

400-452

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

APR 1 1999

Willard F. Cummings
UNIROYAL CHEMICAL Company
74 Amity Road
Bethany, Connecticut 06524-3402

Attn: Allen R. Blem

Dear Mr. Cummings:

Subject: Amendment of Registrations - Master Label,
Format Changes, etc.
EPA Registration No. 400-84 Royal MH-30
EPA Registration No. 400-165 Royal MH-30SG
EPA Registration No. 400-452 Royal MH-30 XTRA
Your applications dated January 18, 1999

These amendments submitted in connection with
registration under the Federal Insecticide, Fungicide and
Rodenticide Act (FIFRA), as amended are acceptable.

Please submit two(2) copies of your revised printed label
prior to releasing the product for shipment. A stamped copy of
the label is enclosed.

It is recommended that you revise your statements under
DIRECTIONS FOR USE for Turf, ornamental and fallow land for EPA
Registration 400-165 Royal MH-30SG. There are inconsistencies on
applications (i.e. per season, per acre, per year). As
recommended in the Reregistration Eligibility Document (RED) the
most appropriate statement should read, "DO NOT APPLY MORE THAN
ONE APPLICATION PER YEAR".

Sincerely,

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Cynthia Giles-Parker
Product Manager (22)
Fungicide Branch
Registration Division (7505C)

Enclosure:

ROYAL MH-30[®] XTRA

GROWTH RETARDANT — WITH SORBATRAN[®]
CONTROLS TOBACCO SUCKER GROWTH
GROWTH RETARDANT FOR POTATOES AND ONIONS

ROYAL MH-30 XTRA contains 2.25 pounds of
maleic hydrazide per U.S. gallon,
compared to 1.5 pound in ROYAL MH-30

Net contents:

COMPOSITION

Active Ingredient: (% by weight)	
potassium salt of 1,2-dihydro-3,6-pyridazinedione	30.3%*
Inert Ingredients:	69.7%
Total:	100.0%

*Contains 2.25 pounds of maleic hydrazide per gallon

*Contains 270 grams of maleic hydrazide per liter

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

Causes moderate eye injury. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and Other Handlers Must Wear: Long-sleeved shirt and long pants; waterproof gloves; shoes plus socks.

Follow manufacturer's instructions for cleaning and 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.

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 thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters.



Uniroyal Chemical Company, Inc., Middlebury, CT 06749

EPA Reg. No. 400-452

EPA Est. No.

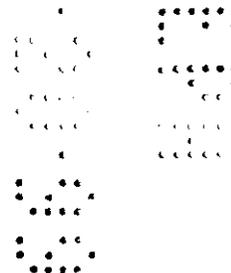
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**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

APR 1 1999

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

400-452



DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all label directions carefully before use.

Do not apply this product through any type of irrigation system.

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 regulation.

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 exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. 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 12 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.

DIRECTIONS FOR USE: TOBACCO

GENERAL INFORMATION

ROYAL MH-30 XTRA is a potassium salt formulation of maleic hydrazide used to prevent sucker development in tobacco. Since ROYAL MH-30 XTRA is absorbed and moves inside the tobacco plant, spraying the whole plant is not necessary. See APPLICATION NOTES for important additional information.

BENEFITS

To prevent sucker development on flue-cured, burley, dark, Maryland and cigar (Pennsylvania and Wisconsin) tobacco.

APPLICATION EQUIPMENT

Best results are obtained when ROYAL MH-30 XTRA is applied to the upper 1/3 to 1/2 of the plant. To obtain satisfactory control, it is very important to apply equal amounts of ROYAL MH-30 XTRA to each plant, at the correct time.

Flue-Cured Tobacco

Apply ROYAL MH-30 XTRA with powered spray equipment. Sprayers with 3 full cone nozzles per row, applying either a coarse spray (i.e., 20 to 25 psi) or a fine spray (40 to 50 psi), will give equivalent sucker control. Do not use drop nozzles, since such systems can deposit undesired spray on the underside of the leaves or on the lowest leaves, which are harvested first.

