

# ROYAL MH-30<sup>®</sup>

# ROYAL MH-30<sup>®</sup> XTRA

# ROYAL MH-30<sup>®</sup> SG

## GENERAL INFORMATION

### PLANT GROWTH REGULANT

Royal MH-30 is a plant growth regulant. It should be applied as a foliar spray in a manner that insures uniform and complete coverage.

## POTATOES

**Royal MH-30 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 should be applied after tubers are formed and while vines are still green and are free from insects, diseases or other disorders.**

Consult the Royal MH-30 Label for use directions, application notes and precautions.

### **BENEFITS**

#### **SPROUT CONTROL**

One application of Royal MH-30 will protect potatoes from sprouting for many months with no need for additional treatment after storage. Royal MH-30 does not cause internal sprouting.

#### **REDUCES SHRINKAGE**

Royal MH-30 applications can reduce shrinkage up to 15 percent.

#### **REDUCES VOLUNTEER POTATOES**

Proper Royal MH-30 applications will substantially reduce the volunteer potatoes the year following applications.

#### **REDUCES NUMBER OF UNDERSIZE POTATOES**

Timely applications of Royal MH-30 can materially reduce the number of undersized potatoes at harvest.

#### **NO ADDITIONAL LABELING REQUIRED**

Treated potatoes and potato products processed from them do not require label identification on potato shipping containers.

#### **RE-CONDITIONING**

It is necessary to store potatoes at 35 degrees F. to prevent sprouting, but storage at these low temperatures causes sugars to accumulate. Accumulated sugars produce undesirable, dark-colored potato chips, fries and other products. Re-conditioning is necessary at high temperatures to produce light-colored chips. Potatoes properly treated with Royal MH-30 can be held at 45 degrees F. to 50 degrees F. without sprouting, thus saving on costs of low temperature storage and re-conditioning.

### **IMPORTANT FACTORS**

#### **VARIETIES**

Royal MH-30 will prevent sprouting in all varieties. However, varieties that break dormancy rapidly (such as Norgold) will sprout sooner than varieties that do not normally break dormancy until 2 or 3 months after harvest — i.e., while Royal MH-30 can be used effectively on Norgolds, growers should not expect this variety to “hold” as well as Russets.

#### **APPLICATION**

Royal MH-30 must be applied to green growing vines. The Royal MH-30 is absorbed by the green potato foliage and carried down through the stems into the tubers. The Royal MH-30 in the tubers will retard the development of sprouts after the potatoes have been dug and stored.

## APPLICATION NOTES

A residue of 12.0 ppm of maleic hydrazide or higher is necessary to prevent complete sprouting of potatoes. The allowable EPA tolerance for potatoes is 50.0 ppm maleic hydrazide.

At least a 2 week interval should be allowed between Royal MH-30 application and the use of a vine killer.

Do not treat potatoes which are being grown for seed. Royal MH-30 will inhibit their sprouting.

Do not apply Royal MH-30 to water-stressed or frost injured vines.

Spray at least 24 hours before rain or sprinkler irrigation. Rain or sprinkler irrigation within 24 hours after application will reduce effectiveness.

Do not apply Royal MH-30 after the leaves have turned a light green to yellow, as insufficient material will be absorbed and translocated from the leaves to the tubers — thus giving unsatisfactory sprout control.

Spraying must be done before signs of “early dying” (*Verticillium Wilt*) appear.

Do not spray fields severely infested with Early Blight (*Alternaria solani*) or Late Blight (*Phytophthora infestans*).

Do not spray fields with severe weed infestations.

## DIRECTIONS FOR USE

Consult the Royal MH-30 Labels for use directions, application notes and precautions.

### GROUND APPLICATION

Use Royal MH-30 (at the labeled rates) in 30 to 100 gallons of water per acre. Good coverage is mandatory.

### AERIAL APPLICATION

Use Royal MH-30 (at the labeled rates) in water to give **total** volume of 10 gallons per acre. Do not fly at heights of less than 8 to 12 feet. Maintaining heights of 8 to 12 feet will give a more uniform coverage and aid in preventing an excessive build-up of chemical on the left side of the plane. These heights should be reduced as cross-wind velocities 2 to 4 miles per hour.

### NOTICE:

Occasional injury to the terminal growth of potato foliage has been observed following the application of Royal MH-30. 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 recommendations.

### TIMING

**East of the Rocky Mountains:** 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.

**West of the Rocky Mountains:** ROYAL MH-30SG 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-30SG 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.

### SPRAY ADJUVANTS

Use of surfactants is normally not recommended.

## **TEMPERATURE**

Royal MH-30 should be applied at temperatures below 85°F. or at temperatures below 80°F if the temperatures are expected to exceed 85°F. Royal MH-30 is water soluble and under high temperature and low humidity conditions will crystallize on the leaf surface and not be absorbed into the plant.

## **COMPATIBILITIES**

See chart at end of Royal MH-30 section.

# **ONIONS**

Consult the Royal MH-30 Labels for use directions, application notes and precautions.

## **BENEFITS**

### **SPROUT CONTROL**

One application of Royal MH-30 will prevent onions from sprouting in storage.

## **IMPORTANT FACTORS**

### **VARIETIES**

Use of Royal MH-30 should be combined with selection of a good keeping variety. Royal MH-30 will not make poor keeping varieties equal to good keeping varieties.

### **APPLICATION**

Do not use Royal MH-30 on fields badly infested with Botrytis (*B. squamosa*) and Leaf Blight (also known as blast) because absorption and translocation will not occur. A residue of 5.0 ppm maleic hydrazide or higher is necessary to prevent sprouting of onions. The maximum allowable tolerance is 15.0 ppm.

## **DIRECTIONS FOR USE**

Consult the Royal MH-30 Labels for use directions, application notes and precautions.

### **TIMING**

Royal MH-30 should be applied when the bulbs are fully mature, when they have five to eight green leaves and when their necks are 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 while all the tops are still green. This condition usually occurs about two weeks to ten days before harvest time. Green tops are essential for the absorption of Royal MH-30 and its translocation to the bulb. Royal MH-30 is not effective if growers wait too long before applying the material. When plants have three green leaves or less and all the tops are down, it is usually too late for effective control.

### **GROUND APPLICATION**

Use Royal MH-30 (at the labeled rates) in 50 to 150 gallons of water per acre. Add 6 ounces X-77® or Regulaid® per acre. Good coverage is necessary for uniform control.

®X-77 is a trademark of Loveland Industries, Inc.

®R-11 is a registered trademark of Wilbur-Ellis Company

### **AERIAL APPLICATION**

Use of Royal MH-30 (at the labeled rates) in a minimum of 10 gallons of water per acre. Add 1 quart X-77 or Regulaid for each 100 gallons of spray solution. Do not fly at heights of less than 8 to 12 feet. Maintaining heights of 8 to 12 feet will give a more uniform coverage and aid in preventing an excessive build up of chemical on the left side of the plane. These heights should be reduced as cross-wind velocities exceed 2 to 4 miles per hour.

### **SPRAY ADJUVANTS**

It is important to use X-77 or R-11 with Royal MH-30 on onions. See application sections for proper rates. An adjuvant is not needed East of the Rocky Mountains.

## **TEMPERATURE**

Royal MH-30 should be applied at temperatures below 85°F. or at temperatures below 80°F if the temperatures are expected to exceed 85°F. Royal MH-30 is water soluble and under high temperature and low humidity conditions will crystallize on the leaf surface and not be absorbed into the plant.

## **COMPATIBILITIES**

See chart at end of Royal MH-30 section.

## COMPATIBILITY CHART

### ROYAL MH-30, ROYAL MH-30 XTRA, ROYAL MH-30SG

**Caution:** Always consult the label of the other product to be used in combination with Royal MH-30 for use restrictions. The following chart is only a guide to possible combinations. Use restrictions on other spray materials must be followed. Mixtures of more than one other pesticide should not be used unless local use experience or prior testing has demonstrated that such combinations may be used safely.

Product	Potatoes	Onions
Captan .....	ok	ok
Difolatan .....	ok	—
Dithane M45 .....	ok	—
Guthion 2E .....	ok	—
Kocide 101 (WP) .....	ok	—
Kocide 606 (Flowable) .....	ok <sup>1</sup>	—
Malathion .....	ok	ok
Maneb .....	ok	ok
Manzate 4F w/zinc. ....	ok <sup>1</sup>	—
Manzate 200 .....	ok	—
Monitor 4L .....	ok	—
Parathion .....	ok	—
Polyram 80W .....	ok	—
Pounce 3.2EC .....	ok	—
Pydrin 2.4EC .....	ok	—
R-11 .....	ok <sup>2</sup>	ok <sup>2</sup>
Regulaid .....	ok <sup>2</sup>	ok <sup>2</sup>
Ridomil 2E .....	ok	—
SuperTin .....	do not use	—
Thiodan 3EC .....	ok	—
X-77 .....	ok <sup>2</sup>	ok <sup>2</sup>
Zineb .....	do not use	ok

<sup>1</sup> Resuspension will be difficult if spray solution is NOT agitated for several hours.

<sup>2</sup> Royal MH-30 plus X-77 or Regulaid or X-77 is compatible with most fungicides and insecticides.