufficient analytical capability to implement CHC/COP analysis in all production classes. To establish a relative sampling priority for each C/PC pair, the ranking score for the CHC/COPs (as calculated in Table 6.1) was multiplied by the estimated relative percent of domestic consumption for each production class (presented in Table 4.4). This is identical to Equation (4.6), which was used to calculate the relative sampling priorities for the veterinary drugs:

$$(\text{Rel. sampling priority})_{C/PC} = (\text{Ranking score})_{C} \times (\text{Est. rel. \% domestic consumption})_{PC} \qquad (6.4)$$

As stated above for veterinary drugs, Equation (6.4) is analogous to the equation used to estimate risk (Equation 6.1), in which risk per unit of consumption is multiplied by consumption. While the results of Equation (6.4) do not constitute an estimate of risk, they provide a numerical representation of the relative public health concern associated with each C/PC pair, and thus can be used to prioritize FSIS analytical sampling resources according to the latter. Note that the risk ranking provided by Equation (6.4) is based upon average consumption across the entire U.S. population, rather than upon maximally exposed individuals.

A ranking of the C/PC pairs within this single compound class could be obtained merely using the estimated relative percent of domestic consumption for each production class. In other words, the *rank order and the relative magnitude of the score* assigned to each of the C/PC pairs within this compound class is not changed by multiplying all the relative consumption values by the ranking score, since the ranking score is a constant term. Nevertheless, to maintain a rough parity between the sampling numbers assigned to the veterinary drugs and those assigned to the pesticides, all of the relative consumption figures were multiplied by the ranking score for the CHC/COP compound class. Then, rather than simply dividing the production classes into quartiles, the initial sampling levels were chosen using the same cutoff numbers employed in Table 4.5 for the veterinary drugs. The cutoff scores are as follows: >29.00 = 460 samples; 2.51 – 29.00 = 300 samples; 0.14 - 2.50 = 230 samples; < 0.14 = 90 samples. The results are presented in Table 6.3, *Pesticide Compound/Production Class Pairs, Sorted by Sampling Priority Score, with Adjusted Number of Analyses*. As described in Section 3, above, these sampling levels provide varying probabilities of detecting residue violations. Larger sample sizes, which provide the greater chance of detecting violations, are directed towards those C/PC pairs that have been identified as representing higher levels of relative public health concern.

Bob veal, Horses, rabbits, ratites, squab, geese, ducks, and bison will not be scheduled for the 2004 domestic monitoring program for the 2004 NRP because the minor species are low production animals. However, horses are of concern for residue violations and enforcement testing will continue. Not scheduling the minor species will allow FSIS to focus those resources on the development of methodologies in areas that are of high public health concern.

## Adjusting Relative Sampling Numbers

### *Adjusting for historical data on violation rates of individual C/PC pairs*

Extensive FSIS historical testing information on violations, subdivided by production class, is available for the CHC/COP compound class. This information has been used to further refine the relative priority of sampling each C/PC pair. Table 6.3 lists, for the period 01/01/1993 -12/31/2002 the total number of samples analyzed by FSIS in each production class under its monitoring plan (i.e., random sampling only), and the percent of samples found to be violative (i.e., present at a level in excess of the action level

or regulatory tolerance; or, for those compounds that are prohibited, present at any detectable level). Using these data, the following rules were applied to adjust the sampling numbers:

1. Less than 300 samples from the C/PC pair tested over the 10-year period: +1 level (i.e., increase by one sampling level, e.g., from 230 samples to 300 samples).
2. At least 300 samples tested over the 10-year period, violation rate $\geq$ 0.25%: +1 level.
3. At least 300 samples tested over the 10-year period, violation rate = 0.00%: -1 level.
4. The maximum number of samples to be scheduled for testing is 460.

Exceptions to these rules are:

1. Because the use of the CHC/COP method to test for phenylbutazone did not start until recently, FSIS has limited data on the occurrence of this drug in the production classes of interest. Therefore, all production classes for which phenylbutazone was designated as of potential concern (in Table 4.3, with a "●") were assigned a minimum of 300 samples.
2. **For the 2004 NRP, FSIS has suspended monitoring testing for for CHCs and COPs for the following production classes: minor species (ducks, geese, ratites, rabbits, squab, and bison); horses; and bob veal** (marked with a "■" In table 4.3).

All of the above adjustments were applied. The sampling numbers obtained following these adjustments are listed in Table 6.3 under the heading "Initial Adjust" (initial adjusted number of samples).

***Adjusting for laboratory capacity***

No adjustment for laboratory capacity was necessary for the 2004 NRP.

***Adjustment for the Number of Slaughter Facilities***

An adjustment to the total number of monitoring samples was made based on the number of production facilities (Table 6.3). For this adjustment, FSIS considered the total number of production facilities (USDA Inspected Establishments for 2002) for each production class. If the total number of production facilities for a production class was found to be low relative to other production classes, the total number of monitoring samples was reduced for that production class. The number of samples selected for the reduction is based on FSIS professional judgment. If the number of facilities is less than 100, but greater than 10, the number of monitoring samples was adjusted down by 1 level. If the total number of facilities is less than 10, the number of monitoring samples was adjusted down by 2 levels. Based on these parameters, the number of monitoring samples was adjusted for the following production classes: “Young Turkeys”, “Mature Chickens”, “Ducks”, “Mature Turkeys” and “Horses.” As mentioned above, testing for horses and ducks has been suspended for the 2004 NRP.

## Scoring Key for Pesticides

***FSIS Historical Testing Information on Violations (01/01/1993 - 12/31/2002)***

Violation rate scores were calculated by two different methods, A and B, using violation rate data from FSIS random sampling of animals entering the food supply:

Method A: Maximum Violation Rate. Identify the production class exhibiting the highest average violation rate (the number of violations over the period from 1993 - 2002, divided by the total number of samples analyzed). Score as follows:

4 = > 0.5%
3 = 0.25% - 0.5 %
2 = 0.07% - 0.24%
1 = < 0.07%
NT = Not tested by FSIS.
NA = Tested by FSIS, but violation information does not apply.

Method B: Violation Rate Weighted by Size of Production Class. For each production class analyzed, multiply the average violation rate (defined above) by the relative consumption value for that class (weight annual U.S. production for that class, divided by total production for all classes for which FSIS has regulatory responsibility). Add together the values for all production classes. Score as follows:

4 = > 0.08%
3 = 0.035% - 0.08%
2 = 0.003% - 0.034%
1 = < 0.003%
NT = Not tested by FSIS.
NA = Tested by FSIS, but violation information does not apply.

*The final score is determined by assigning, to each pesticide or pesticide class, the greater of the scores from Method A and Method B.*

It can be seen that Method A identifies those pesticides that are of regulatory concern because they exhibit high violation rates, independent of the relative consumption value of the production class in which the violations have occurred. Method B identifies those pesticides that may not have the highest violation rates, but would nevertheless be of concern because they exhibit moderate violation rates in a relatively large proportion of the U.S. meat supply. By employing Methods A and B together, and assigning a final score based on the highest score received from each, both of the above concerns are captured.

***Regulatory Concern***

These scores represent EPA's professional assessment of the extent to which the acute or chronic dietary exposure to this compound may exceed EPA's level of concern. For compounds other than carcinogens, this was determined by comparing a compound's Acute or Chronic Population Adjusted Dose (PAD) (whichever was lower) to the estimated level of exposure. The Acute and Chronic PAD's are calculated as follows:

The Acute Reference Dose (Acute RfD) is an estimate (with uncertainty spanning an order of magnitude or greater) of a single oral exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of deleterious effects.

The Chronic Reference Dose (Chronic RfD) is an estimate (with uncertainty spanning an order of magnitude or greater) of a daily oral exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of deleterious effects during a lifetime.

The Acute and Chronic RFD's are calculated by dividing the No Observed Adverse Effect Level (NOAEL) (i.e., the highest dose that gave no observable adverse effect) or the Lowest Observed Adverse Effect Level (LOAEL) (i.e., the lowest dose at which an adverse effect was seen) by Uncertainty Factors (UF). UF's are used to account for differences between different humans (intraspecies variability) and for differences between the test animals and humans (interspecies extrapolation). If the LOAEL is used, an additional UF is required.

RfD = (NOAEL or LOAEL)/Total UF

The Acute and Chronic Population Adjusted Dose (PAD) are the Acute and Chronic RfD, respectively, modified by the FQPA Safety Factor:

Acute or Chronic PAD = (Acute or Chronic RfD)/FQPA Safety Factor

The acute and chronic dietary risks are expressed as a percentage of the Acute or Chronic PAD. A dietary risk of 100% of the Acute or Chronic PAD (*whichever is lower*) is the target level of exposure that should not be exceeded (i.e., the estimated risk associated with any exposure that is less than 100% of the PAD has been judged not to be of concern). In the following, "PAD" is the lower of the Acute and Chronic PAD's.

