

PM 22. 264-377

1040

SEP 8 1992

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

Dear Mr. Davis:

Subject: Amendment - Reformat of Labels to Include Tables and
 Patent Statement
 CERONE Plant Regulator
 EPA Reg No 264-377
 Your Submission Dated June 30, 1992

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comment below. Five copies of the finished labeling must be submitted prior to releasing the product for shipment.

Under Environmental Hazards, change the first sentence to: "Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark."

A stamped copy of your draft label is enclosed for your records.

Sincerely,

Cynthia L. Giles-Parker
 Product Manager (22)
 Fungicide-Herbicide Branch
 Registration Division (H7505C)

Enclosure

CONCURRENCES

SYMBOL	H7505C						
SURNAME	D. Wilson						
DATE	9-3-92						

YMSJ 261-211 2070

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

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la informacion en la etiqueta le haya sido explicado ampliamente.

(TRANSLATION TO THE USER: If you cannot read English do not use this product until the label has been explained to you.)

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

For **MEDICAL And TRANSPORTATION Emergences 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 4,240,811. 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. Remove contaminated clothing and shoes. Wash clothing separately before reuse.

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. Wear full-length trousers, long-sleeved shirt, protective gloves, and goggles or face shield when handling.

Harmful or fatal if swallowed. Avoid contamination of food. Avoid inhalation of spray mist. May cause respiratory irritation. Change to clean work clothes daily. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove and wash contaminated clothing before reuse. Keep away from domestic animals.

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

ENVIRONMENTAL HAZARDS

Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). 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.

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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.

GENERAL WORKER PROTECTION AND REENTRY STATEMENTS

Mixers, loaders and applicators must wear a full face shield, long trousers, long sleeved shirt, gloves, and boots to avoid as much skin and eye contact as possible.

Do not enter treated fields within 24 hours after application unless protective clothing is worn.

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.

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.

ACCEPTED
with COMMENTS
In EPA Letter Dated.

SEP 8 1992

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

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264-377

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®.

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 Rhône-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.

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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.

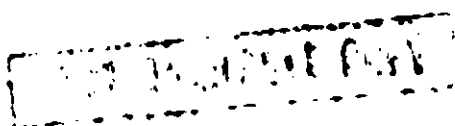
IRRIGATED BARLEY AND WHEAT

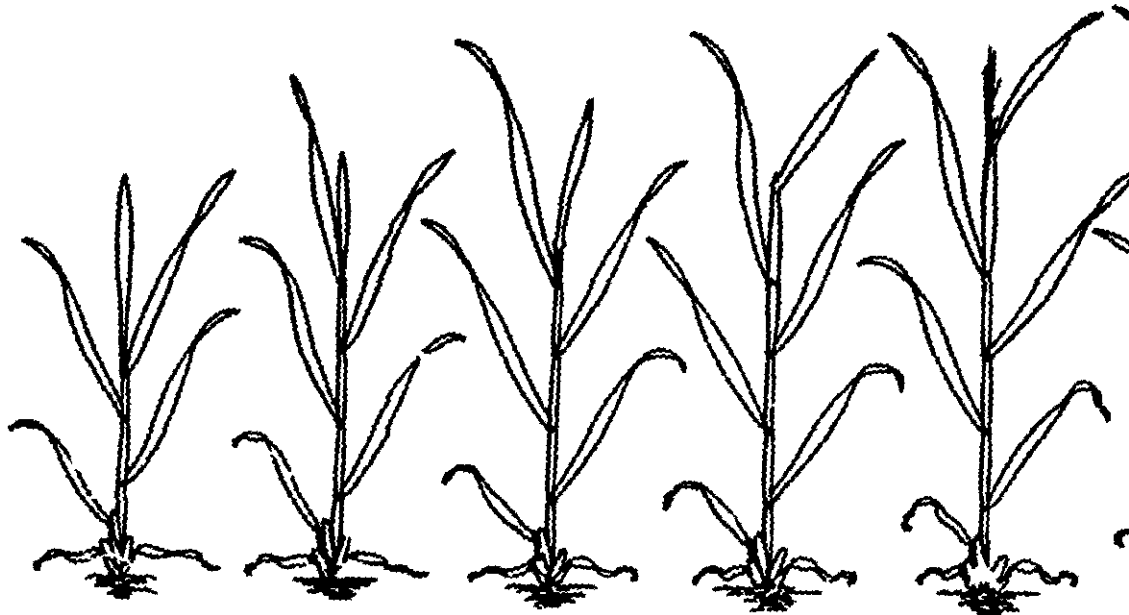
Irrigation prior to treatment is recommended to avoid stress and may be resumed 24 hours after treatment. If conditions are hot and dry continue irrigation through the grain head filling period.

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.





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

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7 of 8

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.

8/9/7

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.

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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.

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CERONE® (Pending) submitted __/__/92.