Burley, Maryland, Dark and Cigar (Pennsylvania and Wisconsin) Tobacco

Apply ROYAL MH-30 XTRA with motorized field sprayers (high-clearance or tractor-mounted) equipped with solid cone nozzles that deliver a coarse spray at 20 to 30 psi in a uniform spray pattern. For example, application may be made with a broadcast arrangement over the row on 20 to 24 inch boom spacings, or with a three solid cone nozzle arrangement directed over the row. With any sprayer setup, the application must provide good, uniform coverage of the crop.

ROYAL MH-30 XTRA may also be applied with hand-held equipment, provided that a uniform spray pattern is delivered.

RATE AND TIMING OF APPLICATION

Apply the higher rate of ROYAL MH-30 XTRA when plants are very vigorous. Always remove any suckers present at topping time.

Flue-Cured Tobacco

Apply 1.0 to 1.5 gallon of ROYAL MH-30 XTRA in 40 to 50 gallons of water per acre as a coarse or fine spray. Application should be made 5 to 7 days after the last contact treatment, or when the uppermost harvestable leaves are a minimum of 8 inches long.

Burley and Maryland Tobacco

Top and sucker the plants when 10 to 25% of the plants in the field have one open flower. Remove all existing suckers and apply ROYAL MH-30 XTRA within 24 hours at a rate of 1.0 to 1.5 gallon in 40 to 50 gallons of water per acre. Tip leaves to be harvested should be at least 8 inches long at time of topping, suckering and ROYAL MH-30 XTRA application.

Dark Tobacco

Apply 1.0 to 1.5 gallon of ROYAL MH-30 XTRA in 40 to 50 gallons of water per acre. Apply ROYAL MH-30 XTRA within 24 hours after topping. Topping should be done when 10 to 25% of the plants in the field have one open flower. Existing suckers should be removed at topping time.

Wisconsin Cigar Tobacco

Apply 1.0 to 1.5 gallon of ROYAL MH-30 XTRA in 40 to 50 gallons of water per acre. Apply ROYAL MH-30 XTRA within 24 hours after topping. Tobacco should be topped between the time when the first flowers open and not later than when 50% of the plants are in flower. Existing suckers should be removed at topping time.

Pennsylvania Cigar Tobacco

Apply 1.0 to 1.5 gallon of ROYAL MH-30 XTRA in 40 to 50 gallons of water per acre. Apply ROYAL MH-30 XTRA within 24 hours of topping. Topping should be done where 25 to 50% of the plants in the field have one open flower. Existing suckers should be removed at topping time.

APPLICATION NOTES: TOBACCO

1. Always follow dosage recommendations carefully and spray field uniformly. Too little ROYAL MH-30 XTRA may result in less than desired sucker control; too much may reduce quality of tips.
2. Use only one application of ROYAL MH-30 XTRA per season, unless rains occur within 6 hours after application. Should washoff occur within 6 hours, a single repeat application may be made to ensure effective sucker control.
3. To control tobacco suckers effectively, apply ROYAL MH-30 XTRA at the proper time. Spraying too early in the season may prevent normal development of top leaves; spraying too late will allow some sucker growth.
4. COMPABILITY: Studies with ROYAL MH-30 XTRA and other tobacco chemicals have not been completed. Separate application is recommended.
5. Do not use on tobacco plants grown for seed production.
6. Do not spray tobacco in the middle of hot, dry days when leaves are severely wilted. For best results spray during the early morning, or all day on cloudy days, avoiding late afternoon or night applications.
7. Closely hand-suckered tobacco or tobacco treated with ROYAL MH-30 XTRA will not ripen as rapidly as poorly suckered tobacco. Also, under some conditions ROYAL MH-30 XTRA treated tips have a tendency to turn yellow prematurely. This is not harmful and does not mean that your tobacco is ripe. Therefore, do not harvest tobacco treated with ROYAL MH-30 XTRA by using time and color of the leaves as your only guide to ripeness. Use other characteristics indicative of ripeness such as:
 - a. Fading of color from midrib.
 - b. Change in apparent leaf texture.
8. If tobacco plants have been grown under drought conditions, absorption of ROYAL MH-30 XTRA may be slow, and results may not be as good as when plants have been grown under normal conditions.
9. Allow at least 7 days after application before harvest.
10. Even though ROYAL MH-30 XTRA is non-volatile, no drift should

be permitted onto nearby crops.

- 11. **SURFACE WATER ADVISORY:** Under some conditions, maleic hydrazide may have a significant potential for runoff into surface water (primarily via dissolution in runoff water), for several days post-application. Conditions favoring runoff include poorly draining soils or wet soils with readily visible slopes, frequently flooded areas, areas where an intense or sustained rainfall is forecast to occur within 48 hours, areas overlying extremely shallow ground water, and areas overlying tile drainage systems that flow to surface water.

ALWAYS SHAKE OR STIR WELL BEFORE USE.

DIRECTIONS FOR USE: POTATOES

GENERAL INFORMATION

ROYAL MH-30 XTRA is a potassium salt formulation of maleic hydrazide used on potatoes for control of tuber sprouting in storage and other benefits. To allow translocation of chemical down to the tubers, ROYAL MH-30 XTRA should be applied after tubers are formed and while vines are still green and are free from insects, diseases or other disorders. See APPLICATION NOTES for additional important information.

FOR USE ON POTATOES EAST OF THE ROCKY MOUNTAINS

BENEFITS

Sprout Control

ROYAL MH-30 XTRA will control sprouting of potatoes in storage. However, ROYAL MH-30 XTRA will not make a poor-keeping potato such as Norgold or Norchip into a good-keeping potato.

Reduction of Volunteer Potatoes

ROYAL MH-30 XTRA will reduce the number of volunteer potatoes the following spring because of its ability to control sprouting.

May Improve Grade

ROYAL MH-30 XTRA may improve the grade of potatoes, especially Russet Burbank variety, if the application is made prior to any secondary tuber formation.

Undersize Potatoes

ROYAL MH-30 XTRA will help reduce any additional "sets" of potatoes, thus decreasing the number of undersized potatoes in the field at harvest.

Reduces Shrinkage

ROYAL MH-30 XTRA applications can reduce shrinkage in storage up to 15 percent.

TIMING OF APPLICATION

Timing of application may occur as early as 2 to 3 weeks past full bloom when the primary and secondary inflorescences have lost most of their flowers and a few third order inflorescences and buds are present. This occurs when a few lower leaves show a yellow color. APPLICATION PRIOR TO THIS TIME MAY RESULT IN PHYTOTOXICITY AND REDUCED TUBER SIZE. The following tuber sizes may also be used as a guide, provided the above conditions have been met:

Russet Burbank and other Russet (elongated) types

The smallest tubers that are required to reach a minimum size of 4 to 6 oz. should be 1.5 to 2 inches in diameter and elongating at the time of spraying, except for Norgold, which must be at least 2 inches in diameter at the time of spraying.

Other varieties (round types)

The smallest tubers that are required to reach maximum size should be 1.5 inch in diameter at the time of spraying, except for Norchip, which must be at least 2 inches in diameter at the time of spraying.

RATE OF APPLICATION

Ground

Use 1 to 1.33 gallon of ROYAL MH-30 XTRA per acre in a minimum of 30 gallons of water per acre. Use the 1.33 gallon rate when vines are robust and in areas where the vines stay green and vigorous up through

the time of crop desiccation. The higher rate should also be used on varieties that sprout readily in storage (such as Norgold) or when potatoes will be stored under extended high temperatures.

Aerial

Use 1 to 1.33 gallon of ROYAL MH-30 XTRA per acre in a sufficient quantity of water to gain complete and uniform coverage. Use the 1.33 gallon rate when vines are robust and in areas where the vines stay green and vigorous up through the time of crop desiccation. The higher rate should also be used on varieties that sprout readily in storage (such as Norgold) or when potatoes will be stored under extended high temperatures. Do not fly at heights of less than 8 to 12 feet. Maintaining this height will give more uniform coverage and aid in preventing excessive build up of chemical on the left side of the treated swath. These heights should be reduced if cross-wind velocities exceed 2 to 4 MPH.

FOR USE ON POTATOES WEST OF THE ROCKY MOUNTAINS

BENEFITS

Sprout Control

ROYAL MH-30 XTRA will control sprouting of potatoes in storage. However, ROYAL MH-30 XTRA will not make a poor-keeping variety into a good-keeping potato.

Reduction of Volunteer Potatoes

ROYAL MH-30 XTRA will reduce the number of volunteer potatoes the following spring because of its ability to control sprouting.

Reduces Shrinkage

ROYAL MH-30 XTRA applications can reduce shrinkage in storage up to 15 percent.

May Improve Grade

ROYAL MH-30 XTRA may improve grade of potatoes if the application is made prior to any secondary tuber growth.

TIMING OF APPLICATION

ROYAL MH-30 XTRA should be applied when the smallest tubers that you want to harvest are 2 to 2.5 inches in diameter or about 2 to 2.5 ounces in weight. This usually occurs about 3 to 4 weeks after full bloom or 11 to 12 weeks after emergence on the Russet Burbank variety. The smallest tubers that are required to reach marketable size should be starting to elongate on Russet Burbank or similar varieties at the time of treatment. APPLICATION PRIOR TO THIS TIME MAY RESULT IN PHYTOTOXICITY AND REDUCED TUBER SIZE. If vines are to be desiccated, apply ROYAL MH-30 XTRA at least 2 weeks prior to vine desiccation for good sprout control and storage benefits. DO NOT APPLY TO POTATO PLANTS THAT ARE UNDER STRESS.

RATE OF APPLICATION

Ground

Use 1 to 1.33 gallon of ROYAL MH-30 XTRA per acre in a minimum of 30 gallons of water per acre. Use the 1.33 gallon rate when vines are robust and in areas where the vines stay green and vigorous up through the time of crop desiccation.

Aerial

Use 1 to 1.33 gallon of ROYAL MH-30 XTRA per acre in a minimum of 10 gallons of water per acre. Use the 1.33 gallon rate when vines are robust and in areas where the vines stay green and vigorous up through the time of crop desiccation. Do not fly at heights of less than 8 to 12 feet. Maintaining this height will give more uniform coverage and aid in preventing excessive build up of chemical on the left side of the treated swath. These heights should be reduced if cross-wind velocities exceed 2 to 4 MPH.

DIRECTIONS FOR USE: ONIONS

GENERAL INFORMATION

ROYAL MH-30 XTRA will control sprouting in storage of onions (dry bulb), shallots (dry bulb) and garlic. See APPLICATION NOTES for additional important information.

TIMING OF APPLICATION

ROYAL MH-30 XTRA should be applied when the bulbs are fully mature, have at least 5 to 8 green leaves, and necks soft enough for the tops to fall if they have not already done so. The spray is often applied when 50 percent of the tops have fallen but all tops are still green. This condition usually occurs about 10 to 14 days before harvest time. Green tops are essential for the absorption and effectiveness of ROYAL MH-30 XTRA.

NOTE: Avoid spraying edible onions too early. If spraying is done earlier than two weeks before maturity, spongy bulbs may result.

RATE OF APPLICATION

Ground

Use 7 pints of ROYAL MH-30 XTRA per acre in a minimum of 30 gallons of water per acre.

Aerial

Use 7 pints of ROYAL MH-30 XTRA per acre in a minimum of 10 gallons of water per acre. Do not fly at heights of less than 8 to 12 feet. Maintaining this height will give more uniform coverage and aid in preventing excessive build-up of chemical on the left side of the treated swath. These heights should be reduced if cross-wind velocities exceed 2 to 4 MPH.

ONION VARIETIES

Use of ROYAL MH-30 XTRA should be combined with selection of a good-keeping variety. Do not apply to onion varieties with poor-keeping quality. ROYAL MH-30 XTRA will not make poor-keeping varieties equal to good-keeping varieties.

SPRAY ADJUVANTS FOR ONIONS

West of the Rocky Mountains: Use a commercial non-ionic surfactant similar to X-77® or R-11® at the rate of 1 quart per 100 gallons of spray solution in arid sections of the U.S. Such products may help provide better coverage and aid in translocation of ROYAL MH-30 XTRA. The commercial surfactant must be cleared for application to growing crops.

East of the Rocky Mountains: Use of surfactants is not normally recommended.

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©R-11 is a registered trademark of Wilbur-Ellis Company.

APPLICATION NOTES: POTATOES AND ONIONS

1. Always follow dosage recommendations carefully and spray field uniformly. Uniform and complete coverage is essential for satisfactory results.
2. Uneven application may result in bud end cracking and/or "elephant hide" on potato tubers.
3. To obtain desired results, plants should not be stressed from either too little or excessive water before or after application.
4. Do not use on potato plants grown for seed production.
5. Use only one application of ROYAL MH-30 XTRA per season.
6. Spray potatoes or onions at least 24 hours before rain or applying overhead irrigation. Rain or overhead irrigation occurring within 24 hours after application may reduce effectiveness.
7. At least a 2-week interval should be allowed between a ROYAL MH-30 XTRA application to potatoes and the use of a vine desiccant.
8. Even though ROYAL MH-30 XTRA is non-volatile, no drift should be permitted onto nearby crops. Particular care should be taken to prevent drift when aerial applications are being made.
9. **SURFACE WATER ADVISORY:** Under some conditions, maleichydrazide may have a significant potential for runoff into surface water (primarily via dissolution in runoff water), for several days post-application. Conditions favoring runoff include poorly draining soils or wet soils with readily visible slopes, frequently flooded areas, areas where an intense or sustained rainfall is forecast to occur within 48 hours, areas overlying extremely shallow ground water, and areas overlying tile drainage systems that flow to surface water.

10. **TEMPERATURE:** ROYAL MH-30 XTRA should be applied at temperatures below 85°F or at temperatures below 80°F if the temperature is expected to exceed 85°F later that day. ROYAL MH-30 XTRA is water soluble and under high temperature and low humidity conditions will crystallize on the leaf surface and will not be readily absorbed into the plant.
11. **SPRAY ADJUVANTS:** For potatoes, do not add any additional wetting agents or commercial spray adjuvants to ROYAL MH-30 XTRA spray solutions. For onions, see Directions for Use.
12. **COMPATIBILITY:** ROYAL MH-30 XTRA is compatible with most commonly used foliar insecticides and fungicides. However, separate application is recommended.
13. Occasional injury to the terminal growth of potato foliage has been observed following the application of ROYAL MH-30 XTRA. However, trials and usage indicate that this does not adversely affect the yield or the quality of the potato tubers at harvest, if the chemical is applied according to label directions.

ALWAYS SHAKE OR STIR WELL BEFORE USE

STORAGE AND DISPOSAL

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

STORAGE: Store in original container only. After partial use, replace lid and close tightly. Store in a secure place that is temperate and dry. Store ROYAL MH-30 XTRA at temperatures above 32°F; storage above 40°F is preferred. The active ingredient in ROYAL MH-30 XTRA will separate from the surfactant at temperatures above 134°F. If containers are exposed to excessive heating, the contents can be remixed by lowering the temperature of the entire formulation below 134°F. and applying agitation. **ALWAYS SHAKE OR STIR WELL BEFORE USE.**

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes can not 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.

EQUIPMENT CLEANING: ROYAL MH-30 XTRA is not corrosive to spray equipment. Following applications, all spray equipment should be thoroughly rinsed with water. Do not contaminate water by disposal of equipment washwaters.

CONTAINER DISPOSAL: Plastic Containers: Triple rinse (or equivalent). Pressure rinse is preferred. 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.

Mini Bulk Containers: Return empty containers for reuse.

EMERGENCY ASSISTANCE:

UNIROYAL CHEMICAL EMERGENCY PHONE	203-723-3670
SAFETY DATA AND INFORMATION	203-573-3303
TRANSPORTATION EMERGENCY (CHEMTREC)	800-424-9300

IMPORTANT NOTICE—Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty, nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product, contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

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[MASTER LABEL]