4 = PAD exceeder or carcinogen.

3 = Close to PAD.

2 = Exposure estimated to be a low percentage of PAD.

1 = Exposure estimated to be a very low percentage of PAD.

***Lack of FSIS Testing Information on Violations***

A numerical value of 1, 2, 3 or 4 is assigned to a pesticide compound (or a group of compounds) for the category "Lack of Testing Information on Violations" (Table 6.1). To determine the numerical value, FSIS considers how long a pesticide substance has been in the monitoring program, the number of production classes that were tested, the number of samples analyzed and any change in how the pesticide compound is used. These factors are assessed and a numerical score is assigned as follows:

- A value of 4 is assigned when:
  - FSIS has not included this compound in its sampling program within the past 10 years (1/1/93 - 12/31/02); or,
  - FSIS has included this compound within its program only between 6 and 10 years ago (1/1/93 - 12/31/97), but the sampling does not meet the criteria specified for a "3;" or,
  - FSIS has included this compound in its sampling program, but the information is not useful in predicting future violation rates because of significant changes in the conditions of use of the compound (e.g., the reduction in withdrawal time for carbadox) or because regulatory intelligence information indicates that the situation has changed significantly since the last time the compound was sampled; or,
  - The compound is of concern in several production classes of interest, but testing has been carried out in only one.

- A value of 3 is assigned when:
  - FSIS has tested within the past 5 years (1/1/98 - 12/31/02), but in fewer than 75% of the production classes of interest; or,
  - Testing was between 6 and 10 years ago, where FSIS has analyzed at least 75% of production classes of interest for at least 2 of these 5 years, with a total of at least 500 samples per production class during this 5-year period and, in the case of a multi-residue method, the method used covers all compounds of interest within the compound class; or,
  - The compound would normally have qualified for a "1" or "2," but the method used was not sufficiently sensitive to permit accurate determination of the true violation rate.

- A value of 2 is assigned when:
  - FSIS has included this compound in its sampling program within the past 5 years in at least 75%, but less than 100% of the production classes of interest; or,
  - 100% of the production classes of interest have been sampled, but the amount and duration of sampling has been insufficient to qualify for a "1."

- A value of 1 is assigned when:
  FSIS has included this compound in its sampling program within the past 5 years, and has analyzed each production class of interest for at least 2 of these 5 years, with a total of at least 500 samples per production class during this 5-year period, and in the case of a multi-residue method, the method used covers all compounds of interest within the compound class.

***Pre-Slaughter Interval***

A numerical value of 1, 2, 3 or 4 is assigned by EPA to pesticides for the category "Pre-Slaughter Interval" (Table 6.1). Pesticides in this category have been accepted for direct dermal application and have a minimum pre-slaughter interval, which is the interval between the last dermal application and the time of slaughter. FSIS determines a value for a pesticide in this category as follows:

- A value of 4 is assigned when dermal application is permitted and the pre-slaughter interval is 1 day or greater.

- A value of 3 is assigned when dermal application is permitted and pre-slaughter interval 0 days.

- A value of 2 is assigned when dermal application is not permitted, but the treatment of premises (e.g., holding cells, feedlots, barns, etc.) is permitted.

- A value of 1 is assigned when neither dermal application nor premise treatment are permitted.

***Bioconcentration Factor***

A numerical value of 1, 2, 3 or 4 is assigned by EPA to pesticides for the category "Bioconcentration Factor" (Table 6.1). Bioconcentration is a measure of a compound's relative affinity for fat, as measured by the $K_{o/w}$. The $K_{o/w}$ is defined as the logarithm of the partition coefficient between octanol and water (log $P_{o/w}$). Compounds that have a high affinity for octanol (and thus a high $K_{o/w}$) tend to bioaccumulate in body fat. A bioconcentration value is determined according to the following criteria:

- A value of 4 is assigned if the log $K_{o/w}$ is greater than 3.

- A value of 3 is assigned if the log $K_{o/w}$ is between 2 and 3.

- A value of 2 is assigned if the log $K_{o/w}$ is between 1 and 2.

- A value of 1 is assigned if the log $K_{o/w}$ is less than 1.

***Endocrine Disruption***

A numerical value of 3 or 4 (or NT if not tested) is assigned by EPA to pesticides for the category "Endocrine Disruption" (Table 6.1). Endocrine disruption is a measure of the extent to which the compound changes endocrine function and causes adverse effects to individual organisms and/or their progeny, or to organism populations and subpopulations. A value for endocrine disruption is assigned as follows:

- A value of 4 is assigned if endocrine disruption is likely.

- A value of 3 is assigned if endocrine disruption is suspected.

- NT is reported if the compound has not been tested.

***Toxicity***

A numerical value of 1, 2, 3 or 4 is assigned by EPA to pesticides for the category "Toxicity" (Table 6.1). The toxicity value represents EPA's professional judgment of the toxicity of the compound, including both the dose required to achieve a toxic effect, and the severity of the toxic effect. In the following, "RfD" is the lower of the Acute and Chronic RfD's. [An explanation of Acute and Chronic RfD is provided in the description of Regulatory Concern, above.] A value for toxicity is determined as follows:

- A value of 4 is assigned if the pesticide compound is a cholinesterase inhibitor, carcinogen or has a low RfD.

- A value of 3 is assigned if the pesticide compound has a medium RfD.
- A value of 2 is assigned if the pesticide compound has a high RfD.
- A value of 1 is assigned if the pesticide compound has a high RfD.

**Table 6.1**
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| **Benzimidazole Pesticides in FSIS Benzimidazole MRM** (5-hydroxythiabendazole, benomyl (as carbendazim), thiabendazole) | NT | 3 | 1 | 4 | 3 | 4 | 4 | **12.7** |
| **Carbamates in FSIS Carbamate MRM** (aldicarb, aldicarb sulfoxide, aldicarb sulfone, carbaryl, carbofuran, carbofuran 3-hydroxy) | NA | 4 | 4 | 2 | 3 | 4 | 4 | **16.1** |
| **Carbamates NOT in FSIS Carbamate MRM** (carbaryl 5,6-dihydroxy, chlorpropham, propham, thiobencarb, 4-chlorobenzylmethylsulfone,4-chlorobenzylmethylsulfone sulfoxide) | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| **CHC's and COP's in FSIS CHC/COP MRM** (HCB, alpha-BHC, lindane, heptachlor, dieldrin, aldrin, endrin, ronnel, linuron, oxychlordane, chlorpyrifos, nonachlor, heptachlor epoxide A, heptachlor epoxide B, endosulfan I, endosulfan I sulfate, endosulfan II, trans-chlordane, cis-chlordane, chlorfenvinphos, p,p'-DDE, p, p'-TDE, o,p'-DDT, p,p'-DDT, carbophenothion, captan, tetrachlorvinphos [stirofos], kepone, mirex, methoxychlor, phosalone, coumaphos-O, coumaphos-S, toxaphene, famphur, PCB 1242, PCB 1248, PCB 1254, PCB 1260, dicofol*, PBBs*, polybrominated diphenyl ethers*, deltamethrin*) (*identification only) | 3 | 4 | 4 | 4 | NV | 4 | 1 | **16.0** |
| **COP's and OP's NOT in FSIS CHC/COP MRM** (azinphos-methyl, azinphos-methyl oxon, chlorpyrifos, coumaphos, coumaphos oxon, diazinon, diazinon oxon, diazinon met G-27550, dichlorvos, dimethoate, dimethoate oxon, dioxathion, ethion, ethion monooxon, fenthion, fenthion oxon, fenthion oxon sulfone, fenthion oxon sulfoxide, fenthion sulfone, fenthion sulfoxide, malathion, malathion oxon, naled, phosmet, phosmet oxon, pirimiphos-methyl, trichlorfon, tetrachlorvinphos, tetrachlorvinphos-4 metabolites, acephate, methamidophos, chlorpyrifos-methyl, fenamiphos, fenamiphos sulfoxide,fenamiphos sulfone, fenamiphos sulfoxide desisopropyl, fenamiphos sulfone desisopropyl, isofenphos, isofenphos oxon, isofenphos desisopropyl, isofenphos oxon desisopropyl, methidathion, ODM, parathion (ethyl), parathion oxon, parathion methyl, parathion methyl oxon, phorate, phorate oxon, phorate oxon sulfone, phorate oxon sulfoxide, phorate sulfone, phorate sulfoxide, profenofos, sulprofos, sulprofos oxon, sulprofos oxon sulfone, sulprofos oxon sulfoxide, sulprofos sulfone, sulprofos sulfoxide, tribufos (DEF)) | NT | 4 | 4 | 4 | NV | 4 | 4 | **18.4** |
| **Synthetic Pyrethrins in FSIS Synthetic Pyrethrin MRM** (cypermethrin, cis-permethrin, trans-permethrin, fenvalerate, zeta-cypermethrin) | NT | 3 | 4 | 4 | 3 | 4 | 4 | **16.1** |
| **Triazines in FSIS Triazine MRM** (atrazine, simazine, propazine, terbuthylazine) | NT | 4 | 2 | 3 | 4 | 4 | 4 | **15.0** |
| **Triazines NOT in FSIS Triazine MRM** (atrazine chloro metabolites, metribuzin, metribuzin DADK, metribuzin DA, metribuzin DK, amitraz, amitraz 2,4-DMA metabs., desdiethyl simazine, desethyl simazine, simazine chloro metabs.) | NT | 4 | 4 | 3 | 4 | 4 | 4 | **17.3** |
| 1-(2,4-dichlorophenyl)-2-(1H-imidazole-1-yl)-1-ethanol | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |
| 1,1-(2,2-dichloroethylidene)bis(4-methoxybenzene) | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |

**Table 6.1 – *Continued***
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| 1-methoxy-4-(1,2,2,2-tetrachloroethyl)benzene) | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |
| 1-methyl cyromazine | NT | 3 | 4 | 2 | NV | 4 | 4 | **13.8** |
| 1,2,4-Triazole | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| 2-((2-ethyl-6-methylphenyl)-amino)-1-propanol | NT | 3 | 1 | 3 | 3 | 4 | 4 | **11.5** |
| 2-(1-hydroxyethyl)-6-ethylaniline | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| 2-(4-((6-chloro-2-benzoxazolyl)oxy)phenoxy)propanoic acid | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| 2,3-dihydro-3,3-dimethyl-2-oxo-5-benzofuranyl methyl sulfonate | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| 2,4-D | NT | 3 | 2 | 1 | 3 | 2 | 4 | **5.2** |
| 2,5-dichloro-4-methoxyphenol | NT | 1 | 1 | 2 | NV | 3 | 4 | **4.3** |
| 2,6-diethylaniline | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| 2-aminobenzimidazole | NT | 3 | 1 | 2 | 3 | 4 | 4 | **10.4** |
| 2-amino-n-isopropylbenzamide | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| 2-carboxyisopropyl-4-(2,4-dichloro)-5-isopropoxyphenyl)-1,3,4-oxadiazolin-5-one | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| 2-hydroxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methyl sulfonate | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| 2-t-butyl-4-(2,4-dichloro-5-hydroxyphenyl)-delta 2-1,3,4-oxadiazolin-1,3,4,5-one | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| 3-(1-(2,4-dichlorophenyl)-2-(1H-imidazole-1-yl)ethoxy)-1,2-propane diol | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |
| 3-(2-chloro-4-hydroxyphenyl)-6-(2-chlorophenyl)-1,2,4,5-tetrazine | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| 3-(3,4-dichlorophenyl)-1-methoxyurea | NT | 3 | 2 | 3 | NV | 4 | 4 | **12.7** |
| 3,4-dichloroaniline | NT | 3 | 2 | 3 | NV | 4 | 4 | **12.7** |
| 3,4-dichlorophenylurea | NT | 3 | 2 | 3 | NV | 4 | 4 | **12.7** |
| 3-carboxy-5-ethoxy-1,2,4-thiadiazole | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| 3-t-butyl-5-chloro-6-hydroxymethyluracil | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| 4-(2-ethyl-6-methylphenyl)-2-hydroxy-5-methyl-3-morpholinone | NT | 3 | 1 | 3 | 3 | 4 | 4 | **11.5** |
| 4-chloro-2-trifluoromethylaniline | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| 4-hydrocythidiazuron | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| 6-chloro-2,3-dihydro-3,3,7-trimethyl-5H-oxazolo(3,2a)pyrimidin-5-one | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| 6-chloro-2,3-dihydro-7-hydroxymethyl-3,3-dimethyl-5H-oxazolo(3,2-a)pyrimidin-5-one | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| 6-chloro-2,3-dihydro-benzoxazol-2-one | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| 6-chloronicotinic acid | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |
| 6-chloropicolinic acid | NT | 1 | 1 | 4 | NV | 3 | 4 | **6.0** |
| 6-methyl-2,3-quinoxalinedithiol | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| Abamectin | NT | 2 | 1 | 4 | NV | 4 | 4 | **10.4** |
| Abamectin delta 8,9 geometric isomer | NT | 2 | 1 | 4 | NV | 4 | 4 | **10.4** |
| Acifluorfen, amino analog | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Alachlor | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| Allophanate | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |

**Table 6.1 – *Continued***
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| Aminomethylphosphonic acid | NT | 1 | 2 | 1 | NV | 1 | 4 | **1.4** |
| Arsanilic acid | NT | 4 | 1 | 4 | NT | 4 | 4 | **15.0** |
| Azoxystrobin | NT | 1 | 1 | 3 | NV | 2 | 4 | **3.5** |
| Azoxystrobin Z isomer | NT | 1 | 1 | 3 | NV | 2 | 4 | **3.5** |
| Benoxacor | NT | 1 | 1 | 3 | NV | 4 | 4 | **6.9** |
| Bensulfuron methyl ester | NT | | 1 | 1 | NV | 2 | 4 | **1.2** |
| Bentazon, 6-hydroxy bentazon, 8-hydroxy bentazon | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Bifenthrin | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Bifenthrin, 4'-hydroxy | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Bis(trichloromethyl)disulfide | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Bromoxynil | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| Buprofezin | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Butylamine, sec- | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| Cacodylic acid | NT | 3 | 3 | 3 | 3 | 4 | 4 | **13.8** |
| Captan epoxide | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Carboxin | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| Carboxin sulfoxide | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| Carfentrazone Ethyl | NT | 1 | 1 | 4 | NT | 1 | 4 | **2.0** |
| CGA 150829 | NT | 2 | 1 | 1 | NV | 4 | 4 | **6.9** |
| CGA 161149 | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| CGA 171683 | NT | 2 | 1 | 1 | NV | 4 | 4 | **6.9** |
| CGA 195654 | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| Chlorfenapyr | NT | 1 | 1 | 2 | NV | 4 | 4 | **5.8** |
| Chlorobenzilate | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| Chloroneb | NT | 1 | 1 | 2 | NV | 3 | 4 | **4.3** |
| Chloroneb, hydroxy- | NT | 1 | 1 | 2 | NV | 3 | 4 | **4.3** |
| Chlorsulfuron | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Chlorsulfuron, 5-hydroxy- | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Clethodim | NT | | 1 | 2 | NV | 3 | 4 | **2.6** |
| Clofencet | NT | 1 | 1 | 2 | NV | 3 | 4 | **4.3** |
| Clofentezine | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| Cloprop | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| Clopyralid | NT | 1 | 2 | 1 | NV | 2 | 4 | **2.9** |
| Compound 125670 | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| CP 101394 | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| CP 108064 | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| CP 108065 | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| CP 108267 | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |

**Table 6.1 – *Continued***
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T}*{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| CP 51214 | NT | 4 | 1 | 3 | 3 | 4 | 4 | **13.8** |
| Cyclanilide | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Cyclohexylstannoic acid | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Cyfluthrin | NT | 4 | 4 | 2 | NV | 3 | 4 | **12.1** |
| Cyhalothrin, lambda- | NT | 4 | 4 | 2 | NV | 4 | 4 | **16.1** |
| Cyhexatin | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Cyromazine | NT | 3 | 4 | 2 | NV | 4 | 4 | **13.8** |
| Dalapon | NT | 2 | 2 | 2 | NV | 3 | 4 | **6.9** |
| Dialifor | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Dialifor oxon | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Dicamba | NT | 3 | 2 | 3 | NV | 4 | 4 | **12.7** |
| Dicyclohexyltin oxide | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Difenoconazole | NT | 4 | 1 | 4 | NV | 3 | 4 | **11.2** |
| Difenzoquat | NT | 1 | 1 | 1 | NV | 4 | 4 | **4.6** |
| Diflubenzuron | NT | 3 | 4 | 4 | NV | 2 | 4 | **8.1** |
| Diflufenzopyr | NT | 1 | 1 | 2 | NV | 4 | 4 | **5.8** |
| Dimethenamid | NT | 2 | 1 | 1 | NT | 2 | 4 | **3.5** |
| Dimethipin | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| Dioxathion | NT | 3 | 1 | 3 | NV | 4 | 4 | **11.5** |
| Diphenamid | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |
| Diphenamid, desmethyl | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |
| Diphenylamine | NT | 3 | 3 | 1 | NV | 3 | 4 | **8.6** |
| Dipropyl isocinchomerate | NT | 3 | 4 | 4 | NV | 2 | 4 | **8.1** |
| Diquat dibromide | NT | 1 | 1 | 3 | NV | 4 | 4 | **6.9** |
| Diuron | NT | 3 | 2 | 3 | NV | 4 | 4 | **12.7** |
| Dodine | NT | 2 | 1 | 1 | NV | 3 | 4 | **5.2** |
| Emamectin | NT | 2 | 1 | 4 | NT | 3 | 4 | **7.8** |
| Esfenvalerate | NT | 3 | 4 | 3 | NV | 3 | 4 | **11.2** |
| Ethalfluralin | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| Ethephon | NT | 3 | 1 | 1 | NV | 2 | 4 | **4.6** |
| Ethofumesate | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| Ethoxyquin | NT | 4 | 2 | 4 | NV | 2 | 4 | **8.1** |
| Etridiazole . | NT | 4 | 1 | 4 | NV | 3 | 4 | **11.2** |
| ETU | NT | 3 | 1 | 2 | 3 | 4 | 4 | **10.4** |
| Fenarimol | NT | 1 | 1 | 4 | NV | 3 | 4 | **6.0** |
| Fenarimol metabolite B | NT | 1 | 1 | 4 | NV | 3 | 4 | **6.0** |
| Fenarimol metabolite C | NT | 1 | 1 | 4 | NV | 3 | 4 | **6.0** |
| Fenbuconazole | NT | 4 | 1 | 4 | NT | 3 | 4 | **11.2** |

**Table 6.1 – *Continued***
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| Fenbutatin Oxide | NT | 2 | 1 | 4 | NV | 3 | 4 | **7.8** |
| Fenoxaprop ethyl | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Fenpropathrin | NT | 4 | 1 | 1 | NV | 3 | 4 | **8.6** |
| Fenridazon | NT | 2 | 1 | 2 | NV | 3 | 4 | **6.0** |
| Fipronil | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |
| Fluazifop-butyl | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Fludioxanil | NT | 1 | 1 | 4 | NT | 1 | 4 | **2.0** |
| Flufenacet (thiafluamide) | NT | 3 | 1 | 4 | NT | 3 | 4 | **9.5** |
| Fluridone | NT | 2 | 1 | 2 | NV | 3 | 4 | **6.0** |
| Fluroxypyr | NT | 2 | 1 | 1 | NT | 2 | 4 | **3.5** |
| Fluthiacet-Methyl (CGA-248757) | NT | 1 | 1 | 1 | NT | 1 | 4 | **1.2** |
| Flutolanil | NT | 2 | 1 | 4 | NV | 2 | 4 | **5.2** |
| Fluvalinate | NT | 4 | 1 | 4 | NV | 3 | 4 | **11.2** |
| Glufosinate-Ammonium | NT | 1 | 2 | 1 | NV | 3 | 4 | **4.3** |
| Glyphosate | NT | 1 | 2 | 1 | NV | 1 | 4 | **1.4** |
| Glyphosate-Trimesium | NT | 1 | 1 | 1 | NV | 2 | 4 | **2.3** |
| Halosulfuron | NT | 1 | 1 | 2 | NV | 2 | 4 | **2.9** |
| Hexazinone | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| HOE-061517 | NT | 1 | 2 | 1 | NV | 3 | 4 | **4.3** |
| HOE-099730 | NT | 1 | 2 | 1 | NV | 3 | 4 | **4.3** |
| Imazalil | NT | 4 | 4 | 4 | NV | 4 | 4 | **18.4** |
| Imidacloprid | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |
| IN-A3928 | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| IN-B2838 | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Indoxacarb (DPX-MP062) | NT | | 1 | | NT | | 4 | **0.0** |
| IN-T3935 | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| IN-T3936 | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| IN-T3937 | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Iprodione | NT | 3 | 1 | 3 | NV | 4 | 4 | **11.5** |
| Iprodione isomer | NT | 3 | 1 | 3 | NV | 4 | 4 | **11.5** |
| Iprodione metabolite | NT | 3 | 1 | 3 | NV | 4 | 4 | **11.5** |
| Iprodione metabolite 2 | NT | 3 | 1 | 3 | NV | 4 | 4 | **11.5** |
| Isoxaflutole | NT | 4 | 1 | 3 | NT | 3 | 4 | **10.4** |
| Kresoxim-methyl | NT | 4 | 1 | 4 | NT | 3 | 4 | **11.2** |
| Maleic hydrazide | NT | 3 | 1 | 4 | NV | 1 | 4 | **3.2** |
| Mancozeb | NT | 3 | 1 | 2 | 3 | 4 | 4 | **10.4** |
| Maneb | NT | 3 | 1 | 2 | 3 | 4 | 4 | **10.4** |
| MB 45950 | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |

**Table 6.1 – *Continued***
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| MB 46136 | NT | 3 | 4 | 4 | NV | 3 | 4 | **12.1** |
| MB 46513 | NT | 3 | 4 | 4 | NV | 4 | 4 | **16.1** |
| MCPA | NT | 1 | 1 | 1 | NV | 4 | 4 | **4.6** |
| Mepiquat chloride | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| Methoprene | NT | 2 | 1 | 3 | NV | 2 | 4 | **4.6** |
| Methoxychlor olefin | NT | 3 | 4 | 4 | 4 | 4 | 4 | **16.1** |
| Methyl 3,5-dichlorobenzoate | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| Metiram | NT | 3 | 1 | 2 | 3 | 4 | 4 | **10.4** |
| Metolachlor | NT | 3 | 1 | 3 | 3 | 4 | 4 | **11.5** |
| Metsulfuron Methyl | NT | 1 | 1 | 1 | NV | 2 | 4 | **2.3** |
| Myclobutanil, myclobutanil alcohol metabolite, myclobutanol dihydroxy metabolite | NT | 3 | 1 | 2 | NV | 2 | 4 | **5.2** |
| N-(3,4-dichlorophenyl)-N'-methylurea | NT | 3 | 2 | 3 | NV | 4 | 4 | **12.7** |
| N-(4-chloro-2-trifluoromethylphenyl)-propoxyacetamide | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| Nicotine | NT | 1 | 1 | 3 | NV | 4 | 4 | **6.9** |
| Nitrapyrin | NT | 1 | 1 | 4 | NV | 3 | 4 | **6.0** |
| Norfluraxon, desmethyl- | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| Norflurazon | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| N-phenylurea | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| NTN33823 | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |
| NTN35884 | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |
| Octyl bicycloheptene dicarboximide (MGK-264) | NT | 3 | 4 | 4 | NV | 3 | 4 | **12.1** |
| Oxadiazon | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Oxyfluorfen | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Oxythioquinox | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| Paraquat dichloride | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| PB-7 | NT | 2 | 1 | 1 | NV | 4 | 4 | **6.9** |
| PB-9 | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Phosalone oxon | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| Picloram | NT | 1 | 2 | 1 | NV | 2 | 4 | **2.9** |
| Piperonyl butoxide | NT | 3 | 4 | 2 | NV | 3 | 4 | **10.4** |
| PP 890 | NT | 3 | 4 | 2 | NV | 4 | 4 | **13.8** |
| Primisulfuron-methyl | NT | 2 | 1 | 1 | NV | 4 | 4 | **6.9** |
| Propanil | NT | 1 | 1 | 3 | NV | 4 | 4 | **6.9** |
| Propargite | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Propargite | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Propiconazole | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| Propiconazole metabolite 1,2,4-triazole | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| Propiconazole metabolite CGA 118244 | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |

**Table 6.1 – *Continued***
**Scoring Table for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| Propiconazole metabolite CGA 91305 | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| Propyzamide | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| Prosulfuron | NT | 1 | 1 | 3 | NV | 3 | 4 | **5.2** |
| Pymetrozine | NT | 1 | 1 | 1 | NT | 1 | 4 | **1.2** |
| Pyradostrobin | NT | 1 | 1 | 3 | NV | 2 | 4 | **3.5** |
| Pyrazon | NT | 3 | 1 | 1 | NV | 4 | 4 | **9.2** |
| Pyrazon metabolite A | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| Pyrazon metabolite B | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| Pyrethrin I | NT | 2 | 4 | 4 | NV | 3 | 4 | **10.4** |
| Pyridaben | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Pyriproxifen | NT | 1 | 1 | 4 | NT | 1 | 4 | **2.0** |
| Quinclorac | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| Quizalofop-ethyl | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| SD 31723 | NT | 2 | 1 | 4 | NV | 3 | 4 | **7.8** |
| SD 33608 | NT | 2 | 1 | 4 | NV | 3 | 4 | **7.8** |
| SD 54597 | NT | 3 | 4 | 3 | NV | 3 | 4 | **11.2** |
| Sethoxydim | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| Sethoxydim hydroxylate sulfone | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| Sethoxydim sulfoxide | NT | 2 | 1 | 2 | NV | 2 | 4 | **4.0** |
| Sodium acifluorfen | NT | 3 | 1 | 2 | NV | 3 | 4 | **7.8** |
| Spinosad | NT | 1 | 1 | 4 | NT | 1 | 4 | **2.0** |
| Sulfosulfuron | NT | 2 | 1 | 1 | NT | 2 | 4 | **3.5** |
| TCP=3,5,6-trichloro-2-pyridinol | NT | 3 | 2 | 1 | NV | 4 | 4 | **10.4** |
| Tebuconazole | NT | 4 | 1 | 2 | NV | 3 | 4 | **9.5** |
| Tebufenozide | NT | 3 | 1 | 4 | NV | 3 | 4 | **9.5** |
| Tebuthiuron | NT | 2 | 1 | 2 | NV | 3 | 4 | **6.0** |
| Teflubenzuron | NT | | 1 | | NT | | 4 | **0.0** |
| Terbacil | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| Tetradifon | NT | 1 | 1 | 2 | NV | 4 | 4 | **5.8** |
| Thiamethoxam | NT | 4 | 2 | 1 | NV | 4 | 4 | **12.7** |
| Thidiazuron | NT | 2 | 1 | 2 | NV | 4 | 4 | **8.1** |
| Thiophanate methyl | NT | 3 | 1 | 2 | NV | 4 | 4 | **10.4** |
| THPI | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Tralkoxydim | NT | 2 | 1 | 2 | NT | 2 | 4 | **4.0** |
| Triadimefon | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Triadimefon metabolite KWG 1323 | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Triadimefon metabolite KWG 1342 | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Triadimefon metabolite KWG 1732 | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |

## Table 6.1 – *Continued*
## Scoring Table for Pesticides
## 2004 FSIS NRP, Domestic Monitoring Plan

| Compound / Compound Class | HIST. VIOL. (FSIS) | REG. CON. (R) (EPA) | PSI (P) (EPA) | BIOCON. (B) (EPA) | ENDO. DISRUP. (EPA) | TOX. (T) (EPA) | LACK INFO. (L) (FSIS) | *{[(2*R+P+B)/4]*T} *{[(L-1)*0.05]+1}* |
|---|---|---|---|---|---|---|---|---|
| Triadimenol (for metabolites see triadimefon) | NT | 3 | 1 | 4 | NV | 4 | 4 | **12.7** |
| Triasulfuron | NT | 1 | 1 | 1 | NV | 3 | 4 | **3.5** |
| Triazole analine | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| Triazole lactic acid | NT | 4 | 1 | 3 | NV | 4 | 4 | **13.8** |
| Triclopyr | NT | 3 | 2 | 1 | NV | 4 | 4 | **10.4** |
| Trifloxystrobin | NT | 1 | 1 | 3 | NV | 2 | 4 | **3.5** |
| Triflumazole | NT | 4 | 1 | 4 | NV | 3 | 4 | **11.2** |
| Triphenyltin hydroxide | NT | 1 | 1 | 4 | NV | 4 | 4 | **8.1** |
| WAK4103 | NT | 3 | 1 | 1 | NV | 3 | 4 | **6.9** |

**Key:**
MRM = Multiresidue method
CHC = Chlorinated hydrocarbon
COP = Chlorinated organophosphate
OP = Organophosphate
NT = Not Tested by FSIS (01/01/93 - 12/31/2002)
NA = Compound has been tested by FSIS (01/01/93 - 12/31/2002), but the information is Not Applicable (e.g., compound has not been tested in the appropriate matrix)
NV = Value not available
(FSIS) = Scores in this column supplied by FSIS
(EPA) = Scores in this column supplied by EPA
HIST. VIOL. = FSIS Historical Testing Information on Violations
REG. CON. (R) = Regulatory Concern
LACK INFO. (L) = Lack of FSIS Testing Information on Violations
PSI (P) = Pre-slaughter Interval
BIOCON. (B) = Bioconcentration Factor
ENDO. DISRUP. = Endocrine Disruption
TOX. (T) = Toxicity
**In the first column, where compounds have been grouped together for analysis or potential analysis by an MRM, the title of that group has been bolded (e.g., "Carbamates in FSIS Carbamate MRM").**

**Table 6.2**
**Rank and Status for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| 1 | **COPs and OPs NOT in FSIS CHC/COP MRM** (azinphos-methyl, azinphos-methyl oxon, chlorpyrifos, coumaphos, coumaphos oxon, diazinon, diazinon oxon, diazinon met G-27550, dichlorvos, dimethoate, dimethoate oxon, dioxathion, ethion, ethion monooxon, fenthion, fenthion oxon, fenthion oxon sulfone, fenthion oxon sulfoxide, fenthion sulfone, fenthion sulfoxide, malathion, malathion oxon, naled, phosmet, phosmet oxon, pirimiphos-methyl, trichlorfon, tetrachlorvinphos, tetrachlorvinphos-4 metabolites, acephate, methamidophos, chlorpyrifos-methyl, fenamiphos, fenamiphos sulfoxide, fenamiphos sulfone, fenamiphos sulfoxide desisopropyl, fenamiphos sulfone desisopropyl, isofenphos, isofenphos oxon, isofenphos desisopropyl, isofenphos oxon desisopropyl, methidathion, ODM, parathion (ethyl), parathion oxon, parathion methyl, parathion methyl oxon, phorate, phorate oxon, phorate oxon sulfone, phorate oxon sulfoxide, phorate sulfone, phorate sulfoxide, profenofos, sulprofos, sulprofos oxon, sulprofos oxon sulfone, sulprofos oxon sulfoxide, sulprofos sulfone, sulprofos sulfoxide, tribufos (DEF)) | 18.4 | NIP |
| 2 | Imazalil | 18.4 | NIP |
| 3 | **Triazines NOT in FSIS Triazine MRM** (atrazine chloro metabolites, metribuzin, metribuzin DADK, metribuzin DA, metribuzin DK, amitraz, amitraz 2,4-DMA metabs., desdiethyl simazine, desethyl simazine, simazine chloro metabs.) | 17.3 | NIP |
| 4 | **Carbamates in FSIS Carbamate MRM** (aldicarb, aldicarb sulfoxide, aldicarb sulfone, carbaryl, carbofuran, carbofuran 3-hydroxy) | 16.1 | NIP |
| 5 | 1-(2,4-dichlorophenyl)-2-(1H-imidazole-1-yl)-1-ethanol | 16.1 | NIP |
| 6 | 1,1-(2,2-dichloroethylidene)bis(4-methoxybenzene) | 16.1 | NIP |
| 7 | 1-methoxy-4-(1,2,2,2-tetrachloroethyl)benzene) | 16.1 | NIP |
| 8 | 3-(1-(2,4-dichlorophenyl)-2-(1H-imidazole-1-yl)ethoxy)-1,2-propane diol | 16.1 | NIP |
| 9 | Fipronil | 16.1 | NIP |
| 10 | MB 45950 | 16.1 | NIP |
| 11 | MB 46513 | 16.1 | NIP |
| 12 | Methoxychlor olefin | 16.1 | NIP |
| 13 | Cyhalothrin, lambda- | 16.1 | NIP |
| 14 | **Synthetic Pyrethrins in FSIS Synthetic Pyrethrin MRM** (cypermethrin, cis-permethrin, trans-permethrin, fenvalerate, zeta-cypermethrin) | 16.1 | NIP |
| 15 | **CHCs and COPs in FSIS CHC/COP MRM** (HCB, alpha-BHC, lindane, heptachlor, dieldrin, aldrin, endrin, ronnel, linuron, oxychlordane, chlorpyrifos, nonachlor, heptachlor epoxide A, heptachlor epoxide B, endosulfan I, endosulfan I sulfate, endosulfan II, trans-chlordane, cis-chlordane, chlorfenvinphos, p,p'-DDE, p, p'-TDE, o,p'-DDT, p,p'-DDT, carbophenothion, captan, tetrachlorvinphos [stirofos], kepone, mirex, methoxychlor, phosalone, coumaphos-O, coumaphos-S, toxaphene, famphur, PCB 1242, PCB 1248, PCB 1254, PCB 1260, dicofol*, PBBs*, polybrominated diphenyl ethers*, deltamethrin*) (*identification only) | 16.0 | Monitoring Plan, MRM, all domestic production classes except: minor species (rabbits, ratites, squab, geese, ducks, and bison); horses; and bob-veal. Import residue plan, all import production classes. |

## Table 6.2 – *Continued*
## Rank and Status for Pesticides
## 2004 FSIS NRP, Domestic Monitoring Plan

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| Based on consultation with EPA and other agencies, compounds below this point were not considered to represent a broad potential public health risk. However, some of these compounds may be samples on a specific, as-needed basis. | | | |
| 16 | **Triazines in FSIS Triazine MRM** (atrazine, simazine, propazine, terbuthylazine) | 15.0 | NIP; low priority |
| 17 | Arsanilic acid | 15.0 | NIP; low priority |
| 18 | Alachlor | 13.8 | NIP; low priority |
| 19 | Cyromazine | 13.8 | NIP; low priority |
| 20 | **Carbamates NOT in FSIS Carbamate MRM** (carbaryl 5,6-dihydroxy, chlorpropham, propham, thiobencarb, 4-chlorobenzylmethylsulfone,4-chlorobenzylmethylsulfone sulfoxide) | 13.8 | NIP; low priority |
| 21 | 1-methyl cyromazine | 13.8 | NIP; low priority |
| 22 | 2-(1-hydroxyethyl)-6-ethylaniline | 13.8 | NIP; low priority |
| 23 | 2,6-diethylaniline | 13.8 | NIP; low priority |
| 24 | Cacodylic acid | 13.8 | NIP; low priority |
| 25 | CP 101394 | 13.8 | NIP; low priority |
| 26 | CP 108064 | 13.8 | NIP; low priority |
| 27 | CP 108065 | 13.8 | NIP; low priority |
| 28 | CP 108267 | 13.8 | NIP; low priority |
| 29 | CP 51214 | 13.8 | NIP; low priority |
| 30 | Phosalone oxon | 13.8 | NIP; low priority |
| 31 | PP 890 | 13.8 | NIP; low priority |
| 32 | Propiconazole | 13.8 | NIP; low priority |
| 33 | Propiconazole metabolite 1,2,4-triazole | 13.8 | NIP; low priority |
| 34 | Propiconazole metabolite CGA 118244 | 13.8 | NIP; low priority |
| 35 | Propiconazole metabolite CGA 91305 | 13.8 | NIP; low priority |
| 36 | 1,2,4-Triazole | 13.8 | NIP; low priority |
| 37 | Triazole analine | 13.8 | NIP; low priority |
| 38 | Triazole lactic acid | 13.8 | NIP; low priority |
| 39 | Thiamethoxam | 12.7 | NIP; low priority |
| 40 | **Benzimidazole Pesticides in FSIS Benzimidazole MRM** (5-hydroxythiabendazole, benomyl (as carbendazim), thiabendazole) | 12.7 | NIP; low priority |
| 41 | 2-(4-((6-chloro-2-benzoxazolyl)oxy)phenoxy)propanoic acid | 12.7 | NIP; low priority |
| 42 | 2-carboxyisopropyl-4-(2,4-dichloro)-5-isopropoxyphenyl)-1,3,4-oxadiazolin-5-one | 12.7 | NIP; low priority |
| 43 | 2-t-butyl-4-(2,4-dichloro-5-hydroxyphenyl)-delta 2-1,3,4-oxadiazolin-1,3,4,5-one | 12.7 | NIP; low priority |
| 44 | 3-(3,4-dichlorophenyl)-1-methoxyurea | 12.7 | NIP; low priority |
| 45 | 3,4-dichloroaniline | 12.7 | NIP; low priority |
| 46 | 3,4-dichlorophenylurea | 12.7 | NIP; low priority |
| 47 | 6-chloro-2,3-dihydro-benzoxazol-2-one | 12.7 | NIP; low priority |
| 48 | Bifenthrin | 12.7 | NIP; low priority |
| 49 | Bifenthrin, 4'-hydroxy | 12.7 | NIP; low priority |
| 50 | Bis(trichloromethyl)disulfide | 12.7 | NIP; low priority |

**Table 6.2 – *Continued***
**Rank and Status for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| 51 | Captan epoxide | 12.7 | NIP; low priority |
| 52 | Cyclanilide | 12.7 | NIP; low priority |
| 53 | Dialifor | 12.7 | NIP; low priority |
| 54 | Dialifor oxon | 12.7 | NIP; low priority |
| 55 | Dicamba | 12.7 | NIP; low priority |
| 56 | Diuron | 12.7 | NIP; low priority |
| 57 | Fenoxaprop ethyl | 12.7 | NIP; low priority |
| 58 | N-(3,4-dichlorophenyl)-N'-methylurea | 12.7 | NIP; low priority |
| 59 | Oxadiazon | 12.7 | NIP; low priority |
| 60 | Oxyfluorfen | 12.7 | NIP; low priority |
| 61 | THPI | 12.7 | NIP; low priority |
| 62 | Triadimefon | 12.7 | NIP; low priority |
| 63 | Triadimefon metabolite KWG 1323 | 12.7 | NIP; low priority |
| 64 | Triadimefon metabolite KWG 1342 | 12.7 | NIP; low priority |
| 65 | Triadimefon metabolite KWG 1732 | 12.7 | NIP; low priority |
| 66 | Triadimenol (for metabolites see triadimefon) | 12.7 | NIP; low priority |
| 67 | Cyfluthrin | 12.1 | NIP; low priority |
| 68 | MB 46136 | 12.1 | NIP; low priority |
| 69 | Octyl bicycloheptene dicarboximide (MGK-264) | 12.1 | NIP; low priority |
| 70 | 2-((2-ethyl-6-methylphenyl)-amino)-1-propanol | 11.5 | NIP; low priority |
| 71 | 4-(2-ethyl-6-methylphenyl)-2-hydroxy-5-methyl-3-morpholinone | 11.5 | NIP; low priority |
| 72 | Dioxathion | 11.5 | NIP; low priority |
| 73 | Iprodione | 11.5 | NIP; low priority |
| 74 | Iprodione isomer | 11.5 | NIP; low priority |
| 75 | Iprodione metabolite | 11.5 | NIP; low priority |
| 76 | Iprodione metabolite 2 | 11.5 | NIP; low priority |
| 77 | Metolachlor | 11.5 | NIP; low priority |
| 78 | Difenoconazole | 11.2 | NIP; low priority |
| 79 | Esfenvalerate | 11.2 | NIP; low priority |
| 80 | Etridiazole . | 11.2 | NIP; low priority |
| 81 | Fenbuconazole | 11.2 | NIP; low priority |
| 82 | Fluvalinate | 11.2 | NIP; low priority |
| 83 | Kresoxim-methyl | 11.2 | NIP; low priority |
| 84 | SD 54597 | 11.2 | NIP; low priority |
| 85 | Triflumazole | 11.2 | NIP; low priority |
| 86 | 2-aminobenzimidazole | 10.4 | NIP; low priority |
| 87 | 6-methyl-2,3-quinoxalinedithiol | 10.4 | NIP; low priority |
| 88 | Abamectin | 10.4 | NIP; low priority |
| 89 | Abamectin delta 8,9 geometric isomer | 10.4 | NIP; low priority |
| 90 | Allophanate | 10.4 | NIP; low priority |
| 91 | Carboxin | 10.4 | NIP; low priority |
| 92 | Carboxin sulfoxide | 10.4 | NIP; low priority |
| 93 | Ethalfluralin | 10.4 | NIP; low priority |

