

## Data Requirement Proposal

---

In 1990, California became the first state to require full reporting of agricultural pesticide use. Under the program, all agricultural pesticide use must be reported monthly to the county agricultural commissioner, who in turn, reports the data to DPR. California has a broad legal definition of “agricultural use.”

DPR utilized the pesticide use report (PUR) to identify crop groups with clothianidin use. This information is available electronically through the California Pesticide Information Portal (CalPIP) on DPR’s Web site at:

<<http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm>>.

### **I. Field Based Study with Clothianidin: Conceptual Design for Residue Analysis of Nectar and Pollen in Flowering Plants**

**General Design:** Conduct a study that analyzes for clothianidin residues in the nectar and pollen of representative crops grown in various regions within California. Registrants will be required to collect nectar and pollen (see “**sampling**”) from certain flowering plants and analyze the samples for residues of clothianidin. As an alternative, DPR will accept the data from nectar and pollen analyzed for residues of imidacloprid, dinotefuran, or thiamethoxam as a surrogate neonicotinoid. Based on data from DPR’s PUR, it appears that while labeled for use on pome fruits, clothianidin has not been used on pome fruits. If correct, clothianidin registrants will need to conduct a study using a surrogate neonicotinoid. An acceptable protocol must be submitted to DPR before the study is initiated.

#### **Study Protocol Specifics:**

##### **Crop Group to be Sampled:**

- Pome fruits

##### **Sampling:**

- Collect residue data from pollen and nectar. Study protocol shall include sampling methodology that is representative of concentrations of clothianidin in nectar and pollen.

##### **Treated Fields:**

- Each field must have been previously treated with clothianidin at least once per year in the previous two years.
- Sample nine (9) treated fields.
- Collect two composite samples per field.

## Data Requirement Proposal

---

- The locations selected for the nine treated fields per crop/crop group must represent each of three soil texture categories (three fields per type):
  - a. Coarse-textured: Sands and Loamy Sands;
  - b. Medium-textured: Loam, Silt Loam, and Silt; and,
  - c. Fine-textured: Clay, Clay Loam, and Silty Clay.If there is a problem locating crops grown in one of the soil textures, then five fields are to be selected with each of the two remaining soil texture categories.
- The locations selected must be of sufficient size to provide appropriate experimental design.

### **Analysis:**

- Utilize an appropriate analytical method to determine residue concentrations of clothianidin.
- Utilize an appropriate analytical method to determine residue concentrations of clothianidin in pollen and nectar. The method should receive a limit of quantification (LOQ) of 10 ppb and limit of detection (LOD) of 2.5 ppb for clothianidin.

### **Quality Control:**

- Utilize good laboratory practices and adequate quality assurance/quality control measures, including validation and concurrent recoveries.

## **II. Acute Toxicity Studies on Honey Bee Life Stages**

**Lethal Concentration:** Develop LC<sub>50</sub> studies on the following honey bee life stages: brood and adult (including hive and foraging workers). For the larval stages, surviving larvae shall be monitored for emergence and longevity.

**Lethal Dose:** Develop an LD<sub>50</sub> study on honey bee foragers.

Acceptable study protocols must first be submitted to, and approved by, DPR before the studies are initiated.

Depending on the results of the above studies, additional studies may be required including: a chronic bee study, honey residue analysis study, and greenhouse or field toxicity studies.

## Data Requirement Proposal

---

In 1990, California became the first state to require full reporting of agricultural pesticide use. Under the program, all agricultural pesticide use must be reported monthly to the county agricultural commissioner, who in turn, reports the data to DPR. California has a broad legal definition of “agricultural use.”

DPR utilized the pesticide use report (PUR) to identify three crops/crop groups with the highest dinotefuran use. This information is available electronically through the California Pesticide Information Portal (CalPIP) on DPR’s Web site at: <<http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm>>.

### **I. Field Based Study with Dinotefuran: Conceptual Design for Residue Analysis of Nectar and Pollen in Flowering Plants**

**General Design:** Conduct a study that analyzes for dinotefuran residues in the nectar and pollen of representative crops grown in various regions within California. Registrants will be required to collect nectar and pollen (see “**sampling**”) from the three crops/crop groups listed below and analyze the samples for residues of dinotefuran and its major metabolites, DN [*N*-methyl-*N*'-nitro-*N*'-(tetrahydro-3-furanyl)methyl)guanidine] and UF [1-methyl-3-(tetrahydro-3-furymethyl)urea]. As an alternative, DPR will accept the data from nectar and pollen analyzed for residues of imidacloprid, thiamethoxam, or clothianidin as a surrogate neonicotinoid. An acceptable protocol must be submitted to DPR before the study is initiated.

