

66222-189

5/5/2011

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

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

Anne Stout  
Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Road, Suite 300  
Raleigh, NC 27609

MAY - 5 2011

Subject: Label Amendment (change potato PHI from 60 to 30 days, update storage and disposal section, update trademark symbol)  
Supplemental Label (For Use on Potatoes Including Reduction of Preharvest Interval From 60 to 30 Days)  
Pruvin Herbicide  
EPA Reg. No. 66222-184  
Application Dated March 18, 2011  
Resubmission Dated May 4, 2011

Dear Ms. Stout:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable.

A stamped copy of the supplemental label is enclosed for your records.

A stamped copy of your main label is enclosed for your records. This label supersedes all previously accepted labels. You must submit one (1) copy of the final printed label before you release the product for shipment. Products shipped after eighteen (18) months from the date of this letter or the next printing of the label, whichever occurs first, must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA §6(e). Your release for shipment of the product constitutes acceptance of these conditions.

If you have any questions, please contact Mindy Ondish at (703)605-0723 or at [ondish.mindy@epa.gov](mailto:ondish.mindy@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis".

Kable Bo Davis  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

2/98

**ACCEPTED**  
MAY - 5 2011  
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 66222-184

# Pruvin™

## Herbicide

### Dry Flowable

**For weed control in Potatoes, Potatoes grown for seed, field grown Tomatoes, Citrus Fruit, Stone Fruit, Tree Nuts, Pome Fruit, Grapes and Field Corn; along Roadsides and Highway Medians, at Industrial Plant Sites and Utility Substations and in Warm Season Turf**

Contains rimsulfuron, the active ingredient used in Matrix®, TranXit®, and Resolve™ DF. Pruvion™ Herbicide is not manufactured or distributed by DuPont™.

<b>ACTIVE INGREDIENT:</b>	<b>% BY WT.</b>
Rimsulfuron: N-((4,6-dimethoxypyrimidin-2-yl)aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide.....	25.0%
<b>OTHER INGREDIENTS:</b> .....	<u>75.0%</u>
<b>TOTAL</b>	<b>100.0%</b>

### KEEP OUT OF REACH OF CHILDREN

## CAUTION

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

Manufactured for:  
Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Rd., Suite 300  
Raleigh, NC 27609

EPA Reg. No. 66222-184

EPA Est. No. 084093-CHN-001

**NET CONTENTS: \_\_\_ LBS**

#### FIRST AID

<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact Prosar at 1-877-250-9291 for emergency medical treatment information.

#### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION!

Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with skin, eyes, and clothing. Avoid breathing dust or spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride
- Shoes plus socks

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS STATEMENTS**

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 Part 170 Section 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/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into 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 when cleaning equipment or disposing of equipment washwaters or rinsate.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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 in your State 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 4 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
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride
- Shoes plus socks

**IMPORTANT:** Pruvin™ Herbicide is recommended for use in most states. Check with your agricultural dealer, state cooperative extension service, or Department of Agriculture before use to be certain Pruvin™ Herbicide is registered in your state. Read the entire use directions and Limitations of Warranty and Liability before using Pruvin™ Herbicide.

**SPRAY DRIFT MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Where states have more stringent regulations, they should be followed. Additional information may be available from state enforcement agencies or the state cooperative extension service on spray drift management.

**Importance of Droplet Size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions! See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label.

**Controlling Droplet Size –Techniques**

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use a higher capacity nozzle instead of increasing pressure.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

**Controlling Droplet Size - Aircraft**

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - The boom length should not exceed 3/4 of the wing or rotor length – longer booms increase drift potential.
- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

**Boom Height**

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

**Wind**

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given wind speed. **Avoid gusty and windless conditions.** It is important that every applicator be familiar with local wind patterns and how they affect spray drift because local terrain can influence wind patterns.

**Temperature and Humidity**

When making applications in hot and dry conditions, set up the spray equipment to produce large droplets to reduce the effects of evaporation.

**Temperature Inversions**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Shielded Sprayers**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

**Air-Assisted (Air Blast) Field Crop Sprayers (FOR USE ON FIELD CORN ONLY)**

Air-assisted field crop sprayers carry droplets to the target via a downward-directed airstream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application and is configured properly, and that drift is not occurring.

**CHEMIGATION APPLICATION**

Do not apply Pruvin™ Herbicide through any type of irrigation system except on potatoes and on fruit, nut and vine crops. Pruvin™ Herbicide may be applied using a center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. See the **CHEMIGATION – POTATOES** section of this label for more information. Pruvin™ Herbicide may be applied via micro-sprinkler chemigation in fruit, nut and vine crops. See the **MICRO-SPRINKLER CHEMIGATION – FRUIT, NUT AND VINE CROPS** section of this label for more information. Do not apply Pruvin™ Herbicide through chemigation on any other crop.

**INTEGRATED PEST MANAGEMENT**

Makhteshim Agan of North America, Inc. (MANA) recommends the use of Integrated Pest Management (IPM) programs to control pests. Pruvin™ Herbicide may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of Pruvin™ Herbicide should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control to these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide-resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, re-treatment, tank mix partners, and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

Naturally occurring weed biotypes that are resistant to other herbicides in the sulfonyleurea chemical family such as Amber<sup>®</sup> herbicide, DuPont Ally<sup>®</sup> herbicide, DuPont Glean<sup>®</sup> FC herbicide, DuPont Express<sup>®</sup> herbicide, DuPont Harmony<sup>®</sup> Extra herbicide, DuPont Finesse<sup>®</sup> herbicide, or DuPont Matrix will also be resistant to Pruvini<sup>™</sup> Herbicide since it is also a member of the sulfonyleurea chemical family of herbicides.

## INFORMATION

Pruvini<sup>™</sup> Herbicide must be used only in accordance with directions on this label or in separate published MANA directions. MANA will not be responsible for losses or damage resulting from use of this product in any manner not specifically directed by MANA.

**Formulation:** Pruvini<sup>™</sup> Herbicide is a dry flowable formulation containing 25% active ingredient by weight. It is noncorrosive to equipment, nonflammable, and nonvolatile. Continuous agitation is required to maintain the product in suspension in the spray tank. For best results, the spray tank solutions of Pruvini<sup>™</sup> Herbicide should be maintained at pH 5 to 7. Degradation of Pruvini<sup>™</sup> Herbicide may occur if it is used in a spray solution or with spray additives that buffer pH to below 4 or above 8.

Pruvini<sup>™</sup> Herbicide selectively controls certain broadleaf weeds and grasses at 1 to 1.5 ounces product per acre in potatoes and potatoes grown for seed and 1 to 4 ounces product per acre in field grown tomatoes (direct seeded and transplant). Pruvini<sup>™</sup> Herbicide also selectively controls certain broadleaf weeds and grasses at 4 ounces product per acre in pome fruit, citrus fruit, tree nut, stone fruit, and grape crops which have been established for at least one full growing season. Pruvini<sup>™</sup> Herbicide controls weeds along roadsides, in highway medians, at industrial plant sites, and at utility substations when applied at 4 ounces product per acre. In warm season turfgrass such as Bermudagrass, centipedegrass, and zoysiagrass, Pruvini<sup>™</sup> Herbicide controls annual bluegrass and other weeds at 0.5 to 2 ounces product per acre.

In field corn, Pruvini<sup>™</sup> Herbicide may be applied at 0.5 to 2 ounces product per acre for selective burndown and residual control of certain annual grass and broadleaf weeds. Pruvini<sup>™</sup> Herbicide may be applied to Roundup Ready<sup>®</sup> corn in tank mix combinations with glyphosate herbicides such as Roundup Original<sup>®</sup>, Roundup WeatherMAX<sup>®</sup>, or similar products to add residual control for later emerging weeds. Residual weed control is dependent on rainfall or sprinkler irrigation for herbicide activation.

**Mode of Action:** Pruvini<sup>™</sup> Herbicide contains rimsulfuron which belongs to the sulfonyleurea chemical family of herbicides. Herbicides in this family inhibit branched-chain amino acid synthesis in plants. Pruvini<sup>™</sup> Herbicide is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. For preemergence weed control, rainfall or sprinkler irrigation is needed to move Pruvini<sup>™</sup> Herbicide into the soil. Weeds will not emerge from preemergence applications. In some cases, however, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

Best weed control is attained when Pruvini<sup>™</sup> Herbicide is applied in vigorously growing crops that shade competitive weeds. Reduced weed control may result, however, when the crop canopy is too dense and some of the spray is intercepted by the crop and it fails to reach the weeds. In addition, reduced weed control may result where the crop canopy is not as dense due to a thin crop stand or seeding skips and there is less shade.

The herbicidal action of Pruvini<sup>™</sup> Herbicide may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to Pruvini<sup>™</sup> Herbicide.

Postemergence weed control may be reduced if rainfall occurs soon after application. Several hours of dry weather are needed to allow Pruvini<sup>™</sup> Herbicide to be sufficiently absorbed by weed foliage (Pruvini<sup>™</sup> Herbicide is rainfast in 4 hours).

**Application Timing:** The best weed control is obtained when Pruvini<sup>™</sup> Herbicide is applied to young, actively growing weeds. The degree and duration of control may depend on (a) weed spectrum and infestation intensity, (b) weed size at application, and (c) environmental conditions at and following treatment.

For maximum preemergence activity prior to application, the bed or soil surface should be smooth and relatively free of crop and weed trash (dead weeds, decaying leaves, clippings, etc.). Leaves and trash may be removed by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of Pruvin™ Herbicide. Cutting water furrows or cultivations that mix untreated soil into the treated areas will also reduce the effectiveness of the herbicide treatment.

For best weed management, apply Pruvin™ Herbicide with another suitable residual herbicide registered for that crop. This is recommended for all soil types, but especially for coarse-textured soils under standard sprinklers or micro-sprinklers.

More than one banded application of Pruvin™ Herbicide may be needed to provide extended weed control.

**Note:** See the application information section below under each crop for directions on application timing specific to each crop use of Pruvin™ Herbicide.

**SPRAY ADJUVANTS**

A spray adjuvant must be added with each application of Pruvin™ Herbicide when applied by itself and postemergence to the weeds. Consult your local agricultural dealer, applicator, crop consultant, state cooperative extension service, or MANA fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with Pruvin™ Herbicide, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

**Nonionic Surfactant (NIS)**

- Apply 0.125 to 0.25% v/v (1 to 2 pints per 100 gallons of spray solution). The higher 0.25% v/v rate should be used under arid or drought conditions.
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

**Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)**

- Apply at 1% v/v (1 gallon per 100 gallons of spray solution).
- Oil adjuvants must contain at least 80% high quality petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- Blended products which contain both MSO and silicone are acceptable at labeled rates.

**Ammonium Nitrogen Fertilizer**

- An ammonium nitrogen fertilizer may be added to the spray mix in addition to a COC or NIS but is not required to optimize performance of Pruvin™ Herbicide.
- Use 2 quarts per acre of a high quality urea ammonium nitrate (UAN) such as 28%N or 32%N or 2 pounds per acre of a spray-grade ammonium sulfate (AMS). Use 4 quarts per acre UAN or 4 pounds per acre AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

**Special Adjuvant Types**

- Combination adjuvant products may be used with Pruvin™ Herbicide at doses that provide the required amount of NIS, COC, MSO, and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality. Consult your local agricultural dealer, applicator, crop consultant, state cooperative extension service, or MANA fact sheets and technical bulletins prior to using an adjuvant system not specified on this label.

**Adjuvant Precautions**

- The use of silicone polymer-type surfactants is not suggested, as reduced weed control may result.

**Note:** More specific directions for use of spray adjuvants with Pruvin™ Herbicide are provided below under specific crop uses.

**SPRAY EQUIPMENT, CLEANUP, AND MIXING INSTRUCTIONS**

**Equipment:** For specific application equipment, refer to the manufacturer's recommendations for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc. Air and ground equipment should be properly calibrated with clean water before making an application of Pruvin™ Herbicide. Thorough coverage is required for best weed control. The spray delivery system should provide a uniform spray pattern with a minimum of drift.

Avoid spray drift onto nontarget sites by using properly calibrated equipment, appropriate spray volumes for the crop, and avoiding an application during inclement weather conditions that favor spray drift. For additional information on spray drift, refer to the **SPRAY DRIFT MANAGEMENT** section of this label.

**Equipment Cleanup:** The spray equipment must be cleaned and free of previous pesticide deposits before Pruvin™ Herbicide is mixed and used. Follow the cleanup procedures specified on the labels of the previously applied products. If no cleanup directions are provided, follow the steps provided below for cleaning up after spraying Pruvin™ Herbicide. Thoroughly clean all mixing and spray equipment immediately following applications of Pruvin™ Herbicide to avoid subsequent crop injury.

Spray equipment or nurse tanks used in chemigation must be cleaned before Pruvim™ Herbicide is used. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the procedures outlined below in the **After Spraying Pruvim™ Herbicide and Before Spraying Other Crops** section of this label.

When cleaning spray equipment before mixing Pruvim™ Herbicide, read and follow label directions for proper rinsate disposal of the product previously sprayed. Steam cleaning spray tanks is recommended prior to the cleanout procedure outlined below to facilitate the removal of any caked pesticide deposits.

When multiple loads of Pruvim™ Herbicide are applied or when mixing and spraying equipment will be used over an extended period to apply multiple loads of Pruvim™ Herbicide, it is recommended that at the end of each day of spraying the interior of the tank be rinsed with fresh water, flush the boom and hoses, and then partially fill the tank and allow to sit overnight. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

**After Spraying Pruvim™ Herbicide and Before Spraying Other Crops**

1. Drain the tank and thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia\* (contains at least 3% active ingredient) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing ammonia\* and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) listed on this label. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\* Equivalent amounts of an alternate-strength ammonia solution or a MANA-approved spray equipment cleaner can be used in the cleanup procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or MANA representative for a listing of approved spray equipment cleaners for use with Pruvim™ Herbicide.

**Additional Notes for Cleanup**

1. Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. When Pruvim™ Herbicide is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
3. In addition to this cleanout procedure, all preapplication cleanout guidelines on subsequently applied products should be followed as per the individual labels.
4. Where routine spraying practices include shared equipment frequently being switched between applications of Pruvim™ Herbicide and applications of other pesticides to crops sensitive to Pruvim™ Herbicide during the same spray season, it is recommended that a sprayer be dedicated to Pruvim™ Herbicide to further reduce the chance of crop injury.

**Mixing Instructions:** It is very important that the spray equipment is clean and free of previous pesticide deposits before mixing Pruvim™ Herbicide. Follow these steps when mixing a spray solution with Pruvim™ Herbicide:

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of Pruvim™ Herbicide.
3. Continue agitation until the Pruvim™ Herbicide is fully dispersed, at least 5 minutes.
4. Once the Pruvim™ Herbicide is fully dispersed, maintain agitation and continue filling tank with water. Pruvim™ Herbicide should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired); then add the required amount of spray adjuvant (if needed). Always add the spray adjuvant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply Pruvim™ Herbicide spray mixture within 48 hours of mixing to avoid product degradation.
8. If Pruvim™ Herbicide and tank mix partner are to be applied in multiple loads, pre-slurry the Pruvim™ Herbicide in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the Pruvim™ Herbicide.

Do not use Pruvim™ Herbicide in a spray solution or with spray additives that change the pH to below 4 or above 8, or Pruvim™ Herbicide degradation may occur. (See the **Formulation** section above for more information.)

**TANK MIXTURES**

In order to broaden the weed control spectrum and/or extend the residual effectiveness of Pruvin™ Herbicide, it may be used in tank mixtures with registered herbicides affecting a different site of action (mode of action) and/or adjuvants registered for use on the crops listed on the Pruvin™ Herbicide labeling. If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide. Pruvin™ Herbicide may also be used in other tank mixtures with insecticides and fungicides. In all cases when using tank mixtures with Pruvin™ Herbicide, refer to the label(s) of the tank mix partner(s) for additional use instructions or restrictions.

**Note:** See the individual crop use directions below for specific information, precautions, and restrictions on tank mixtures with Pruvin™ Herbicide.

**CULTIVATION**

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of Pruvin™ Herbicide. For preemergence applications, cultivation is not recommended for 7 days after an application in order to allow Pruvin™ Herbicide to fully control treated weeds. After postemergence application of Pruvin™ Herbicide, the optimum timing for cultivation is 7 to 14 days. Cultivation up to 7 days before the postemergence application of Pruvin™ Herbicide may decrease weed control by pruning weed roots placing the weeds under stress or covering the weeds with soil and preventing coverage by Pruvin™ Herbicide.

**PRECAUTIONS AND RESTRICTIONS**

**PRECAUTIONS**

- Carefully observe sprayer cleanup instructions, as spray tank residue may damage other crops.
- Thoroughly clean application equipment immediately after use of Pruvin™ Herbicide. (See the **Equipment Cleanup** section of this label for instructions.)
- Avoid spray drift to any adjacent crops, planned planting areas, and desirable plants, as injury may occur.
- For best results, maintain spray tank solution at pH 5 to 7.
- Preemergence use on soils containing more than 6% organic matter may not provide adequate soil residual weed control and may result in reduced weed control.
- If sprinklers are used for frost protection, delay the application of Pruvin™ Herbicide until stress from environmental conditions has passed.
- Crop injury may occur following an application of Pruvin™ Herbicide if there is a prolonged period of cold weather and/or cold weather in conjunction with wet soils caused by poor drainage or excessive use of sprinkler irrigation for frost protection.
- Preemergence and postemergence use on rill irrigated crops such as potatoes and tomatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- Crop varieties/cultivars may differ in their response to various herbicides. MANA recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of Pruvin™ Herbicide to a small area.
- Crops (especially crops other than pome fruit, tree nuts, stone fruit, citrus, grapes, potatoes, tomatoes, and field corn) whose roots extend into a treated area may be injured.
- If tank mixing Pruvin™ Herbicide with another herbicide, check to see if the selected companion herbicide has a ground or surface water advisory. If it does, consider the advisory when using the companion herbicide.
- Tank mixing Pruvin™ Herbicide with organophosphate insecticides in some crops may result in crop injury.

**RESTRICTIONS**

- Do not apply or drain or flush equipment containing Pruvin™ Herbicide on or near desirable trees or other plants, on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Trees or other desirable plants whose roots extend into a treated crop use area may be injured.
- Do not contaminate any body of water including irrigation water that may be used on other crops.
- Do not apply in or on irrigation canals or ditches including their outer banks.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not apply to frozen or snow-covered soil. Crop injury may occur from applications made to poorly drained soils.
- Do not apply using Air-Assisted (Air Blast) field crop sprayers.
- Do not apply by air in the state of NY. Do not apply by air in the state of CA except for use on potatoes in Modoc and Siskiyou counties.
- Do not graze or feed forage, grain, or fodder (stover) from treated areas to livestock within 30 days of Pruvin™ Herbicide application.

**Note:** See also the specific crop uses below for additional crop-specific precautions and restrictions for use of Pruvin™ Herbicide.



**POTATOES**

**APPLICATION INFORMATION**

**Ground Application:** Apply Pruvin™ Herbicide with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan, TwinJet™, underleaf banding nozzles or flood jet nozzles to ensure optimum spray distribution and thorough coverage. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution. With ground application equipment, use enough water to deliver 10 to 40 gallons total.spray.solution.per.acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

**Preemergence Applications:** Apply Pruvin™ Herbicide at 1 to 1.5 ounces product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed. To activate Pruvin™ Herbicide and move it 2 to 3" deep into the soil profile, moisture is necessary from a single rainfall event, or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying Pruvin™ Herbicide postemergence would result in better weed control.

If weeds are present at application and it is not possible to apply Pruvin™ Herbicide to a clean, newly prepared seedbed, free of emerged or germinating weeds add a spray adjuvant to the spray mix (See the **Spray Adjuvant** section of this label for additional information). Control may not be adequate for weeds that have an established root system before activation of Pruvin™ Herbicide.

**Postemergence Applications:** Apply Pruvin™ Herbicide at 1 to 1.5 ounces product per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the **Specific Weed Problems-Potatoes and Tomatoes** section of this label for more information). For best postemergence weed control, activate Pruvin™ Herbicide in the soil with rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application.

Temporary chlorosis (lime green color) may occur after application of Pruvin™ Herbicide if potato plants are growing under conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations). Symptoms usually disappear within 5 to 15 days.

**Tank Mixtures – Preemergence Applications:** Pruvin™ Herbicide may be tank mixed with pesticide products labeled for use on potatoes (such as Eptam® 7E, Prowl®, Lorox® DF, DuPont Cinch® or Dual II MAGNUM®, Roundup® or glyphosate-containing products registered for potatoes) in accordance with the most restrictive of label limitations and precautions. When tank mixing Pruvin™ Herbicide with another potato pesticide(s), read and follow all use directions, restrictions, and precautions on the labels of both Pruvin™ Herbicide and the tank mix partner(s). Pruvin™ Herbicide may also be used in three-way tank mix combinations on potatoes with the above pesticide(s). If these recommendations conflict with the use directions on this Pruvin™ Herbicide label, do not use as a tank mix with Pruvin™ Herbicide.

**SPECIFIC USE DIRECTIONS FOR PREEMEGENCE TANK MIXTURES IN POTATOES WITH PRUVIN™ HERBICIDE**

TANK MIXTURES	COMMENTS
With metribuzin (such as Sencor®) *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Metribuzin at 0.3 to 1.3 pound per acre for improved control of such weeds as kochia, Russian thistle and common lambsquarters.</li> <li>- Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>
With Eptam 7E *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Eptam 7E at label rates for improved control of such weeds as hairy nightshade and crabgrass.</li> <li>- Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> <li>- The rates and incorporation methods for Eptam 7E vary by region, therefore, follow the recommendations for the local region.</li> <li>- Use irrigation rather than equipment to incorporate the tank mixture of Eptam 7E and Pruvin™ Herbicide to prevent poor weed control from deep incorporation of the Pruvin™ Herbicide.</li> <li>- If incorporation by irrigation is not allowed, apply Eptam 7E and Pruvin™ Herbicide in a split application.</li> </ul>
With pendimethalin (such as Prowl) *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Prowl at label rates for better control of such weeds as kochia, crabgrass, and common lambsquarters.</li> <li>- Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>

With linuron (such as Lorox DF) *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Lorox DF at 1 to 4 pounds per acre for better control of such weeds as common lambsquarters and common ragweed.</li> <li>- Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>
With metolachlor or S-metolachlor (such as MANA Parallel®, DuPont Cinch or Dual II MAGNUM) *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus MANA Parallel or DuPont Cinch or Dual II MAGNUM at 1 to 2 pints per acre for better control of such weeds as yellow nutsedge and black nightshade.</li> <li>- Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>

\* Read and follow all manufacturers' label instructions for companion products including use restrictions, labeled crops, rotational cropping recommendations, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply. If any of those recommendations conflict with this label, follow the most restrictive labeling, or do not tank mix the herbicide with Pruvin™ Herbicide.

**Tank Mixtures – Postemergence Applications:** Pruvin™ Herbicide may be tank mixed with pesticide products labeled for use on potatoes (such as Eptam 7E and metribuzin) in accordance with the most restrictive of label limitations and precautions. When tank mixing Pruvin™ Herbicide with another potato pesticide(s), read and follow all use directions, restrictions, and precautions on labels of both Pruvin™ Herbicide and the tank mix partner(s). Pruvin™ Herbicide may also be used in three-way tank mix combinations on potatoes with the above pesticide(s). If these recommendations conflict with the use directions on this Pruvin™ Herbicide label, do not use as a tank mix with Pruvin™ Herbicide.

**SPECIFIC USE DIRECTIONS FOR POSTEMERGENCE TANK MIXTURES IN POTATOES WITH PRUVIN™ HERBICIDE**

TANK MIXTURES	COMMENTS
With metribuzin (such as Sencor) *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Metribuzin at 0.25 to 0.67 pounds per acre for improved weed control of such weeds as Russian thistle, common lambsquarters and triazine-resistant weeds.</li> <li>- Use a NIS at 0.125% v/v (1 pint per 100 gallons of water).</li> <li>- Use adjuvants with caution because the addition of adjuvants to postemergence metribuzin applications may reduce crop tolerance.</li> <li>- If the potato crop is under stress, or if metribuzin sensitive varieties are being grown, avoid postemergence applications of metribuzin.</li> <li>- <b>Note:</b> The use of a COC or MSO adjuvants is not recommended for tank mix combinations with Pruvin™ Herbicide plus metribuzin.</li> </ul>
With Eptam 7E *	<ul style="list-style-type: none"> <li>- Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Eptam 7E at 1 pint per acre.</li> <li>- Add 1% v/v (1 gallon per 100 gallons spray solution) of either a MSO or 0.5% v/v (0.5 gallon per 100 gallons of spray solution) of organo-silicon/modified seed oil blend (OS/MSO – such as Dyne-Amic®, Rivet™, or Phase®). Also include 2 pounds per acre of a spray-grade ammonium sulfate (AMS).</li> <li>- Use irrigation rather than equipment to incorporate the tank mixture of Eptam 7E and Pruvin™ Herbicide to prevent poor weed control from deep incorporation of the Pruvin™ Herbicide.</li> <li>- For best results, rainfall or sprinkler irrigation totaling 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours after application, but not more than 1 day after application is required.</li> <li>- Additional Eptam 7E can be added during the water in process if desired (read and follow all use directions, restrictions, and precautions on the Eptam 7E label before use. If these recommendations conflict with this Pruvin™ Herbicide label, do not use as a tank mix with Pruvin™ Herbicide).</li> </ul>
With Foliar Fungicides *	<ul style="list-style-type: none"> <li>- Pruvin™ Herbicide may be tank mixed with suitable registered fungicides on potatoes (such as DuPont Curzate® 60DF, Manzate®, and Bravo®).</li> </ul>

\* Read and follow all manufacturers' label instructions for companion products including use restrictions, labeled crops, rotational cropping recommendations, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply. If any of those recommendations conflict with this label, follow the most restrictive labeling, or do not tank mix the pesticide with Pruvin™ Herbicide.

**Precautions with Tank mixtures:**

- Crop injury in the form of leaf burn and temporary yellowing can occur when applications are made under high temperatures. Addition of fungicides may increase the level of crop injury.
- In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed and may be more variable in weed control.

**Sequential Applications – Potatoes**

To maximize weed control, it may be necessary to apply Pruvin™ Herbicide a second time to control annual weeds that have had a second flush of germinating seedlings, or treated perennials that produce new growth from underground roots or stems. Make the second application 14 to 28 days after the first application to small weeds that are actively growing and are less than

1" in height or diameter. The combined rate of the two applications of Pruvin™ Herbicide cannot exceed 2.5 ounces per acre per growing season.

**Potatoes Grown for Seed**

Pruvin™ Herbicide may be used on potatoes grown for seed in fields that use field grown tubers as the planted seed piece, and are at least the progeny of the first field planting<sup>1</sup>. Pruvín™ Herbicide may be applied preemergence at 1.5 ounces per acre, postemergence at 1 to 1.5 ounces per acre, sequential applications of 1 to 1.5 ounces per acre preemergence followed by 1 ounce per acre postemergence, or two postemergence applications of 1 ounce per acre. Do not exceed 2.5 ounces per acre of Pruvín™ Herbicide in the same growing season.

When Pruvín™ Herbicide is applied preemergence it needs to be activated within 5 days after application by moisture from a single rainfall event, or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), to move the product 2" to 3" deep into the soil profile.

**Precautions and Restrictions For Potatoes Grown For Seed**

- The rotational crop interval listed in the Pruvín™ Herbicide label may need to be extended to 18 months if seed potato production practices decrease water and/or time for Pruvín™ Herbicide breakdown. Practices that may shorten the breakdown are late planting or less frequent irrigations as compared to commercial production practices. Potatoes can be planted at anytime.
- Consider informing your state seed certification agency or inspector that Pruvín™ Herbicide has been applied. Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application. These symptoms may appear similar to virus like symptoms (such as chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.
- Do not apply to plants suffering stress from lack of moisture, cold, herbicide injury, and insect or disease injury.
- Do not use on potatoes grown for seed if these are grown from microtubers or transplants. Depending on geography, these may be referred to as Generation 1, Nuclear, Elite 1, or Pre-Elite.
- The rotational crop interval for Spring Barley is extended to 18 months due to the shorter growing seasons and different cultural practices in seed production in the states of CA, ID, OR, MT, SD, WA, CO, and parts of ND<sup>2</sup>.
  1. First field planting utilizes laboratory tested stocks which may be tissue cultured plantlets, greenhouse produced in microtubes, minitubes, stem cuttings or line selections.
  2. All counties in ND except Pembina, Towner, Walsh, Grand Forks, Trail and Cass.

**WEEDS CONTROLLED OR PARTIALLY CONTROLLED IN POTATOES**

When used according to the label use directions Pruvín™ Herbicide provides control or partial control of the following weeds:

**PREEMERGENCE**

GRASSES	BROADLEAVES
Barnyardgrass	Chamomile, False
Crabgrass <sup>1</sup>	Cocklebur <sup>1</sup>
Foxtail (Giant, Green, Yellow)	Filaree, Redstem
Wheat, Volunteer	Henbit
Wild Oat <sup>1</sup>	Kochia
	Lambsquarters, Common <sup>1</sup>
	Mustard (Birdsrape, Black) <sup>1</sup>
	Nightshade, Black <sup>1,2</sup>
	Nightshade, Hairy <sup>1</sup>
	Pigweed, Prostrate <sup>1</sup>
	Pigweed (Redroot, Smooth)
	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Velvetleaf <sup>1</sup>

1. Partial Control.
2. Eastern black nightshade is NOT controlled or suppressed.

**POSTEMERGENCE**

<b>GRASSES/SEDGES</b>	<b>BROADLEAVES</b>
Barley, Volunteer	Chamomile, False
Barnyardgrass	Cocklebur <sup>1</sup>
Bluegrass, Annual	Chickweed, Common
Crabgrass	Henbit
Foxtail (Bristly, Giant, Green, Yellow)	Kochia
Johnsongrass, Seedling <sup>1</sup>	Lambsquarters, Common <sup>1</sup>
Millet, Wild Proso <sup>1</sup>	Morningglory, Ivyleaf <sup>1</sup>
Panicum, Fall	Mustard (Birdrape, Black, Wild)
Quackgrass <sup>1,3</sup>	Nightshade, Hairy <sup>1</sup>
Stinkgrass <sup>1</sup>	Nightshade, Black <sup>1,2,3</sup>
Wheat, Volunteer	Pigweed (Redroot, Smooth)
Wild Oat <sup>1</sup>	Pigweed, Prostrate <sup>1</sup>
Yellow nutsedge <sup>1</sup>	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Shepherdspurse
	Smartweed, Pennsylvania <sup>1</sup>
	Thistle, Canada <sup>1,3</sup>
	Velvetleaf <sup>1</sup>
	Volunteer Alfalfa <sup>4</sup>
	Wild Radish

1. Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.
2. Eastern Black Nightshade is NOT controlled or suppressed.
3. See **Specific Weed Problems-Potatoes and Tomatoes**.
4. Except in CA.

**AERIAL APPLICATION**

Pruvin™ Herbicide may be applied to potatoes by air in all potato growing states except NY where aerial application of Pruvion™ Herbicide is prohibited. In the state of CA, aerial application to potatoes is allowed only in the counties of Modoc and Siskiyou. Always use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA (in CA use a minimum of 10 GPA). Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement (See the **SPRAY DRIFT MANAGEMENT** section of this label for more information).

**CHEMIGATION – POTATOES**

Pruvin™ Herbicide can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. Do not apply Pruvion™ Herbicide using any other type of irrigation system. Check irrigation systems to insure uniform application of water to all areas. Failure to apply Pruvion™ Herbicide uniformly may result in crop injury and/or poor weed control. For best results, use the highest listed rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall). If weeds are present at application, add a NIS containing at least 80% active ingredient to the spray mix at a rate of 1 to 2 pints per acre.

Pruvin™ Herbicide may be mixed in a supply tank with water, fertilizer, or other appropriate agricultural chemicals. Maintain continuous agitation in the injection nurse tanks during application to keep the product in suspension.

For solid set and hand move irrigation systems, apply Pruvion™ Herbicide at the beginning of the set and then apply 1/3 to 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"). For center pivot and lateral move irrigation systems, apply Pruvion™ Herbicide in 1/3 to 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

If you have questions about calibrating chemigation equipment, contact state cooperative extension service, equipment manufacturers, or other experts. If the chemigation equipment needs adjustment, only the custodian responsible for its operation, or someone under the supervision of that custodian, should make the necessary adjustments.

**Irrigation System Requirements**

The irrigation system must contain the following:

- A functional check valve
- A vacuum relief valve
- A low pressure drain (to prevent water source contamination from backflow; should be located on the irrigation pipeline)
- Functional interlocking controls (to automatically shut-off the pesticide injection pump when the water pump motor stops)
- A metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

The pesticide injection pipeline must contain the following:

- A functional, automatic, quick-closing check valve (to prevent the flow of fluid back toward the injection pump)
- A functional, solenoid-operated valve (normally closed) located on the intake side of the injection pump (should be connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is shut down either automatically or manually)

The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when pesticide distribution is adversely affected by a decrease in water pressure.

**Chemigation Precautions – Potatoes**

Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the listed rate, use sufficient water, and apply the mixture for the proper length of time.

- Do not permit run-off during chemigation.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not connect an irrigation system (including greenhouse systems) used for Pruvit™ Herbicide application to a public water system.

**PRUVIT™ HERBICIDE ROTATIONAL CROP GUIDELINES – POTATO**

For the crops listed below, planting prior to the interval shown may result in crop injury when using Pruvit™ Herbicide. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and an amount greater than 15" has been applied during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotational Crop	Time Interval Before Planting (months)
Alfalfa <sup>2</sup>	4
Barley, Spring <sup>1</sup>	9
Beans, Dry	10
Beans, Succulent	10
Carrots (Kern County, CA) <sup>2</sup>	4
Carrots <sup>2</sup>	10
Corn, Field	Anytime
Corn, Popcorn	10
Corn, Sweet	10
Cotton	10
Cover Crops (erosion control)	4
Cucumber	10
Garlic	6
Grass, pasture, hay, seed <sup>2</sup>	4
Mint <sup>2</sup>	4
Oats, Spring	9
Onions <sup>2</sup>	10
Peas <sup>2</sup>	8
Potatoes	Anytime
Sunflowers	10
Soybeans	4
Tomatoes	Anytime
Wheat, Spring	9
Wheat, Winter	4
Crops Not Listed	18

1. In the state of ID – 18 months for Teton county, Caribou county, Madison county east of Hwy 20, and Fremont county east of Hwy 20.

In the state of CO – Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 ounces or less Pruvit™ Herbicide per acre per season – 9 months; greater than 1.5 ounces of Pruvit™ Herbicide per acre per season – 18 months.

2. Applies to potatoes grown under sprinkler irrigation with a minimum of 18 " of water per season. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 " of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 " of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

**Rotation to Alfalfa:** Pruvin™ Herbicide application in potatoes must not exceed 1 ounce per acre per use season in Adams, Grant, Douglas and Lincoln counties of WA, and Pruvin™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in WA and Morrow and Umatilla counties in OR.

**Rotation to Onions and Carrots:** Pruvin™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of WA, and Pruvin™ Herbicide application in potatoes must not exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in WA and Morrow and Umatilla counties in OR.

**Rotation to Grass Crops Grown for Seed, Hay or Pasture:** Pruvin™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of WA, and Pruvin™ Herbicide application in potatoes must not exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in WA and Morrow and Umatilla counties in OR.

**Rotation to Peas and Mints:** Pruvin™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in all areas.

**NOTE:** Pruvin™ Herbicide should not be used in a tank mix or sequential application program with other soil residual ALS-inhibiting herbicides on potatoes as the combined effects of these herbicides on the planting of subsequent crops have not been thoroughly investigated and crop injury may occur.

#### **Restrictions to Use of Pruvin™ Herbicide on Potatoes**

- Do not use COC or MSO with Pruvin™ Herbicide when potatoes are under heat stress (>85° F) as multiple stresses may cause crop injury.
- Do not apply Pruvin™ Herbicide on potatoes within 30 days of harvest.
- Do not exceed 2.5 ounces Pruvin™ Herbicide per acre on potatoes during the same growing season.
- Do not apply to sweet potatoes or yams.
- Do not use Pruvin™ Herbicide on potatoes grown for seed, except as directed on this labeling or supplemental labeling.
- Do not apply to potatoes growing in greenhouses, cold frames, pot cultures, etc. Apply only to potatoes growing in fields.

#### **TOMATOES (DIRECT SEEDED AND TRANSPLANT)**

##### **APPLICATION INFORMATION**

**Ground Application:** Apply Pruvin™ Herbicide with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan, TwinJet, underleaf banding nozzles or flood jet nozzles to ensure optimum spray distribution and thorough coverage. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution. With ground application equipment, use enough water to deliver 10 to 40 gallons total spray solution per acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

**Preemergence Applications:** Apply Pruvin™ Herbicide at 2 to 4 ounces product per acre. To activate Pruvin™ Herbicide and move it 2 to 3" deep into the soil profile, supply moisture within 5 days of application from a single rainfall event, or sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"). Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying Pruvin™ Herbicide postemergence would result in better weed control.

Add a surfactant to the spray tank if weeds are present at application and it is not possible to apply Pruvin™ Herbicide to a clean, newly prepared seedbed, free of emerged or germinating weeds (See the **Spray Adjuvant** section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of Pruvin™ Herbicide.

**Postemergence Applications:** Apply Pruvin™ Herbicide at 1 to 2 ounces product per acre (use 2 ounces per acre for longer residual) to young, actively growing weeds. It is important that Pruvin™ Herbicide not be applied until after the crop has reached the cotyledon stage. Pruvin™ Herbicide provides best weed control when applied to weeds that are less than 1" in height or diameter and are actively growing. Use a surfactant at a minimum rate of 0.25% v/v (2 pints per 100 gallons of water). The use of COC, MSO, nitrogen fertilizer solution or NIS surfactants at rates above 0.25% v/v may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Temporary chlorosis (lime green color) may occur after application of Pruvin™ Herbicide if tomato plants are growing under conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations). Symptoms usually disappear within 5 to 15 days.

Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the **Specific Weed Problems-Potatoes and Tomatoes** section of this label for more information). For best postemergence weed control, activate Pruvin™ Herbicide in the soil with rainfall or sprinkler irrigation of 1/2 to 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours; but not more than 5 days after application. This will help provide control of subsequent flushes of annual weeds.

**Sequential Applications – Tomatoes**

Annual weeds often have multiple flushes of seedlings, or treated perennial weeds may sometimes re-grow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of Pruvin™ Herbicide in tomatoes. Applications may be preemergence followed by single or multiple postemergence applications, or just a postemergence application followed by another postemergence application. Best weed control is attained with Pruvin™ Herbicide applied postemergence when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later. When using sequential applications, the total amount of Pruvin™ Herbicide applied cannot exceed 4 ounces product per acre per year on a broadcast basis.

**Band Applications – Tomatoes**

Pruvin™ Herbicide can be applied preemergence and postemergence as a banded application. Use proportionally less spray mixture based on the soil area actually sprayed. See the **Preemergence Applications** and **Postemergence Applications** sections of this label above for additional details on the use of Pruvin™ Herbicide.

**Tank Mixtures – Tomatoes**

Pruvin™ Herbicide may be tank mixed with pesticide products labeled for use on tomatoes in accordance with the most restrictive of label limitations and precautions. Pruvin™ Herbicide may also be used in three-way tank mix combinations with pesticide products approved for use on tomatoes. If the label recommendations of the tank mix partner(s) conflict with this Pruvin™ Herbicide label, do not use as a tank mix with Pruvin™ Herbicide. Tank mixtures with products that lower the spray solution pH may reduce weed control (such as LI 700® surfactant). When tank mixing Pruvin™ Herbicide with another tomato pesticide(s), read and follow all use directions, restrictions, and precautions of both Pruvin™ Herbicide and the tank mix partner(s).

Pruvin™ Herbicide may be tank mixed with suitable registered fungicides on tomatoes such as Manzate and Bravo. Tank mixes with copper containing fungicides may reduce weed control. Read and follow all manufacturers' label recommendations for the companion fungicide. If these recommendations conflict with this Pruvin™ Herbicide label, do not use as a tank mix with Pruvin™ Herbicide.

**TOMATOES – CALIFORNIA**

**Preemergence Applications**

For preemergence applications to tomatoes in CA, follow the use directions provided above under the **Preemergence Applications** section under **TOMATOES (DIRECT SEEDED AND TRANSPLANT)**.

**Postemergence Applications**

For postemergence applications to tomatoes in CA, apply Pruvin™ Herbicide at 2 ounces product per acre to young, actively growing weeds. Other directions for postemergence use of Pruvin™ Herbicide to tomatoes in CA are provided above under the **Postemergence Applications** section under **TOMATOES (DIRECT SEEDED AND TRANSPLANT)**.

**Sequential Applications**

Follow the use directions provided above under the **Sequential Applications-Tomatoes** section under **TOMATOES (DIRECT SEEDED AND TRANSPLANT)** for information about sequential applications to tomatoes in CA.

**Band Applications – Tomatoes**

Pruvin™ Herbicide can be applied to tomatoes in CA in a preemergence band at 2 to 4 ounces product per acre (For example, 0.5 to 1 ounces of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 ounces product per acre (For example, 0.5 ounces of product per conventional broadcast acre assuming 25% banding) over the same sprayed area.

Pruvin™ Herbicide can be applied using three postemergence band applications at 2 ounces product per acre (For example, 0.5 ounces of product per conventional broadcast acre assuming 25% banding).

Do not make any more than three band applications of Pruvin™ Herbicide in one growing season.

**WEEDS CONTROLLED OR PARTIALLY CONTROLLED IN TOMATOES**

When used according to the label use directions Pruvin™ Herbicide provides control or partial control of the following weeds:

**PREEMERGENCE**

GRASSES	BROADLEAVES
Barnyardgrass	Cocklebur <sup>1</sup>
Crabgrass <sup>1</sup>	Filaree, Redstem
Foxtail (Giant, Green, Yellow)	Henbit
Wheat, Volunteer	Kochia
Wild Oat <sup>1</sup>	Lambsquarters, Common <sup>1</sup>
	Mustard, Black
	Nightshade, Black <sup>1, 2, 3</sup>
	Nightshade, Hairy <sup>1</sup>
	Pigweed, Prostrate <sup>1</sup>
	Pigweed (Redroot, Smooth)
	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Velvetleaf <sup>1</sup>

1. Partial Control.
2. Eastern Black Nightshade is NOT controlled or suppressed (Black nightshade suppression is only for use in Tomatoes in CA).
3. See **Specific Weed Problems-Potatoes and Tomatoes.**

**POSTEMERGENCE (Weeds not to exceed 1" in height for control)**

GRASSES/SEDGES	BROADLEAVES
Barley, Volunteer	Chamomile, False
Barnyardgrass	Cocklebur <sup>1</sup>
Bluegrass, Annual	Chickweed, Common
Crabgrass	Henbit
Foxtail (Bristly, Giant, Green, Yellow)	Kochia
Johnsongrass, seedling <sup>1</sup>	Lambsquarters, Common <sup>1</sup>
Millet, Wild Proso <sup>1</sup>	Morningglory, Ivyleaf <sup>1</sup>
Panicum, Fall	Mustard (Birdsrape, Black, Wild)
Quackgrass <sup>1, 3</sup>	Nightshade, Hairy <sup>1</sup>
Stinkgrass <sup>1</sup>	Nightshade, Black (cotyledon stage only) <sup>1, 2, 3</sup>
Wheat, Volunteer	Pigweeds (Redroot, Smooth)
Wild Oat <sup>1</sup>	Pigweed, Prostrate <sup>1</sup>
Yellow Nutsedge <sup>1</sup>	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Shepherdspurse
	Smartweed, Pennsylvania <sup>1</sup>
	Thistle, Canada <sup>1, 3</sup>
	Velvetleaf <sup>1</sup>
	Volunteer Alfalfa <sup>1, 4</sup>
	Wild Radish

1. Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.
2. Eastern Black Nightshade is NOT controlled or suppressed. Black nightshade partial control is only for use in tomatoes in CA.
3. See **Specific Weed Problems-Potatoes and Tomatoes.**



4. Except in CA.

**PRUVIN™ HERBICIDE ROTATIONAL CROP GUIDELINES – TOMATOES**

For the crops listed below, planting prior to the interval shown may result in crop injury when using Pruvin™ Herbicide. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and an amount greater than 15" has been applied during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotational Crop <sup>1</sup>	Time Interval Before Planting (months) <sup>2</sup>
Beans, Dry	10
Beans, Snap	10
Corn, Field	Anytime
Corn, Sweet	10
Cotton	10
Cucumber	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	12

1. Where drip irrigated tomatoes are grown, rotate only to tomato, potato or field corn as crop injury may result.
2. Rotational crops may be planted at indicated intervals provided the fields are deep disked or plowed, and thorough soil mixing is achieved, prior to planting the rotational crop.

**Restrictions to Use of Pruvin™ Herbicide on Tomatoes**

- Do not apply Pruvin™ Herbicide within 45 days of tomato harvest.
- Do not apply Pruvin™ Herbicide by air on tomatoes.
- Do not apply using assisted (Airblast) field crops sprayers on tomatoes.
- Do not exceed 4 ounces Pruvin™ Herbicide per acre (broadcast basis) on tomatoes during the same growing season.
- Banding applications of Pruvin™ Herbicide should not exceed 4 ounces on a broadcast basis in the same growing season.
- Do not apply to tomatoes growing in greenhouses, cold frames, pot cultures, etc. Apply only to tomatoes growing in fields.
- Do not apply through any type of irrigation system.

**SPECIFIC WEED PROBLEMS - POTATOES AND TOMATOES**

**Quackgrass:** For best results, apply Pruvin™ Herbicide postemergence to quackgrass that is 4 to 8" tall. Quackgrass not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

**Black Nightshade (Tomatoes):** For best results, apply Pruvin™ Herbicide preemergence (prior to weed germination) at 2 to 4 ounces per acre followed by a postemergence application at 1 to 2 ounces per acre to small actively growing weeds.

**Canada Thistle:** For best results, apply Pruvin™ Herbicide postemergence to small actively growing Canada thistle. Canada thistle not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

**CITRUS FRUIT, STONE FRUIT, TREE NUTS, POME FRUIT, GRAPES**

**APPLICATION INFORMATION**

Apply Pruvin™ Herbicide as a uniform broadcast application to the orchard or vineyard floor, or as a uniform band application directed at the base of the tree trunk or vine. Apply only by ground application (do not apply Pruvin™ Herbicide by air to fruit, nut and vine crops). Apply only to crops that have been established for one full growing season and are in good health and vigor. To prevent injury, avoid direct or indirect spray contact of Pruvin™ Herbicide with crop foliage or fruit, except undesirable suckers.

Best results are obtained when Pruvin™ Herbicide is applied to moist soil and 1/2 inch of rainfall or sprinkler irrigation occurs within 2 weeks after application. Time application of Pruvin™ Herbicide to take advantage of normal rainfall patterns and cool temperatures. Moisture for activation should occur within 2 to 3 weeks after application.

For broadcast applications, make a single application of Pruvin™ Herbicide at 4 ounces per acre per year. When applied as a banded treatment (50% band or less), Pruvin™ Herbicide may be applied twice per year. However, do not apply more than 4 ounces per acre on a broadcast application basis per year. Unless otherwise specified on this label, or in separate published MANA recommendations, allow a minimum of 30 days between applications. For improved weed management, Pruvin™ Herbicide should be applied in tank mixture with other registered preemergence herbicides.

Uniform coverage is important so use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacture's spray volume and pressure recommendations for preemergence or postemergence herbicide applications.

Pruvin™ Herbicide may also be applied by certain chemigation methods, such as micro-sprinkler. However, do not apply by overhead, flood, or drip irrigation.

As discussed above under the **Formulation** section of this label, Pruvini™ Herbicide is sensitive to pH outside the range of pH 4 to 8. Do not apply in a spray solution with a pH below 4 or above 8, or with spray additives that buffer the pH to below 4 or above 8, since degradation of Pruvini™ Herbicide may occur.

CROP GROUP / CROP	PRE-HARVEST INTERVAL (PH)
<b>Citrus Fruit:</b>	3 days
Calamondin; Citrus citron; Citrus hybrids (includes chironja, tangelo, tangor); Grapefruit; Kumquat; Lemon; Lime; Mandarin (tangerine); Orange (sweet and sour); Pummelo; Satsuma mandarin	
<b>Pome Fruit:</b>	7 days
Apple; Crabapple; Loquat; Mayhaw; Pear; Oriental pear; Quince	
<b>Tree Nuts:</b>	14 days
Almond; Beech nut; Brazil nut; Butternut; Cashew; Chestnut; Chinquapin; Filbert (hazelnut); Hickory nut; Macadamia nut (bush nut); Pecan; Pistachio; Walnut (black and English)	
<b>Stone Fruit:</b>	14 days
Apricot; Cherry (sweet and tart); Nectarine; Peach; Plum; Plum (Chickasaw); Plum (Damson); Plum (Japanese); Plumcot; Prune (fresh)	
<b>Grapes</b>	14 days

**WEEDS CONTROLLED OR PARTIALLY CONTROLLED IN FRUIT, NUT AND VINE CROPS**

Pruvin™ Herbicide provides control of susceptible weeds for 60 to 90 days. Moisture from rainfall or irrigation is necessary for herbicide activation. Length of control is a function of moisture for activation, soil temperature, soil texture and amount of moisture after application. When weeds are present at application, include a labeled burn down herbicide, such as glyphosate, paraquat, or glufosinate, with an appropriate adjuvant. Pruvini™ Herbicide will help provide postemergence control of the weeds listed in this label. For best results, make postemergence applications to young, actively growing weeds and include a spray adjuvant.

Residual weed control may be reduced when Pruvini™ Herbicide is applied where heavy crop trash and/or weed residue exists. Weed control may also be reduced when applications of Pruvini™ Herbicide are made to weeds under stress from drought, excessive water, temperature extremes, diseases or low humidity. When used according to the label use directions Pruvini™ Herbicide provides control or partial control of the following weeds:

**PREEMERGENCE**

GRASSES	BROADLEAVES/SEDGES
Barnyardgrass <sup>2</sup>	Chamomile, False
Crabgrass, Large <sup>2</sup>	Cocklebur <sup>1</sup>
Foxtail (Giant, Green, Yellow) <sup>2</sup>	Dandelion, Common (seedling) <sup>2</sup>
Quackgrass	Dandelion, Common (established) <sup>1</sup>
Wheat, Volunteer	Filaree, Redstem
Wild Oat <sup>1</sup>	Fleabane, Hairy <sup>2</sup>
	Groundsel, Common
	Henbit
	Kochia
	Lambsquarters, Common <sup>1</sup>
	Mallow, Common <sup>2</sup>
	Marestail/horseweed <sup>2</sup>
	Mustards (Birdsrape, Black)
	Nightshades, ( Black <sup>1</sup> , Hairy <sup>1</sup> )
	Nutsedge, Yellow <sup>1,2</sup>

	Pigweed, Prostrate <sup>1</sup>
	Pigweeds (Redroot, Smooth)
	Puncturevine <sup>2</sup>
	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Spurges (Prostrate, Spotted)
	Velvetleaf <sup>1</sup>

1. Partial Control.
2. See **Specific Weed Problems - Fruit, Nut and Vine Crops.**

**POSTEMERGENCE**

<b>GRASSES (1 to 2 " in Height)</b>	<b>BROADLEAVES/SEDGES (1 to 3 " in Height)</b>
Barley, Volunteer	Chamomile, False
Barnyardgrass <sup>2</sup>	Cocklebur <sup>1</sup>
Bluegrass, Annual	Chickweed, Common
Crabgrass, Large (1/2 inch) <sup>2</sup>	Dandelion, Common (>6 " in diameter) <sup>1,2</sup>
Foxtails (Bristly, Giant, Green, Yellow) <sup>2</sup>	Henbit
Johnsongrass, seedling <sup>1</sup>	Kochia
Millet, Wild Proso <sup>1</sup>	Lambsquarters, Common <sup>1</sup>
Panicum, Fall	Mustards (Black, Wild)
Quackgrass <sup>1</sup>	Mallow, Common <sup>1,2</sup>
Stinkgrass <sup>1</sup>	Nightshade, Hairy <sup>1</sup>
Wheat, Volunteer	Nutsedge, Yellow <sup>1,2</sup>
Wild Oat <sup>1</sup>	Pigweeds (Redroot, Smooth)
	Pigweed, Prostrate <sup>1</sup>
	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Shepherdspurse
	Smartweed, Pennsylvania <sup>1</sup>
	Thistle, Canada <sup>1</sup>
	Velvetleaf <sup>1</sup>
	Wild Radish

1. Partial Control.
2. See **Specific Weed Problems - Fruit, Nut and Vine Crops.**

**Specific Weed Problems - Fruit, Nut and Vine Crops**

**Marestail and Fleabane:** In orchards or vineyards where marestail and fleabane are the target weeds, best control is achieved when Pruvini™ Herbicide is applied prior to emergence. This may require a fall application to help prevent fall germinated seedlings from becoming established during the winter. A second application of Pruvini™ Herbicide in the spring may be required to provide extended weed control into the summer. To aid in resistance management, MANA recommends the use of another soil residual herbicide in a tank mix or as a rotational partner with Pruvini™ Herbicide wherever it is applied for control of marestail and fleabane. If applied postemergence, a foliar active herbicide with activity on fleabane and marestail (such as paraquat, glyphosate, and glufosinate) must be tank mixed with Pruvini™ Herbicide for best control and resistance management.

**Common Dandelion and Mallow:** When applied preemergence, Pruvini™ Herbicide provides excellent control of common dandelion and mallow germinating from seed. In high rainfall areas or where sprinkler irrigation is used, a second application may be needed to extend residual control throughout the growing season. When applications are made postemergence to these weeds, always add a suitable burndown herbicide such as glyphosate or paraquat. Small and medium sized plants (up to 6 " in diameter) are controlled by postemergence applications of Pruvini™ Herbicide plus a burndown herbicide; however, plants that are larger than 6" in diameter may only be suppressed and may require a second application 4 to 6 weeks later.

**Puncturevine:** For best results, apply Pruvini™ Herbicide early in the spring before rainfall or prior to overhead irrigation to move it into the weed root zone before puncturevine germinates. Puncturevine emerges over a long period of time and late season germinations may not be controlled with Pruvini™ Herbicide.

**Yellow Nutsedge:** Pruvini™ Herbicide only provides suppression of yellow nutsedge. To obtain the most effective results, use the highest rate allowed based on the width of the spray band and make two applications. For applications made postemergence to nutsedge, always add the appropriate rate of glyphosate and an effective adjuvant. On soils with high organic matter (6% or higher) always apply postemergence to weeds since preemergence applications are not as effective on these soils. When making a preemergence application followed by an early postemergence application, make the preemergence application prior to rainfall or overhead irrigation in order to move Pruvini™ Herbicide into the nutsedge root zone prior to nutsedge emergence. Make a second application when emerging nutsedge is 2 to 4 inches tall. When making sequential postemergence applications of Pruvini™ Herbicide, make the first application when emerging nutsedge is 2 to 4 " tall (nutsedge taller than 6 " at the first application may not be controlled). Make the second application 14 days later.

**Annual Summer Grasses (such as Barnyardgrass, Green foxtail, and Crabgrass):** Where sprinkler irrigation is used, a fall or early spring application of Pruvini™ Herbicide will not provide season-long control of summer grasses like foxtail, barnyardgrass and crabgrass. For best results, use Pruvini™ Herbicide with a suitable tank mix herbicide such as oryzalin or pendimethalin. A second application may be needed to provide extended control of summer grasses. Be sure to direct sprays to the base of the plants to minimize spray contact and potential injury to fruit or foliage.

**Diuron Containing Products (WA and OR):**

On coarse textured soils where crops are grown under sprinkler irrigation, avoid using diuron containing products (such as, Karmex XP or Direx 4L) as a tank mix partner with Pruvini™ Herbicide between June 1 and September 30 since crop injury may result. Pruvini™ Herbicide tank-mixed with diuron products can be used in the fall (after September 30), or early spring when temperatures are cool to moderate.

**PRUVINI™ HERBICIDE ROTATIONAL CROP GUIDELINES – FRUIT, NUT, AND VINE CROPS**

Do not plant any crops, except field corn, tomatoes, potatoes, and those listed on this label in the **APPLICATION INFORMATION** section, within one year of the last Pruvini™ Herbicide application. Prior to planting, fields to be rotated to the above crops should have a thorough soil mixing – for example, two diskings, or a plowing and a disking. To help ensure rotational crop safety, a field bioassay should be completed prior to planting any other desired crops. The results of this bioassay may require the crop rotation interval to be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production. The test strip should cross the entire field including knolls and low areas.

**MICRO-SPRINKLER CHEMIGATION – FRUIT, NUT, AND VINE CROPS**

Pruvini™ Herbicide may be applied via micro-sprinkler chemigation. The chemigation system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional (normally closed) solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticide(s) and capable of being fitted with a system interlock. Do not apply Pruvini™ Herbicide through any other chemigation equipment.

**Micro-Sprinkler Chemigation Precautions - Fruit, Nut, and Vine Crops**

- Do not connect an irrigation system used for Pruvini™ Herbicide application to a public water system.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the listed rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.
- Do not permit run-off during chemigation.
- Continuous agitation in the mix tank is needed to keep the product from settling. If settling does occur, thoroughly re-agitate the tank mixture before using.

**Restrictions to Use of Pruvini™ Herbicide on Fruit, Nut, and Vine Crops**

- Do not apply by air. Use ground application only.
- Do not apply by overhead, flood, or drip irrigation.
- Do not apply to a fruit, nut or vine crops unless the crop has been established for one full growing season and is in good health and vigor.
- Do not allow sprays to drift onto fruit or foliage as injury may result.
- Do not exceed 4 ounces of Pruvini™ Herbicide per acre (broadcast basis) on fruit, nut and vine crops in a growing season.

**FIELD CORN**

**NOT REGISTERED FOR USE ON FIELD CORN IN CALIFORNIA UNLESS ACCOMPANIED BY A SUPPLEMENTAL LABEL.**

**INFORMATION**

Apply Pruvin™ Herbicide to field corn hybrids with a relative maturity (RM) of 77 days or more, including "food grade" (yellow dent, hard endosperm), waxy and High-Oil corn. Pruvin™ Herbicide has not been tested for crop safety on all field corn hybrids of less than 77 days RM, nor all white corn hybrids nor Hi-Lysine hybrids, nor does MANA have access to all seed company data. Consequently, injury arising from the use of Pruvin™ Herbicide on these types of corn is the responsibility of the user. Consult with your seed supplier before applying Pruvin™ Herbicide to any of these corn types. Seed company publications indicate "Warning", "Crop Response Warning", or "Sensitive" notations for the use of some ALS herbicides on corn hybrids of 77 CRM or higher. As noted in the seed company publications, sulfonyleurea herbicides such as Pruvin™ Herbicide should be used with caution on these hybrids. Consult with your local MANA representative for any additional supplemental labeling information relative to potential corn hybrid sensitivity to Pruvin™ Herbicide.

Pruvin™ Herbicide must not be applied to field corn grown for seed, to popcorn or to sweet corn. Do not apply preemergence to coarse-textured soils (sand, loamy sand or sandy loam) with less than 1% organic matter or injury may result.

**APPLICATION INFORMATION**

The maximum amount of Pruvin™ Herbicide that may be applied is 2 ounces per acre per season (or 0.5 ounce active ingredient rimsulfuron). This includes combinations of preemergence and postemergence applications of Pruvin™ Herbicide, as well as rimsulfuron from application(s) of products such as DuPont BASIS®, DuPont STEADFAST®, DuPont Resolve, and DuPont Clarion™ herbicides. Limit preemergence rates of Pruvin™ Herbicide to a maximum of 1.25 ounces per acre if following with postemergence applications of the rimsulfuron-containing products noted above.

Allow at least 3 weeks between preemergence applications of Pruvin™ Herbicide and postemergence applications of the herbicides noted above. Be sure to make sequential applications after the corn has reached the 2-collar stage but before the corn exceeds the maximum application height listed on the respective product labels.

**Broadcast Application:** Use a minimum of 15 gallons of water per acre (GPA) to ensure thorough coverage of the weeds and the best performance. Use a minimum of 10 GPA for light, scattered stands of weeds. For best performance, select nozzles and pressure that deliver MEDIUM spray droplets, as indicated by ASAE Standard S572. Nozzles that deliver COARSE spray droplets may be used to reduce drift, provided spray volume is increased to maintain coverage on small weeds. For optimal product performance and minimal spray drift, adjust the spray boom to the lowest possible spray height recommended in manufacturers' specifications. Ensure that equipment is set up to avoid applying an excessive rate directly over the rows and into the corn plant whorl. Overlaps or starting, stopping, slowing, and turning while spraying may result in crop injury.

**Aerial Application:** Aerial application is not permitted in the State of NY. In other states, use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA. Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement (See the **SPRAY DRIFT MANAGEMENT** section of this label for additional information on aerial application).

**Fallow:** Pruvin™ Herbicide may be used as a fallow treatment, in the spring or fall when the majority of weeds have emerged and are actively growing. Apply Pruvin™ Herbicide at 1 to 2 ounces per acre. Pruvin™ Herbicide may be tank mixed with other herbicides that are registered for use in fallow. Read and follow all instructions on this label and the labels of any tank mix partner before using any other herbicide in mixtures with Pruvin™ Herbicide. If the recommendations on the tank mix partner conflict with this Pruvin™ Herbicide label, do not use in a tank mixture with Pruvin™ Herbicide.

**Preemergence to Field Corn:** Pruvin™ Herbicide may be applied at 0.5 to 2 ounces per acre preemergence or preplant to corn. Applications of Pruvin™ Herbicide made before weed emergence will provide residual control of labeled weeds. See the cumulative rimsulfuron rate limitations noted above. MANA recommends a use rate of 1 to 1.5 ounces per acre for most applications. Consult MANA technical bulletins for additional rate recommendations. Control of emerged weeds will require the addition of spray adjuvants as noted below.

**Postemergence to Field Corn:** Pruvin™ Herbicide may be applied at 0.5 to 2 ounces per acre as a postemergence broadcast application. Application should be made to corn from emergence up to 12" tall. Do not apply to corn taller than 12" or exhibiting 6 or more leaf collars, whichever is more restrictive. Application of Pruvin™ Herbicide made after weed emergence will provide contact control of labeled weeds as well as limited residual control of later emerging weeds. MANA recommends a use rate of 1 ounce per acre for most applications. Consult with MANA technical bulletins for additional rate recommendations.

**Timing to Weeds**

- Tank mixtures of Pruvin™ Herbicide with glyphosate or glufosinate herbicides may be applied after weeds emerge but before they reach the maximum size listed on the glyphosate or glufosinate herbicide labels.
- Adequate soil moisture is required for optimum activity. Residual activity will be extended if rainfall falls within 5 to 7 days after application of Pruvin™ Herbicide. If activating rainfall or sprinkler irrigation (>0.5 inch) is not received within 5 to 7 days after application, follow with a cultivation or with a sequential application of a pesticide product containing nicosulfuron, if needed for residual weed control.

**SPRAY ADJUVANTS USE SPECIFIC TO FIELD CORN**

For control of emerged weeds in field corn always include a NIS or ammonium nitrogen fertilizer in every application of Pruvit™ Herbicide. If applied in tank mix combination with a glyphosate or glufosinate herbicide that contains a built-in adjuvant system, such as Roundup WeatherMAX or Liberty®, no additional surfactant needs to be added. A COC may be used in place of NIS for burndown applications of Pruvit™ Herbicide made before crop emergence. Consult local MANA fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. See the **SPRAY ADJUVANTS** section of this label for more information.

**Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)**

- Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.
- MSO adjuvants may be used at 0.5% v/v (0.5 gallon per 100 gallons spray solution) if specifically noted on adjuvant product labeling.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

**Nonionic Surfactant (NIS)**

- Apply at 0.25% v/v (1 quart per 100 gallons spray solution).
- Surfactant products must contain at least 60% NIS with a hydrophilic/lipophilic balance (HLB) greater than 12.

**Ammonium Nitrogen Fertilizer**

- Use 2 quarts per acre of high-quality urea ammonium nitrate (UAN) such as 28%N or 32%N, or 2 pounds per acre of a spray-grade ammonium sulfate (AMS).
- Do not use liquid nitrogen fertilizer as the total carrier solution after crop emergence.

**Special Adjuvant Types**

- Combination adjuvant products may be used at doses that provide the required amount of NIS and ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.

Do not use any other adjuvant rates or mixtures with Pruvit™ Herbicide unless instructed to do so by MANA technical bulletins.

**WEEDS CONTROLLED OR PARTIALLY CONTROLLED IN FIELD CORN**

When used according to the label use directions Pruvit™ Herbicide provides control or partial control of the following weeds in field corn:

**PREEMERGENCE**

GRASSES	BROADLEAVES
Barnyardgrass	Carpetweed <sup>1</sup>
Bluegrass, Annual <sup>1</sup>	Chamomile, False
Crabgrass, Large <sup>1</sup>	Cocklebur <sup>1</sup>
Foxtail (Bristly, Giant, Green Yellow)	Filaree, Redstem
Panicum, Fall <sup>1</sup>	Henbit
Signalgrass, Broadleaf <sup>1</sup>	Jimsonweed <sup>1</sup>
Wheat, Volunteer	Kochia (ALS-sensitive)
Wild Oat <sup>1</sup>	Lambsquarters, Common
	Morningglory, Ivyleaf <sup>1</sup>
	Mustard (Birdsrape, Black)
	Nightshade (Hairy, Black) <sup>1</sup>
	Palmer, Amaranth <sup>1</sup>
	Pigweed (Prostrate, Redroot, Smooth)
	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Russian thistle, Seedling <sup>1</sup>
	Smartweed, Pennsylvania <sup>1</sup>
	Velvetleaf <sup>1</sup>

1. Partial Control/Suppression

**POSTEMERGENCE**

GRASSES/SEDGES (1 to 2")	BROADLEAVES (1 to 3")
Barley, Volunteer	Alfalfa, Volunteer <sup>2</sup>
Barnyardgrass	Canada Thistle <sup>1</sup>
Bluegrass, Annual	Chickweed, Common
Crabgrass, Large (1/2")	Cocklebur <sup>1</sup>
Cupgrass, Woolly (1")	Dandelion (6" diameter)
Foxtail (Bristly, Giant, Green, Yellow)	Henbit
Johnsongrass, Seedling <sup>1</sup>	Kochia
Millet, Wild Proso <sup>1</sup>	Lambsquarters, Common <sup>1</sup>
Panicum, Fall	Morningglory, Ivyleaf <sup>1</sup>
Quackgrass <sup>1</sup>	Mustards (Birdsrape, Black, Wild)
Ryegrass, Italian <sup>1</sup>	Nightshade, Hairy <sup>1</sup>
Shattercane (4")	Pigweeds (Prostrate, Redroot, Smooth)
Signalgrass, Broadleaf <sup>1</sup>	Purslane, Common <sup>1</sup>
Stinkgrass <sup>1</sup>	Ragweed, Common <sup>1</sup>
Wheat, Volunteer	Shepherdspurse
Wild Oat <sup>1</sup>	Smartweed, Pennsylvania <sup>1</sup>
Yellow nutsedge <sup>1</sup>	Velvetleaf <sup>1</sup>
	Wild Radish

1. Partial control/Suppression
2. Except in California

**TANK MIXTURES – FIELD CORN**

Pruvin™ Herbicide may be tank mixed with full or reduced rates of other pesticides registered for use in corn. Read and follow all manufacturers' label recommendations for the companion herbicide. If these recommendations conflict with this PruvIn™ Herbicide label, do not use as a tank mixture with PruvIn™ Herbicide.

**SPECIFIC USE DIRECTIONS FOR TANK MIXTURES WITH PRUVIN™ HERBICIDE IN FIELD CORN**

TANK MIXTURES	COMMENTS
Preemergence to crop - for additional control of grasses and broadleaf weeds	<ul style="list-style-type: none"> <li>- PruvIn™ Herbicide may be tank mixed with full or reduced rates of preemergence grass and broadleaf herbicides such as atrazine, MANA Parallel, MANA Parallel® Plus, DuPont Cinch, DuPont Cinch ATZ, Harness®, Outlook®, Balance® PRO, and Lumax® to provide added residual activity or burndown activity on emerged weeds.</li> <li>- Consult tank mix partner labeling for rate and soil-type restrictions.</li> </ul>
Postemergence to crop - with Glyphosate	<ul style="list-style-type: none"> <li>- PruvIn™ Herbicide may be tank mixed with glyphosate herbicides if applications are made to corn hybrids containing the Roundup Ready gene.</li> <li>- Consult with your seed supplier to confirm the corn hybrid is Roundup Ready before making any herbicide application containing glyphosate herbicides.</li> <li>- Use PruvIn™ Herbicide at a rate of 1 ounce per acre in tank mixture with glyphosate herbicides. This combination will provide improved burndown and/or residual activity of many grass and broadleaf weeds when compared to glyphosate used alone.</li> <li>- Burndown and/or residual activity will be improved on all the grass and broadleaf weeds listed in the table above under "postemergence control" with the exception of woolly cupgrass and shattercane. In addition to the weeds listed above, activity against false chamomile, redstem filaree, field and longspine sandbur and wild buckwheat will be improved with the tank mixture as compared to glyphosate used alone.</li> </ul>
With Glufosinate	<ul style="list-style-type: none"> <li>- PruvIn™ Herbicide may be tank mixed with glufosinate herbicides if applications are made to corn hybrids containing the LibertyLink® gene. Consult with your seed supplier to confirm the corn hybrid is LibertyLink before applying any herbicide containing glufosinate.</li> <li>- A tank mixture of PruvIn™ Herbicide at 0.75 ounce per acre plus a glufosinate herbicide at label rates will provide improved burndown and/or limited residual activity to velvetleaf, redroot pigweed, common lambsquarters and giant and yellow foxtails, as compared to glufosinate used alone.</li> </ul>

<p>With Starane® and dicamba - for additional control of broadleaf weeds</p>	<ul style="list-style-type: none"> <li>- Pruvin™ Herbicide may be tank mixed with 0.3 to 0.67 pint per acre of Starane for improved control of kochia. Use higher rates when the kochia infestation is heavy. Refer to the specific Starane label for application timing and restrictions.</li> <li>- Pruvin™ Herbicide may also be tank mixed with Starane plus an additional 0.0625 to 0.0125 pound active ingredient of dicamba per acre (such as 2 to 4 fluid ounces of Banvel® or Clarity®) for broader spectrum weed control.</li> </ul>
<p>With Lumax or Lexar® - for additional control of broadleaf weeds</p>	<ul style="list-style-type: none"> <li>- Pruvin™ Herbicide may be tank mixed with 2 pints per acre of Lumax or 2.3 pints per acre of Lexar for improved burndown or residual control of several broadleaf weeds including common waterhemp, common ragweed, common lambsquarters, and velvetleaf.</li> <li>- MANA recommends the use of a NIS when making an application of a tank mixture of Pruvin™ Herbicide plus either Lumax or Lexar.</li> <li>- Refer to the Lumax or Lexar labels for additional information regarding application timing, tank mixtures, adjuvants, and rotational crops.</li> </ul>
<p>With Impact® - for additional control of broadleaf weeds</p>	<ul style="list-style-type: none"> <li>- Pruvin™ Herbicide may be tank mixed with 0.5 to 0.75 fluid ounces per acre of Impact plus atrazine at 0.375 to 1.5 pounds active per acre for improved burndown or residual control of several broadleaf weeds including common waterhemp, common ragweed, common lambsquarters, and velvetleaf.</li> <li>- MANA recommends the use of a MSO when making an application of Pruvin™ Herbicide plus Impact at 0.5 fluid ounces per acre.</li> <li>- Refer to Impact label for additional information regarding application timing, tank mixtures, adjuvants, and rotational crops.</li> </ul>

**Tank Mixing Precautions - Field Corn**

- Weed and crop response with tank mixtures not specifically recommended in this label or in Pruvin™ Herbicide fact sheets or technical bulletins supplied by MANA are the responsibility of the user and manufacturer of the tank mix product.
- Read and follow all applicable use directions, precautions, and limitations specified on the respective product labels and fact sheets.
- A corn plant's predisposition to develop fused tissue emerging from the whorl (rattail) after the V-11 stage may increase when a product containing dicamba (i.e. Clarity, Marksman®) is applied to small corn under early stressful conditions. Be aware of this when applying tank mixes with dicamba to small corn (V-3 stage or smaller) under stressful conditions (See the **Mode of Action** section of this label for a description of these stressful conditions).

**FOR ALL APPLICATION TIMINGS – FIELD CORN**

- Do not apply Pruvin™ Herbicide tank mixtures with glyphosate herbicides to conventional corn hybrids that do not contain the Roundup Ready trait.
- Do not apply Pruvin™ Herbicide tank mixtures with glufosinate herbicides to conventional corn hybrids that do not contain the LibertyLink trait.
- To avoid crop injury or antagonism, do not tank mix Pruvin™ Herbicide with Basagran® and Laddok® or severe crop injury may occur. Do not tank mix Pruvin™ Herbicide with foliar-applied organophosphate insecticides such as Lorsban®, or products containing malathion, parathion, etc., as severe crop injury may occur. Application of these products should be made at least seven days before or three days after the application of Pruvin™ Herbicide.
- Do not exceed label application rates. Do not tank mix Pruvin™ Herbicide with other products that contain the same active ingredients as Pruvin™ Herbicide (rimsulfuron) unless the label of either tank mix partner specifies the maximum rate that may be used.

Other than the exceptions noted, and in addition to the tank mix partners indicated in the preemergence and postemergence sections above, Pruvin™ Herbicide may be applied in tank mixture with glyphosate plus other products registered for use in field corn. Pruvin™ Herbicide may be applied in tank mix combinations with full or reduced rates of other products provided: (1) the tank mix product is labeled for the same timing, method of application, adjuvants, and use restrictions as Pruvin™ Herbicide and other products used in the tank mixture and (2) the tank mixture is not specifically prohibited on the label of the tank mix product.

**Soil Insecticide Interaction Information:** Pruvin™ Herbicide may interact with certain insecticides previously applied to the corn crop. Therefore, before using Pruvin™ Herbicide be sure to check that it is compatible with any insecticides previously applied to the corn crop. Crop response varies with field corn type, insecticide used, insecticide application method, and soil type. Pruvin™ Herbicide may be applied to corn previously treated with Fortress®, Aztec®, or Force® insecticides or non-organophosphate (OP) soil insecticides regardless of soil type. Do not apply Pruvin™ Herbicide to corn previously treated with Counter® 15G or to corn treated with Counter 20CR in-furrow or over the row at cultivation. Applications of Pruvin™ Herbicide to corn previously treated with Counter 20CR, Lorsban, or Thimet® may cause unacceptable crop injury, especially on soils with less than 4% organic matter.

Do not apply Pruvin™ Herbicide within 60 days of crop emergence where an organophosphate insecticide (such as Counter) was applied as an in-furrow treatment since crop injury may occur. Also, allow at least 60 days between a preemergence or pre-plant application of Pruvin™ Herbicide and application of an organophosphate insecticide since crop injury may result.



**CHEMIGATION**

Do not apply Pruvin™ Herbicide to Field Corn through any type of irrigation system.

**PRUVIN™ HERBICIDE ROTATIONAL CROP GUIDELINES – FIELD CORN**

The following rotational intervals should be observed when using Pruvin™ Herbicide at use rates of 1 and 2 ounces per acre. Planting prior to the interval shown may result in crop injury.

Rotational Crop	Time Interval Before Planting (months)	Time Interval Before Planting (months)
	1 Ounce Per Acre	2 Ounces Per Acre
Corn, Field	Anytime	Anytime
Potatoes	Anytime	Anytime
STS Soybeans <sup>1</sup>	1	4
Tomato	1	1
Cereals, Winter (Wheat)	3	3
Cereals, Spring (Wheat, Oats, Barley)	9	9
Alfalfa	10 <sup>2,3</sup>	18
Cotton	10 <sup>3</sup>	10 <sup>5</sup>
Canola	10 <sup>3</sup>	18
Cucumber	10	10
Flax	10	10
Peas	10	18
Rice	10 <sup>4</sup>	18
Red Clover	10 <sup>3</sup>	18
Sorghum	10 <sup>3</sup>	18
Corn (pop or sweet)	10	10
Soybeans	10	10
Snap beans, Dry beans	10	10
Sunflower	10	10
Sugarbeets	10 <sup>3</sup>	18
Crops not listed	18	18

1. Sulfonylurea tolerant soybean.
2. On sprinkler irrigated fields in ID, UT, and northern NV it is best to use deep fall tillage such as plowing prior to planting alfalfa. Product degradation may be less on furrow irrigated soils and may result in some crop injury.
3. 18 months in the Red River Valley region of ND and MN. In all other area, the rotation intervals should be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless sprinkler irrigation has been applied and totals greater than 15" applied during the growing season.
4. For soils with pH less than 6.5.
5. The rotation interval should be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless sprinkler irrigation has been applied and totals greater than 15" during the growing season.

**Restrictions to Use of Pruvin™ Herbicide on Field Corn**

- Do not apply to field corn grown for seed, to popcorn or to sweet corn.
- Do not apply preemergence to coarse-textured soils (sand, loamy sand or sandy loam) with less than 1% organic matter.
- Do not apply more than 2 ounces of Pruvin™ Herbicide in a single season.
- Do not apply more than 1 ounce of Pruvin™ Herbicide postemergence or 1.5 ounce preemergence unless instructed to do so by MANA technical bulletins.
- Do not graze, feed forage, grain or fodder (stover) from treated areas to livestock within 30 days of an application of Pruvin™ Herbicide.

**WEED CONTROL ALONG ROADSIDES, HIGHWAY MEDIANS, AT INDUSTRIAL PLANT SITES, AND AT UTILITY SUBSTATIONS**

**INFORMATION**

Pruvin™ Herbicide may be used in weed management programs along roadsides, highway medians, at industrial plant sites, and utility substations for control of a number of grass and broadleaf weeds. Where food and/or feed crops are grown or in areas where food and/or feed crops are planned to be grown, care should be taken to prevent any direct spray of Pruvin™ Herbicide onto or to drift to these crops or planned planting areas since severe crop injury may occur.

**APPLICATION INFORMATION**

Apply Pruvin™ Herbicide at 4 ounces per acre in a broadcast application making sure that coverage is uniform. Use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacturer's spray volume and pressure recommendations for preemergence or postemergence herbicide applications.

**Preemergence:** Pruvin™ Herbicide must be activated by rainfall and applied when soil temperatures are cool for best preemergence and residual activity. Make applications to take advantage of normal rainfall patterns (minimum of 1/2 inch) and cooler temperatures. For best results, moisture for activation should occur within 2 to 3 weeks after application. To provide a broader spectrum of residual weed control, Pruvin™ Herbicide may be applied in a tank mixture with other registered preemergence herbicides. When weeds are present at application, include a labeled burndown herbicide such as glyphosate, paraquat, or glufosinate with an appropriate adjuvant. When applied according to the use directions, Pruvin™ Herbicide will provide residual (preemergent) control of the following weeds:

#### PREEMERGENCE

GRASSES	BROADLEAVES
Barnyardgrass	Filaree, Redstem
Crabgrass, Large	Fleabane, Hairy
Foxtails (Giant, Green, Yellow)	Mallow, Common
	Marestail/horseweed <sup>1</sup>
	Mustard, Black
	Pigweeds (Redroot, Smooth)
	Puncturevine

<sup>1</sup> Naturally occurring resistant biotypes of this weed are known to exist in some areas of the U.S. Pruvin™ Herbicide will not control these biotypes.

**Postemergence:** For best results, make postemergence applications of Pruvin™ Herbicide to young, actively growing weeds and include a spray adjuvant. Refer to the label of the tank mixture partner(s) for any additional use instructions or restrictions. Follow the most restrictive labeling of any of the tank mix component products.

#### Tank Mixtures

Pruvin™ Herbicide may be tank mixed with other herbicides registered for use along roadsides, highway medians, at industrial plant sites, and utility substations. It may also be tank mixed with any adjuvants registered for roadside, plant site, or utility substation use. Refer to the label of the tank-mix partner(s) for any additional use instructions or restrictions.

#### Restrictions to Use of Pruvin™ Herbicide Along Roadsides, Highway Medians, at Industrial Plant Sites, and Utility Substations

- Do not apply more than 4 ounces of Pruvin™ Herbicide per acre per year.
- