

# Sutter County

## Regiment Air Permit Conditions

In 2004 an investigation was conducted on 9 Reports of Loss filed for Regiment® damage symptoms on melons, walnuts and nursery stock representing over 1,060 acres that suffered herbicide injury from the air application of Regiment CA® herbicide. Based on the findings of the Regiment® Investigation a permit is required for the use of the rice herbicide Regiment®, Bispyribac-sodium, a non-restricted chemical, under the authority of the Food and Agricultural Code section 14006.6 (a). In 2005 after prohibiting air applications there were no drift incidences or reports of loss due to Regiment® damage in Sutter County.

### **General Conditions:**

- Air application allowed only south of the Bear River and East of the Feather River in southern Sutter County.
- A permit must be obtained from the County Agricultural Commissioner for any use of Regiment CA® in Sutter County.
- A 24 hour Notice of Intent must be filed with the Sutter County Department of Agriculture prior to the application of Regiment CA®
- All Requirements of the Food and Agricultural Code and Title 3, California Code of Regulations that apply to the use of restricted materials shall apply to the use of Regiment CA® under permit in Sutter County.

1. No air application within 1 mile of walnut orchards.

2. All applications must take place during daylight hours.

3. No applications may take place during low-level inversion conditions. Inversion conditions begin to diminish after a 3 degree F temperature rise from the morning low. They may return after a 5 degree F drop in temperature in the afternoon. Application would be possible after the morning temperature rise and application should cease after a 5-degree drop in temperature in the afternoon. Wind conditions, mentioned below, could mitigate these guidelines.

4. Applications must take place with a minimum wind speed of at least 2 mph and not to more than 8 mph as measured at a height of four feet above the ground. If

sensitive crops or plants are downwind, extreme caution must be used under all conditions.

5. Label buffer zones must be strictly adhered to. Use of a smoke column, or other method or device, should be employed at the time and place of application to indicate temperature inversions and the direction and velocity of airflow.

6. For fixed wing aircraft, operating application nozzles may span no more than 75% of the wingspan (bottom wing for bi-winged planes).

7. For rotary-winged aircraft, the operating nozzles may span no more than 75% of the rotor length.

8. Aircraft nozzles must be directed backward parallel to the horizontal axis of the aircraft when in flight.

9. Importance of Droplet size: The best drift management strategy is to apply the largest droplets **that provide sufficient coverage and control**. Use nozzle types and nozzle arrangements that will provide maximum coverage and minimize the potential for off target movement of spray particles. Droplet size for both ground and air applications should be in the “Medium” size category as defined in the August 1999 ASAE S572 publication entitled, “Spray Nozzle Classification by Droplet Spectra”. Refer to that publication for additional information. Regardless of droplet size, if applications are made improperly or under unfavorable environmental conditions off target movement will occur.

10. Controlling droplet size:

a. Volume: use high flow rate nozzles that produce medium droplets to apply the highest practical spray volume

b. Pressure: use the lower spray pressures recommended for the nozzle and do not exceed the manufacturer’s recommended pressure. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure

c. Number of nozzles: use the minimum number of nozzles that provide uniform coverage.

d. Nozzle type: use a nozzle type that is designed for the intended application. Do not use air inducting or flood type nozzles

11. Each nozzle shall be equipped with a check valve. Each aircraft shall also be equipped with a boom pressure release device or each nozzle shall be controlled by a positive shut-off system.

12. Wind: Variable wind speeds with changing directions may pose the largest potential for drift damage if crops other than rice are adjacent to the field to be sprayed. Drift potential is lowest between wind speeds of 2-8 mph. However,

many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 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 drift.

13. Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation but they still should remain within the medium droplet size category. Droplet evaporation is most severe when conditions are both hot and dry.

14. Applications should not be made at a height greater than 10 feet above the top of the largest 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.

15. For the duration of the application, the aerial applicator must have an individual on the ground at the site of application that shall monitor conditions and have the ability to waive off the application in the event that conditions are unfavorable to proper application.

16. Applicators shall maintain a written log indicating air temperature, wind speed, and wind direction prior to beginning the application, and to be recorded every tank refill or hourly whichever occurs first, for each day of application. This log shall be made available for review by the Agricultural Commissioner's staff upon request.

17. Operators and pilots shall attend an educational session regarding proper application.

18. Use no less than 10 gallons of water per acre total spray volume

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PERMITTEE SIGNATURE

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DATE:

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AGRICULTURAL BIOLOGIST'S SIGNATURE

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DATE: