



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

MAY 6 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Warren A. Davis
RHONE-POULENC AG COMPANY
2 T. W. Alexander Drive
Research Triangle Park, NC 27709

Subject: Label Amendment Submission of 06/28/93 in Response to PR Notice 93-7
EPA Reg. No. 264-377
CERONE PLANT REGULATOR

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.

BEST AVAILABLE COPY



Recycled/Recyclable
Printed with Soy/Canola ink on paper that
contains at least 50% recycled fiber

Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

RHONE-POULENC AG COMPANY
264-377 06/28/93
Original Submissions

You have incorrect wording in the first paragraph in the Agri. Use Requir. box on your proposed label. That paragraph must contain the exact wording of the paragraph shown as "2" in Section F on Part 2 of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

There is a typographical error(s) in the Spanish language text.

MAY 6 1994

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
264-377

CERONE[®] Plant Regulator

For Reducing Lodging in Barley, Wheat and Grasses Grown for Seed

For Agricultural or Commercial Use Only. Not For Residential Use.

ACTIVE INGREDIENT: Ethephon [(2-chloroethyl) phosphonic acid]* 39.9%
INERT INGREDIENTS: 60.1%

*Contains 4 pounds ethephon per gallon

EPA Reg. No. 264-377

EPA EST NO. 264-PA-01

KEEP OUT OF REACH OF CHILDREN DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

For **PRODUCT USE** Information Call 1-800-334-9745

For **MEDICAL And TRANSPORTATION Emergencies ONLY** Call 24 Hours A Day 1-800-334-7577

The use of this product for a variety of plant growth regulation uses is covered by United States and foreign patents including U.S. Patents 3,879,188 and 4,240,819. No license is granted to use this product in countries other than the United States or for any use not contemplated by this label. Liability for patent infringement may result from use or sale of this product outside the United States.

STATEMENT OF PRACTICAL TREATMENT

IF ON SKIN: Immediately wash with plenty of soap and water.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration. Administer oxygen if necessary. Get medical attention.

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Get medical attention, preferably an ophthalmologist.

IF SWALLOWED: Do not induce vomiting. Promptly drink a large quantity of milk, egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

NOTE TO PHYSICIAN

There is no specific antidote. Treatment should be directed at the control of symptoms and clinical conditions. This material possesses the characteristics of a strong acid, and may cause mucosal damage if swallowed. Do not induce vomiting. Gastric lavage should be undertaken with care if necessary. Appropriate conventional treatment for circulatory shock, respiratory depression and convulsions may be needed.

PRECAUTIONARY STATEMENTS

DANGER

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage. Causes skin irritation. Do not get in eyes, on skin or on clothing.

Harmful or fatal if swallowed. Avoid contamination of food. Avoid inhalation of spray mist. May cause respiratory irritation. Keep away from domestic animals.

Call a physician in cases of suspected poisoning. If poisoning is suspected in animals, call a veterinarian.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, shoes plus socks and protective eyewear.

Discard clothing and other absorbed materials that have been drenched or heavily contaminated with this products concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

BEST AVAILABLE COPY

User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
Remove clothing immediately if pesticide gets inside. Then wash body thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes. Avoid spray drift to nearby crops as this product will cause modifications in plant growth. Plant injury or reduced yields may result.

Do not plant another crop within 30 days after treatment.

IMPORTANT: Do not use this product for purposes other than those listed on the label.

GENERAL INFORMATION

CERONE® Plant Regulator is intended for use as a lodging reduction agent in barley and wheat crops and in grasses grown for seed production. Use CERONE® only on vigorously growing crops that are likely to lodge. Do not use CERONE® in non-lodging situations or where lodging causes only minimal yield loss.

Lodged crops increase harvest costs and decrease harvest efficiency and recoverable yields. Lodging can cause uneven maturity, higher moisture content and loss of grain quality. In grasses grown for seed lodging at anthesis can reduce seed set and yield.

CERONE® decomposes in the plant to release ethylene, a naturally occurring plant hormone. CERONE® increases stem strength thereby increasing the plant's resistance to lodging. CERONE® may shorten the plant depending on variety, environmental conditions and the rate used. CERONE® also reduces "necking" in barley and yield decreases due to shattering and head loss.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.
Read entire label before using this product.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and expectations pertaining to the statements on this label about personal protective equipment (PPE), notification to workers and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil or water is coveralls, waterproof gloves, shoes plus socks and protective eyewear.

Notify workers of the application by warning them orally and posting warning signs at entrances to treated areas.

STORAGE AND DISPOSAL

STORAGE

Do not contaminate water, food, or feed by storage or disposal.