#### **Study Protocol Specifics:**

##### **Crop/Crop Groups to be Sampled:**

- Cotton
- Cucurbits
- Fruiting vegetables.

##### **Sampling:**

- Collect residue data from pollen and nectar. Study protocol shall include sampling methodology that is representative of concentrations of dinotefuran in nectar and pollen.

##### **Treated Fields:**

- Each crop/crop group, or field in the case of an annual crop/crop group, must have been previously treated with dinotefuran at least once per year in the previous two years.
- Sample nine (9) treated fields for each representative crop/crop group.
- Collect two composite samples per field.

## Data Requirement Proposal

---

- The locations selected for the nine treated fields per crop/crop group must represent each of three soil texture categories (three fields per type):
  - a. Coarse-textured: Sands and Loamy Sands;
  - b. Medium-textured: Loam, Silt Loam, and Silt; and,
  - c. Fine-textured: Clay, Clay Loam, and Silty Clay.If there is a problem locating crops grown in one of the soil textures, then five fields are to be selected with each of the two remaining soil texture categories.
- The locations selected must be of sufficient size to provide appropriate experimental design.

### **Analysis:**

- Utilize an appropriate analytical method to determine residue concentrations of dinotefuran and its DN and UF metabolites.
- The method should receive a limit of quantification (LOQ) of 10 ppb and limit of detection (LOD) of 3.0 ppb for dinotefuran and the DN and UF metabolites.

### **Quality Control:**

- Utilize good laboratory practices and adequate quality assurance/quality control measures, including validation and concurrent recoveries.

## **II. Acute Toxicity Studies on Honey Bee Life Stages**

**Lethal Concentration:** Develop  $LC_{50}$  studies on the following honey bee life stages: brood and adult (including hive and foraging workers). For the larval stages, surviving larvae shall be monitored for emergence and longevity.

**Lethal Dose:** Develop an  $LD_{50}$  study on honey bee foragers.

Acceptable study protocols must first be submitted to, and approved by, DPR before the studies are initiated.

Depending on the results of the above studies, additional studies may be required including: a chronic bee study, honey residue analysis study, and greenhouse or field toxicity studies.

**Data Requirement Proposal**

---

In 1990, California became the first state to require full reporting of agricultural pesticide use. Under the program, all agricultural pesticide use must be reported monthly to the county agricultural commissioner, who in turn, reports the data to DPR. California has a broad legal definition of “agricultural use.”

DPR utilized the pesticide use report (PUR) to identify seven crops/crop groups with the highest imidacloprid use. This information is available electronically through the California Pesticide Information Portal (CalPIP) on DPR’s Web site at: <<http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm>>.

**I. Field Based Study with Imidacloprid: Conceptual Design for Residue Analysis of Nectar and Pollen in Flowering Plants**

**General Design:** Conduct a study that analyzes for imidacloprid residues in the nectar and pollen of representative crops grown in various regions within California. Registrants will be required to collect nectar and pollen (see “**sampling**”) from the seven crops/crop groups listed below and analyze the samples for residues of imidacloprid and its major metabolites. An acceptable protocol must be submitted to DPR before the study is initiated.

**Study Protocol Specifics:****Crop/Crop Groups to be Sampled:**

- Almonds
- Citrus
- Cotton
- Cucurbits
- Fruiting vegetables
- Pome fruits
- Strawberries.

**Sampling:**

- Collect residue data from pollen and nectar. Study protocol shall include sampling methodology that is representative of concentrations of imidacloprid in nectar and pollen.

**Treated Fields:**

- Each crop/crop group, or field in the case of an annual crop/crop group, must have been previously treated with imidacloprid at least once per year in the previous two years.
- Sample nine (9) treated fields for each representative crop/crop group.
- Collect two composite samples per field.

## Data Requirement Proposal

---

- The locations selected for the nine treated fields per crop/crop group must represent each of three soil texture categories (three fields per type):
  1. Coarse-textured: Sands and Loamy Sands;
  2. Medium-textured: Loam, Silt Loam, and Silt; and,
  3. Fine-textured: Clay, Clay Loam, and Silty Clay.If there is a problem locating crops grown in one of the soil textures, then five fields are to be selected with each of the two remaining soil texture categories.
- The locations selected must be of sufficient size to provide appropriate experimental design.

### **Analysis:**

- Utilize an appropriate analytical method to determine residue concentrations of imidacloprid and its hydroxy and olefin metabolites.
- The method should receive a limit of quantification (LOQ) of 5 ppb and limit of detection (LOD) of 1.5 ppb for imidacloprid and the hydroxy-metabolites and a LOQ of 10 ppb and a LOD of 3 ppb for olefin-metabolite.

### **Quality Control:**

- Utilize good laboratory practices and adequate quality assurance/quality control measures, including validation and concurrent recoveries.

## **II. Acute Toxicity Studies on Honey Bee Life Stages**

**Lethal Concentration:** Develop LC<sub>50</sub> studies on the following honey bee life stages: brood and adult (including hive and foraging workers). For the larval stages, surviving larvae shall be monitored for emergence and longevity.

**Lethal Dose:** Develop an LD<sub>50</sub> study on honey bee foragers.

Acceptable study protocols must first be submitted to, and approved by, DPR before the studies are initiated.

Depending on the results of the above studies, additional studies may be required including: a chronic bee study, honey residue analysis study, and greenhouse or field toxicity studies.

## Data Requirement Proposal

---

In 1990, California became the first state to require full reporting of agricultural pesticide use. Under the program, all agricultural pesticide use must be reported monthly to the county agricultural commissioner, who in turn, reports the data to DPR. California has a broad legal definition of “agricultural use.”

DPR utilized the pesticide use report (PUR) to identify five crops/crop groups with the highest thiamethoxam use. This information is available electronically through the California Pesticide Information Portal (CalPIP) on DPR’s Web site at: <http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm>.

### **I. Field Based Study with Thiamethoxam: Conceptual Design for Residue Analysis of Nectar and Pollen in Flowering Plants**

**General Design:** Conduct a study that analyzes for thiamethoxam residues in the nectar and pollen of representative crops grown in various regions within California. Registrants will be required to collect nectar and pollen (see “**sampling**”) from the five crops/crop groups listed below and analyze the samples for residues of thiamethoxam and its major metabolite, CGA-322704 [*N*-(2-chloro-thiazol-5-ylmethyl)-*N*'-methyl-*N*'-nitro-guanidine]. As an alternative, DPR will accept the data from nectar and pollen analyzed for residues of imidacloprid, clothianidin, or dinotefuran as a surrogate neonicotinoid. An acceptable protocol must be submitted to DPR before the study is initiated.

#### **Study Protocol Specifics:**

##### **Crop/Crop Groups to be Sampled:**

- Cotton
- Cucurbits
- Fruiting vegetables
- Pome fruits
- Strawberries.

##### **Sampling:**

- Collect residue data from pollen and nectar. Study protocol shall include sampling methodology that is representative of concentrations of thiamethoxam in nectar and pollen.

##### **Treated Fields:**

- Each crop/crop group, or field in the case of an annual crop/crop group, must have been previously treated with thiamethoxam at least once per year in the previous two years.
- Sample nine (9) treated fields for each representative crop/crop group.
- Collect two composite samples per field.

## Data Requirement Proposal

---

- The locations selected for the nine treated fields per crop/crop group must represent each of three soil texture categories (three fields per type):
  - a. Coarse-textured: Sands and Loamy Sands;
  - b. Medium-textured: Loam, Silt Loam, and Silt; and,
  - c. Fine-textured: Clay, Clay Loam, and Silty Clay.If there is a problem locating crops grown in one of the soil textures, then five fields are to be selected with each of the two remaining soil texture categories.
- The locations selected must be of sufficient size to provide appropriate experimental design.

### **Analysis:**

- Utilize an appropriate analytical method to determine residue concentrations of thiamethoxam and the CGA-322704 metabolite.
- The method should receive a limit of quantification (LOQ) of 10 ppb and limit of detection (LOD) of 2.5 ppb for thiamethoxam and the CGA-322704 metabolite.

### **Quality Control:**

- Utilize good laboratory practices and adequate quality assurance/quality control measures, including validation and concurrent recoveries.

## **II. Acute Toxicity Studies on Honey Bee Life Stages**

**Lethal Concentration:** Develop  $LC_{50}$  studies on the following honey bee life stages: brood and adult (including hive and foraging workers). For the larval stages, surviving larvae shall be monitored for emergence and longevity.

**Lethal Dose:** Develop an  $LD_{50}$  study on honey bee foragers.

Acceptable study protocols must first be submitted to, and approved by, DPR before the studies are initiated.

Depending on the results of the above studies, additional studies may be required including: a chronic bee study, honey residue analysis study, and greenhouse or field toxicity studies.