**Table 6.2 – *Continued***
**Rank and Status for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| 94 | ETU | 10.4 | NIP; low priority |
| 95 | Isoxaflutole | 10.4 | NIP; low priority |
| 96 | Mancozeb | 10.4 | NIP; low priority |
| 97 | Maneb | 10.4 | NIP; low priority |
| 98 | Metiram | 10.4 | NIP; low priority |
| 99 | Piperonyl butoxide | 10.4 | NIP; low priority |
| 100 | Pyrazon metabolite A | 10.4 | NIP; low priority |
| 101 | Pyrazon metabolite B | 10.4 | NIP; low priority |
| 102 | Pyrethrin I | 10.4 | NIP; low priority |
| 103 | Quizalofop-ethyl | 10.4 | NIP; low priority |
| 104 | TCP=3,5,6-trichloro-2-pyridinol | 10.4 | NIP; low priority |
| 105 | Thiophanate methyl | 10.4 | NIP; low priority |
| 106 | Triclopyr | 10.4 | NIP; low priority |
| 107 | 3-carboxy-5-ethoxy-1,2,4-thiadiazole | 9.5 | NIP; low priority |
| 108 | 4-chloro-2-trifluoromethylaniline | 9.5 | NIP; low priority |
| 109 | Chlorobenzilate | 9.5 | NIP; low priority |
| 110 | Flufenacet (thiafluamide) | 9.5 | NIP; low priority |
| 111 | Methyl 3,5-dichlorobenzoate | 9.5 | NIP; low priority |
| 112 | N-(4-chloro-2-trifluoromethylphenyl)-propoxyacetamide | 9.5 | NIP; low priority |
| 113 | Propyzamide | 9.5 | NIP; low priority |
| 114 | Tebuconazole | 9.5 | NIP; low priority |
| 115 | Tebufenozide | 9.5 | NIP; low priority |
| 116 | 3-(2-chloro-4-hydroxyphenyl)-6-(2-chlorophenyl)-1,2,4,5-tetrazine | 9.2 | NIP; low priority |
| 117 | Bromoxynil | 9.2 | NIP; low priority |
| 118 | Clofentezine | 9.2 | NIP; low priority |
| 119 | Mepiquat chloride | 9.2 | NIP; low priority |
| 120 | Norfluraxon, desmethyl- | 9.2 | NIP; low priority |
| 121 | Norflurazon | 9.2 | NIP; low priority |
| 122 | Oxythioquinox | 9.2 | NIP; low priority |
| 123 | Paraquat dichloride | 9.2 | NIP; low priority |
| 124 | Pyrazon | 9.2 | NIP; low priority |
| 125 | Diphenylamine | 8.6 | NIP; low priority |
| 126 | Fenpropathrin | 8.6 | NIP; low priority |
| 127 | Ethoxyquin | 8.1 | NIP; low priority |
| 128 | 4-hydrocythidiazuron | 8.1 | NIP; low priority |
| 129 | Buprofezin | 8.1 | NIP; low priority |
| 130 | Cyclohexylstannoic acid | 8.1 | NIP; low priority |
| 131 | Cyhexatin | 8.1 | NIP; low priority |
| 132 | Dicyclohexyltin oxide | 8.1 | NIP; low priority |
| 133 | Diflubenzuron | 8.1 | NIP; low priority |
| 134 | Dipropyl isocinchomerate | 8.1 | NIP; low priority |
| 135 | N-phenylurea | 8.1 | NIP; low priority |
| 136 | PB-9 | 8.1 | NIP; low priority |

**Table 6.2 – *Continued***
**Rank and Status for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| 137 | Pyridaben | 8.1 | NIP; low priority |
| 138 | Thidiazuron | 8.1 | NIP; low priority |
| 139 | Triphenyltin hydroxide | 8.1 | NIP; low priority |
| 140 | 1,1,3,3,-tetrakis(2-methyl-2-phenylpropyl)-1,3-dihydroxydistannoxane | 7.8 | NIP; low priority |
| 141 | 2-amino-n-isopropylbenzamide | 7.8 | NIP; low priority |
| 142 | Acifluorfen, amino analog | 7.8 | NIP; low priority |
| 143 | Bentazon, 6-hydroxy bentazon, 8-hydroxy bentazon | 7.8 | NIP; low priority |
| 144 | Chlorsulfuron | 7.8 | NIP; low priority |
| 145 | Chlorsulfuron, 5-hydroxy- | 7.8 | NIP; low priority |
| 146 | Emamectin | 7.8 | NIP; low priority |
| 147 | Fenbutatin Oxide | 7.8 | NIP; low priority |
| 148 | Fluazifop-butyl | 7.8 | NIP; low priority |
| 149 | Hexazinone | 7.8 | NIP; low priority |
| 150 | IN-A3928 | 7.8 | NIP; low priority |
| 152 | IN-B2838 | 7.8 | NIP; low priority |
| 153 | IN-T3935 | 7.8 | NIP; low priority |
| 154 | IN-T3936 | 7.8 | NIP; low priority |
| 155 | IN-T3937 | 7.8 | NIP; low priority |
| 156 | Propargite | 7.8 | NIP; low priority |
| 157 | SD 31723 | 7.8 | NIP; low priority |
| 158 | SD 33608 | 7.8 | NIP; low priority |
| 159 | Sodium acifluorfen | 7.8 | NIP; low priority |
| 160 | 6-chloronicotinic acid | 6.9 | NIP; low priority |
| 161 | Benoxacor | 6.9 | NIP; low priority |
| 162 | CGA 150829 | 6.9 | NIP; low priority |
| 163 | CGA 171683 | 6.9 | NIP; low priority |
| 164 | Dalapon | 6.9 | NIP; low priority |
| 165 | Diphenamid | 6.9 | NIP; low priority |
| 166 | Diphenamid, desmethyl | 6.9 | NIP; low priority |
| 167 | Diquat dibromide | 6.9 | NIP; low priority |
| 168 | Imidacloprid | 6.9 | NIP; low priority |
| 169 | Nicotine | 6.9 | NIP; low priority |
| 170 | NTN33823 | 6.9 | NIP; low priority |
| 171 | NTN35884 | 6.9 | NIP; low priority |
| 172 | PB-7 | 6.9 | NIP; low priority |
| 173 | Primisulfuron-methyl | 6.9 | NIP; low priority |
| 174 | Propanil | 6.9 | NIP; low priority |
| 175 | WAK4103 | 6.9 | NIP; low priority |
| 176 | 6-chloropicolinic acid | 6.0 | NIP; low priority |
| 177 | Fenarimol | 6.0 | NIP; low priority |
| 178 | Fenarimol metabolite B | 6.0 | NIP; low priority |
| 179 | Fenarimol metabolite C | 6.0 | NIP; low priority |
| 180 | Fenridazon | 6.0 | NIP; low priority |

**Table 6.2 – *Continued***
**Rank and Status for Pesticides**
**2004 FSIS NRP, Domestic Monitoring Plan**

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| 181 | Fluridone | 6.0 | NIP; low priority |
| 182 | Nitrapyrin | 6.0 | NIP; low priority |
| 183 | Tebuthiuron | 6.0 | NIP; low priority |
| 184 | Chlorfenapyr | 5.8 | NIP; low priority |
| 185 | Tetradifon | 5.8 | NIP; low priority |
| 186 | Diflufenzopyr | 5.8 | NIP; low priority |
| 187 | 2,4-D | 5.2 | NIP; low priority |
| 188 | Dodine | 5.2 | NIP; low priority |
| 189 | Flutolanil | 5.2 | NIP; low priority |
| 190 | Myclobutanil, myclobutanil alcohol metabolite, myclobutanol dihydroxy metabolite | 5.2 | NIP; low priority |
| 191 | Prosulfuron | 5.2 | NIP; low priority |
| 192 | Difenzoquat | 4.6 | NIP; low priority |
| 193 | Ethephon | 4.6 | NIP; low priority |
| 194 | MCPA | 4.6 | NIP; low priority |
| 195 | Methoprene | 4.6 | NIP; low priority |
| 196 | 2,5-dichloro-4-methoxyphenol | 4.3 | NIP; low priority |
| 197 | Chloroneb | 4.3 | NIP; low priority |
| 198 | Chloroneb, hydroxy- | 4.3 | NIP; low priority |
| 199 | Clofencet | 4.3 | NIP; low priority |
| 200 | Glufosinate-Ammonium | 4.3 | NIP; low priority |
| 201 | HOE-061517 | 4.3 | NIP; low priority |
| 202 | HOE-099730 | 4.3 | NIP; low priority |
| 203 | 2,3-dihydro-3,3-dimethyl-2-oxo-5-benzofuranyl methyl sulfonate | 4.0 | NIP; low priority |
| 204 | 2-hydroxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methyl sulfonate | 4.0 | NIP; low priority |
| 205 | Butylamine, sec- | 4.0 | NIP; low priority |
| 206 | Compound 125670 | 4.0 | NIP; low priority |
| 207 | Ethofumesate | 4.0 | NIP; low priority |
| 208 | Quinclorac | 4.0 | NIP; low priority |
| 209 | Sethoxydim | 4.0 | NIP; low priority |
| 210 | Sethoxydim hydroxylate sulfone | 4.0 | NIP; low priority |
| 211 | Sethoxydim sulfoxide | 4.0 | NIP; low priority |
| 212 | Tralkoxydim | 4.0 | NIP; low priority |
| 213 | 3-t-butyl-5-chloro-6-hydroxymethyluracil | 3.5 | NIP; low priority |
| 214 | 6-chloro-2,3-dihydro-3,3,7-trimethyl-5H-oxazolo(3,2a)pyrimidin-5-one | 3.5 | NIP; low priority |
| 215 | 6-chloro-2,3-dihydro-7-hydroxymethyl-3,3-dimethyl-5H-oxazolo(3,2-a)pyrimidin-5-one | 3.5 | NIP; low priority |
| 216 | Azoxystrobin | 3.5 | NIP; low priority |
| 217 | Azoxystrobin Z isomer | 3.5 | NIP; low priority |
| 218 | CGA 161149 | 3.5 | NIP; low priority |
| 219 | CGA 195654 | 3.5 | NIP; low priority |
| 220 | Cloprop | 3.5 | NIP; low priority |
| 221 | Dimethenamid | 3.5 | NIP; low priority |

## Table 6.2 – *Continued*
## Rank and Status for Pesticides
## 2004 FSIS NRP, Domestic Monitoring Plan

| Rank | Compound / Compound Class | Score | Status in the 2004 NRP |
|---|---|---|---|
| 222 | Dimethipin | 3.5 | NIP; low priority |
| 223 | Fluroxypyr | 3.5 | NIP; low priority |
| 224 | Sulfosulfuron | 3.5 | NIP; low priority |
| 225 | Terbacil | 3.5 | NIP; low priority |
| 226 | Triasulfuron | 3.5 | NIP; low priority |
| 227 | Pyradostrobin | 3.5 | NIP; low priority |
| 228 | Trifloxystrobin | 3.5 | NIP; low priority |
| 229 | Maleic hydrazide | 3.2 | NIP; low priority |
| 230 | Clopyralid | 2.9 | NIP; low priority |
| 231 | Halosulfuron | 2.9 | NIP; low priority |
| 232 | Picloram | 2.9 | NIP; low priority |
| 233 | Clethodim | 2.6 | NIP; low priority |
| 234 | Glyphosate-Trimesium | 2.3 | NIP; low priority |
| 235 | Metsulfuron Methyl | 2.3 | NIP; low priority |
| 236 | Carfentrazone Ethyl | 2.0 | NIP; low priority |
| 237 | Fludioxanil | 2.0 | NIP; low priority |
| 238 | Pyriproxifen | 2.0 | NIP; low priority |
| 239 | Spinosad | 2.0 | NIP; low priority |
| 240 | Aminomethylphosphonic acid | 1.4 | NIP; low priority |
| 241 | Glyphosate | 1.4 | NIP; low priority |
| 242 | Bensulfuron methyl ester | 1.2 | NIP; low priority |
| 243 | Fluthiacet-Methyl (CGA-248757) | 1.2 | NIP; low priority |
| 244 | Pymetrozine | 1.2 | NIP; low priority |
| 245 | Indoxacarb (DPX-MP062) | | NIP; low priority |
| 246 | Teflubenzuron | | NIP; low priority |

**Key:**
MRM = Multiresidue Method
NIP = Not Included in 2003 FSIS National Residue Program
CHC = Chlorinated hydrocarbon
COP = Chlorinated organophosphate
OP = Organophosphate
**In the second column, where multiple compounds have been grouped together for analysis or potential analysis by a single MRM, the title of that group has been bolded (e.g., "Carbamates in FSIS Carbamate MRM").**

## Table 6.3
## Pesticide Compound/Production Class Pairs, Sorted by Sampling Priority Score, with Adjusted Number of Analyses
## 2004 FSIS NRP, Domestic Monitoring Plan

| Compound Class | Production Class | Priority Score | TNS.[a] | Violation Rate (%) (10 Year)[b] | UNS.[c] | Adjust[d] | Initial Adjust.[e] | Adjust: LC[f] | Adjust: PV[g] | Final Adjust[h] |
|---|---|---|---|---|---|---|---|---|---|---|
| CHCs/COPs | Young chickens | 687.09 | 3,756 | 0.03 | 460 | | 460 | | | 460 |
| CHCs/COPs | Market hogs | 295.79 | 4,380 | 0.00 | 460 | | 460 | | | 460 |
| CHCs/COPs | Steers | 231.54 | 4,126 | 0.05 | 460 | | 460 | | | 460 |
| CHCs/COPs | Heifers | 137.12 | 4,146 | 0.03 | 460 | | 460 | | | 460 |
| CHCs/COPs | Young turkeys | 109.62 | 4,006 | 0.05 | 460 | | 460 | | 300 | 300 |
| CHCs/COPs | Egg products | 38.21 | 1,027 | 0.00 | 460 | -1 | 300 | | | 300 |
| CHCs/COPs | Beef cows | 28.90 | 4,213 | 0.07 | 300 | | 300 | | | 300 |
| CHCs/COPs | Dairy cows | 24.69 | 3,805 | 0.03 | 300 | | 300 | | | 300 |
| CHCs/COPs | Sows | 16.21 | 3,821 | 0.10 | 300 | | 300 | | | 300 |
| CHCs/COPs | Mature chickens | 9.06 | 3,010 | 0.00 | 300 | -1 | 230 | | 90 | 90 |
| CHCs/COPs | Bulls | 8.75 | 3,484 | 0.11 | 300 | | 300 | | | 300 |
| CHCs/COPs | Lambs | 3.22 | 4,134 | 0.02 | 300 | | 300 | | | 300 |
| CHCs/COPs | Ducks | 2.56 | 2,754 | 0.00 | 300 | -1 | 230 | | 90 | 0 |
| CHCs/COPs | Formula-fed veal | 2.46 | 3,432 | 0.00 | 300 | -1 | 230 | | | 230 |
| CHCs/COPs | Mature turkeys | 1.38 | 1,639 | 0.06 | 230 | | 230 | | 90 | 90 |
| CHCs/COPs | Boars/Stags | 1.02 | 3,384 | 0.27 | 230 | +1 | 300 | | | 300 |
| CHCs/COPs | Goats | 0.48 | 3,975 | 0.30 | 230 | +1 | 300 | | | 300 |
| CHCs/COPs | Bob veal | 0.42 | 2,033 | 0.10 | 230 | | 230 | | | 0 |
| CHCs/COPs | Horses | 0.34 | 3,584 | 0.39 | 230 | +1 | 300 | | 90 | 0 |
| CHCs/COPs | Bison | 0.26 | 61 | 0.00 | 230 | +1 | 300 | | | 0 |
| CHCs/COPs | Heavy calves | 0.22 | 3,150 | 0.19 | 230 | | 230 | | | 230 |
| CHCs/COPs | Roaster pigs | 0.18 | NT | NT | 230 | +1 | 300 | | | 300 |
| CHCs/COPs | Non-formula-fed veal | 0.14 | 2,465 | 0.12 | 230 | | 230 | | | 230 |
| CHCs/COPs | Sheep | 0.14 | 3,263 | 0.06 | 230 | | 230 | | | 230 |
| CHCs/COPs | Ratites | 0.11 | 152 | 0.00 | 90 | +1 | 230 | | | 0 |
| CHCs/COPs | Geese | 0.05 | 142 | 0.00 | 90 | | 90 | | | 0 |
| CHCs/COPs | Rabbits | 0.05 | 912 | 0.11 | 90 | | 90 | | | 0 |
| CHCs/COPs | Squab | | 59 | 0.00 | 45 | | 45 | | | 0 |
| **TOTAL #** | | | | | 7,775 | | 7,895 | | | **5,940** |

a. NS = the total number of samples analyzed in the FSIS Monitoring Plan (01/01/1993 to 12/31/2002)
b. Violation rate for the period 1993-2002 (10 Years). The percent of samples with residue concentrations exceeding the tolerance or action level (or, for a drug whose use was not permitted in the production class in which it was detected, the percent of samples with any detectable residue)
c. UNS. = Unadjusted number of samples

## Table 6.3
## Pesticide Compound/Production Class Pairs, Sorted by Sampling Priority Score, with Adjusted Number of Analyses
## 2004 FSIS NRP, Domestic Monitoring Plan

d. Adjustment based on FSIS Historical Testing Information (refer to text discussion in Section 4); +1 level, +2 levels, -1 level. There are four different sampling levels: 90, 230, 300 and 460. Sampling levels were increased or decreased (e.g., changed from 300 samples to 230 samples) based on the rules described in Section 6
e. Number of samples proposed following adjustment for lack of testing information
f. Adjustment for Laboratory Capacity. For a discussion, see Section 6
g. Adjustment for Production Volume. For a discussion, see Section 6
h. Final adjustment numbers were obtained following an assessment of laboratory capacity and production volume. In addition, FSIS has suspended sampling for CHCs/COPs in bob veal, horses and minor species (ducks, ratites, geese, rabbits, and squab) for the 2004 NRP.