If container is broken or contents have spilled, follow all precautions indicated above and clean up immediately. Before cleaning up, put on full-length trousers, long-sleeved shirt, protective gloves and goggles or face-shield. Soak up spill with absorbent media such as sand, earth or other suitable material and dispose of waste at an approved waste disposal facility.

PESTICIDE DISPOSAL

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL

Do not reuse empty container. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

BEST AVAILABLE COPY

USE LIMITATIONS

Do not apply through any type of irrigation system.

Yield or quality decreases may occur if CERONE® is not properly used.

Allow 7 days after application for lodging reduction activity to begin. CERONE® is not effective on crops already lodged.

Disease infestations (rust, septoria, mildew, etc.) may be affected by CERONE® use. Use a fungicide control program where needed.

Temperature, moisture or disease stress at application or after CERONE® use can result in yield loss.

CERONE® use in non-lodging situations may result in yield loss.

Observe temperature limitations on this label at application.

CERONE® may delay heading 1 to 2 days and harvest maturity 1 to 4 days. Extreme temperatures (below 35°F or above 85°F in non-irrigated or 90°F in irrigated crops) within 5 days after application may cause further maturity delay.

Do not use on late seeded crops in short season growing areas because possible maturity delay may cause harvest difficulties.

CERONE® treatment may increase secondary tillers in some spring barleys especially under moisture or temperature stress.

Do not use CERONE® on Azure barley or Tyler wheat.

Do not apply CERONE® if rain is expected within 4 hours.

DO NOT GRAZE OR FORAGE TREATED CROP OR CUT FOR HAY OR SILAGE. Mature straw at normal harvest may be consumed by animals.

TREATMENT DECISION GUIDE

Important- Inspect fields just prior to application to determine the probability of lodging. Use CERONE® only under the following conditions:

1. The crop is expected to lodge and significant loss of recoverable yield, grain quality, and/or harvest efficiency is expected.
2. The crop is free of stress from disease or insect damage.
3. Soil moisture or irrigation is adequate to prevent crop stress after application.
4. Temperature fluctuations (below 35° F or above 85° F non-irrigated and 90° F irrigated) are not expected for 5 days after application.
5. Application can be made at the correct stage, Feekes 8 to 10 - see growth stage chart.

SPRAY PREPARATION

Add 1/2 to 3/4 of the required amount of water to the spray tank and begin agitation. Add the required amount of CERONE® Plant Regulator, followed by the remaining amount of water. Prepare only as much spray solution as can be used on the day of mixing. Use of previous day's spray mix may result in reduced activity.

Do not spill the concentrated product on spray equipment, or any airplane parts. Any spills should be rinsed immediately with plenty of water as CERONE® Plant Regulator is corrosive. Use of a nurse tank is recommended to avoid possible spills of concentrated formulation on spray equipment or airplane parts.

EQUIPMENT CLEANING

Because of the acidic nature of this product, prolonged exposure to spray deposits will damage acrylic plastics, certain paints, and metals. Rinse thoroughly with a detergent and water all exposed acrylic plastic-type materials (e.g., aircraft windshields), and painted surfaces within an hour after exposure to spray deposits. At the end of each day, rinse thoroughly with a detergent and water the spray system and all the metal parts of the aircraft exposed to the spray deposits.

WHEAT AND BARLEY

COMPATIBILITY

CERONE® can be tank-mixed with approved cereal insecticides and fungicides. Treatment is intended as a preventive measure. Insecticide and fungicide treatment programs should be based on timely scouting and economic threshold assessments. This may not coincide with CERONE® application timing. Do not use CERONE® as a tank mixture with insecticides or fungicides on crops stressed by adverse weather conditions, referenced above, or by insect or disease damage.

Warning: Crop injury or yield loss may result with tank mix application under stress conditions. (i.e. moisture, heat, cold, insect, disease). CERONE + Tilt® tank mix application by air made under stress conditions may result in flag leaf burn and yield loss.

Do not tank mix with herbicides or nitrogen solutions.

Do not add adjuvants, surfactants or wetting agents to CERONE®.

7/8/10

APPLICATION TIMING

Apply when the flag leaf is just visible to boot stage, but before the awns have emerged or the sheath has split (Feekes-Large Scale 8-10, Zadok's Code 37-45). Do not allow spray solution to contact exposed heads, as damage and reduced yield may result. Inspect fields carefully to determine that application can be made at the proper stage.

APPLICATION

For CERONE® to be effective temperature after application should be at least 60°F.

Avoid spray overlap which can result in excess rate and yield loss.

GROUND: Use a minimum of 7 gallons of water per acre when applied by conventional ground equipment. Flat fan nozzles are recommended. Use a minimum of 5 gallons of water per acre with controlled droplet application (CDA) or air foil type equipment. To prevent uneven application adjust spray boom to plant canopy height and operate at moderate speed.

AIR: Use a minimum of 3 gallons of water per acre.

