Appendix B

Use Verification Memo for Diquat Dibromide

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

MEMORANDUM

PC Codes: 032201

DATE: November 17, 2010

SUBJECT: Verification Memorandum for Diquat dibromide for SF Bay Species

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This memorandum serves to provide additional information on the use pattern of diquat dibromide not captured in the LUIS process. The Registration Division (RD) and the Pesticide Re-evaluation Division's (PRD) role in the verification process are to fill information gaps and provide division appropriate expertise as outlined in the LUIS Verification SOP for RD and PRD.

PRD provides information and status regarding changes to the chemical use (such as application parameters, cancellations, or label language) that occurred as a result of the reregistration process. RD provides information regarding changes to the chemical use that may have occurred after the date

of the LUIS label extraction. In the case a "Data Doer Only"[1] report was conducted, the CRM and PM will ensure that all highest application rates are reflected on the EFED Spreadsheet. The CRM and PM have drafted the "Registration and Reregistration Verification" section of this memo to clarify knowledge gaps a risk assessor may encounter while using the data contained in the LUIS report.

The diquat dibromide LUIS report is a "Data Doer Only" report reflecting major producers and other Section 3 Registrants. 19 active Section 3 registrations and 1 California Section 24(c) registration are included in the report.

If further clarification is needed please contact Eric Miederhoff (703-347-8028) and Kathryn Montague (703-305-1243).

Registration and Reregistration Verification

Date and Scope of the RED

- The diquat dibromide RED was completed in July 1995.
- The "Report of the Food Quality Protection Act (FQPA) Tolerance Reassessment Progress and Risk Management Decision (TRED)" for diquat dibromide was completed in April 2002.

Status of Product Reregistration

- Product reregistration was completed 7/24/2000

Registrations with Pending Requests for Voluntary Use Termination:

- 83979-2: Sorghum and soybean, voluntary termination request received.
- 83529-13: Sorghum and soybean, voluntary termination request received.
- 82633-2: Sorghum and soybean, voluntary termination request received.
- 82542-15: Sorghum and soybean, voluntary termination request received.
- 228-675: Sorghum and soybean, voluntary termination request received.
- 2749-530: Sorghum and soybean, voluntary termination request received.
- 74530-24: Voluntary request for cancellation of this registration received.

Ecological Label Mitigation from 1995 RED:

Environmental Hazard

Environmental hazard requires the following label statements:

For products that are for terrestrial nonfood sites, use this precautionary statement: "This pesticide is toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is

[1] This type of LUIS report is conducted when the AI of interest has more than 50 products. This report will contain: 1. Products actively registered to the data doer; 2. All technical registrations regardless of registrant; 3. All active California special local needs (SLN) registrations.

present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate."

For products that are for outdoor residential sites, use this precautionary statement: "This pesticide is toxic to aquatic invertebrates. Do not apply directly to water."

Aerial Spray Drift Management

The following language must be placed on each product label that can be applied aerially:

SPRAY DRIFT MANAGEMENT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory.
Aerial Drift Reduction Advisory Information
The following aerial drift advisory information must be contained in the product labeling:
[This section is advisory in nature and does not supersede the mandatory label requirements.]

INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

CONTROLLING DROPLET SIZE

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using lowdrift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

WIND

Drift potential is lowest between winds speeds of 3 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

The pesticide should only be applied when the wind is blowing away from adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

Registration Division Review Actions Since Completion of Product Reregistration

- RD is currently reviewing several newly submitted diquat dibromide product registrations:
- 67690-LG – due Nov. 17, 2010
- 100-RGON - due Dec. 1, 2010
- 72155-RNG, -RNN, -RNR, -RNE, and –OO – all due in April, 2011