OFFICE OF
PREVENTION, PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: County-Level Usage for Linuron, 1,3-dichloropropene (Telone), Phosmet, Disulfoton, Oryzalin, Propargite, and S-Ethyl Dipropylthiocarbamate (EPTC) in California in Support of a Red Legged Frog Endangered Species Assessment, DP # TBD

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BEAD Product Review Panel Date: 2/14

INTRODUCTION

This memo accompanies county-level pesticide usage information in support of EPA's Effects Determination for the California Red Legged Frog Endangered Species Assessment. Over 60

4. Pounds Applied and Area Treated
    - For each year, chemical-county-and site-unit , sum across all records (applications) to obtain total pounds applied, total area treated, and the number of records. *Note: The number of records represents the records used to calculate total values and may be in some cases smaller than the total number of records for each chemical-county-site-unit treated combination due to missing data.*
    - Calculate four-year average annual pounds applied and average annual area treated, including zeros for years with no reported use.

ERROR PROCESSING AND DATA UNCERTAINTIES

CDPR PUR developed a statistical methodology for identifying outliers in the 2002 – 2005 data for area treated and pounds applied. CDPR PUR documentation explains that errors in the data can occur for many reasons such as a misplaced decimal, incorrect measure, area treated or units are incorrect, or if the diluted concentration of a pesticide is reported. CDPR PUR describes outliers as an indication of potential errors and recommends that the following rules be applied: "Pounds of AI per area treated is greater than 200 for non-fumigants or 1000 for fumigants or pounds of product per area treated is greater than 50 times the median rate for this product on this commodity".

BEAD removed outliers flagged by CDPR PUR before calculating the reported statistics. Thus, statistics calculated directly from data obtained from the California Pesticide Information Portal, the online query service, will not correspond to BEAD's calculated values.

BEAD provided four values for application rates to illustrate situations where a small number of observations may skew average and maximum application rates, which may indicate potential errors. In some cases the average application rate was higher than the 95th or 99th percentile because extremely high application rates skew the average. As discussed with EFED, these observations are kept in the calculations despite their extreme values.

BEAD further identified other records of questionable validity in the final data set using the following criteria:

- Average application rate > 95th percentile
- Number of records for pounds applied and area treated do not match
- Area units are missing or are labeled miscellaneous
- Less than one pound applied per year
- Less than one acre or 100 sq ft treated per year
- Calculated application rate is less than 0.1 lb per acre (or per sq foot)
- Less than four records of use (area, pounds, or application rate) over four years of data

Using these criteria, over half of the records are identified as meeting one or more of these criteria. While these records were kept in the dataset as requested by EFED, BEAD recommends

that these records (highlighted in the spreadsheet) be used with extreme caution in any further assessments.

Other considerations concerning sites should also be noted. It is possible that the data may contain uses that have been cancelled. These data do not include home owner applied pesticides. CDPR data includes pesticide usage information for forest plantings for reforestation and deciduous, western hardwoods, and other unspecified forest trees. As with all pesticide use data, there may be instances of misuse or misreporting.

The county-level usage information is provided electronically as an EXCEL spreadsheet entitled, red_legged_frog_data_group4.xls.

REFERENCES

CDPR PUR, 2002-2005. Online: http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm.

Kaul, M. County-Level Usage for acephate, aldicarb, azinphos-methyl, chloropicrin, diazinon, imazapyr, metam sodium, methamidophos, methomyl, and metolachlor, in California in Support of a Red Legged Frog Endangered Species Assessment, DP #TBD, 2006

Kaul, M. County-Level Usage for carbaryl, malathion, oxydemeton-methyl, chlorothalonil, simazine, mancozeb, maneb, bensulide, captan, imazapyr salt, and bromacil in California in Support of a Red Legged Frog Endangered Species Assessment, DP # TBD, 2007

Carter, J. County-Level Usage for Propyzamide, Bromacil Lithium Salt, Methoprene, S-Methoprene, Methyl Parathion, Esfenvalerate, Naled, Dimethoate, and Hexazinone in California in Support of a Red Legged Frog Endangered Species Assessment, DP # TBD. 2007

pesticides are involved in this risk assessment. This document includes data for the fourth group of pesticides to be assessed: linuron, 1,3-dichloropropene (telone), phosmet, disulfoton, oryzalin, propargite, and S-Ethyl dipropylthiocarbamate (EPTC). Pesticide usage data include average and total annual pounds applied; average and total annual area treated; and average, 95th and 99th percentiles, and maximum application rates across four years (2002-2005). This memo describes the methodology and data sources used by BEAD.

COUNTY-LEVEL USAGE

County-level usage data were obtained from California's Department of Pesticide Regulation Pesticide Use Reporting (CDPR PUR, 2002-2005) database. California State law requires that every pesticide application be reported to the state and made available to the public. Therefore, CDPR PUR is considered the most comprehensive source of pesticide usage data for the state and includes both agricultural and non-agricultural sites.

Four years (2002-2005) of usage data from CDPR PUR were obtained for every pesticide application made on every use site at the field level. Total annual pounds applied and total annual area treated are calculated for each chemical at the county level by site, and pesticide active ingredient. Because pesticide applications are made in different area units, the units of area treated are provided where available. Years in which there is no reported use in a county are included as zeros in the calculation of the four-year averages for pounds and area treated. Averages reflect years without use.

Application rates (average, 95th and 99th percentile, and maximum) were calculated across all observations for four years, but not within years, for each chemical-county-site-unit treated combination. These calculations were carried out for existing usage information, however, zeros were not added in for years without usage because these figures do not reflect actual usage. Also, if a record had incomplete information (e.g., pounds applied was available but area treated was not), the record was kept in the data set and is reflected in the number of records, but it was not used in the calculation of application rate. The number of records or observations represents the number of records used in the calculation of average, maximum, and percentile rates. Blank cells were used in the spreadsheet for years where usage was reported but data are missing.

Methods

1. Combine pesticide usage data for 58 counties for all four years from original CDPR PUR data.
2. Keep information only on seven chemicals of interest.
3. Application Rates
   - Calculated as "pounds of active ingredient applied" divided by "area treated" for each observation.
   - Calculated across all observations for four years for each chemical-county-site-unit treated combination: Average, Maximum, 95th and 99th Percentiles for application rates, and the Number of records.
   - The number of records represents the number of records used to calculate average, maximum, and percentile values.