USE RATES

Lodging pressure and environmental conditions will affect the CERONE® rate needed.

On more responsive varieties use only the 0.5 pint per acre rate. Consult your state extension specialist or Rhone-Poulenc representative for more information.

Do not apply more than a total of 1.0 pint (0.5 lb. active) of CERONE® per acre per year.

Do not harvest wheat or barley within 40 days of last CERONE® application.

CERONE® RATE GUIDE FOR BARLEY AND WHEAT				
EXPECTED LODGING PRESSURE				
(CERONE® PINTS/ACRE)				
SITUATION	MODERATE	HEAVY	SEVERE	COMMENTS
Barley (Spring and winter)	1/2	1/2 to 3/4	3/4 to 1*	Some tall varieties with vigorous growth may require 1 pint per acre.
Winter Wheat	1/2	1/2 to 3/4	3/4 to 1*	In severe lodging situations, these rates may not be adequate to control lodging in some tall straw varieties such as "Roughrider" and "Agassiz".
Most Spring wheats	1/2	1/2	3/4	In severe lodging situations, these rates may not be adequate to control lodging in some tall durum wheats such as "Vic".
High Temperature** or Sensitive Variety	1/2	1/2	1/2	

NON-IRRIGATED BARLEY AND WHEAT

DO NOT apply CERONE® to non-irrigated barley and wheat in states west of the Mississippi River except: 1) in the Sacramento Valley and west of the Coastal Range in California and, 2) west of the Cascade Range in Washington and Oregon.

CERONE® is recommended in the non-irrigated areas in states east of the Mississippi River and 1) in Sacramento Valley and west of the Coastal Range in California, and 2) west of the Cascade Range in Washington and Oregon.

IRRIGATED BARLEY AND WHEAT

Irrigation prior to treatment is recommended to avoid stress and may be resumed 24 hours after treatment. If conditions are hot and dry continue irrigation through the grain head filling period.

Moisture and/or heat stress during anthesis and grain fill can cause significant yield loss. With CERONE®, it is important to avoid plant stress during these growth periods in order to obtain optimum yield and quality.

RESTRICTIONS AND LIMITATIONS

* Limit use of the 1.0 pint rate to situations where lodging is expected to result in a high loss of yield potential: 1) an irrigated crop with unusually severe lodging pressure, 2) very tall lodging prone variety, or 3) a cereal type such as durum known to be subject to severe lodging.

** Do not use CERONE® if daytime temperatures for the period 5 days after application are expected to exceed 85° F in non-irrigated or 90° F in irrigated wheat or barley crops.

CERONE® APPLICATION STAGE CHART

GROWTH STAGE CHART



Growth Description	2nd node detectable	Flag leaf just visible	Flag leaf ligule visible	Boot swollen	First spikelet visible	3/4 of inflorescence completed
Feeks - Large Scale	7	8	9	10	10.1	10.4
Zadok's Code	32	37	39	45	50	57
Recommended CERONE treatment time	Too Early				Too Late	

BEST AVAILABLE COPY

9/10

GRASS SEED PRODUCTION (DO NOT USE IN CALIFORNIA)

In grasses grown for seed, lodging prior to pollination can reduce yield and harvest efficiency. CERONE® increases the plant's resistance to lodging providing the potential for improved seed set at anthesis. CERONE® use can also improve harvest efficiency and recoverable yield. Where early lodging is expected, a split application may be beneficial. Apply 1 pint at growth stage 8, followed by 1 pint at growth stage 10 to 10.3.

CERONE® RATE GUIDE FOR GRASS SEED PRODUCTION*

LODGING PRESSURE (Pints/Acre)			APPLICATION STAGE (Feekes Scale)	COMMENTS
Moderate	Heavy	Severe	10 - 10.3	Apply between late boot and when spike half emerged from sheath. Do not apply after 30% of spikes have completed emergence from the sheath.
1	1.5	2		

* See specific directions for split applications.

COMPATIBILITY

CERONE® may be tanked mixed with fungicides approved for use on grasses. Tank mix applications must follow all label directions for each product used.

USE PRECAUTIONS

Do not graze or forage treated fields.

Do not use treated seed screenings as animal feed.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the direction for use when it is used in accordance with such directions; and (c) that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops and upon reports of field experience. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS, WARNINGS OR CAUTIONS.

BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF, OR THE REPAYMENT OF THE PURCHASE PRICE FOR, THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

NOTICE TO BUYER

Purchase of this material does not confer any rights under patents governing this product or the use thereof in countries outside of the United States.

Tik is a registered trademark of Ciba-Geigy Corp.

Rhône-Poulenc Ag Company
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709

CERONE is a registered trademark of RHONE-POULENC.
CERONE® Plant Regulator (PENDING) Submitted ___/___/93.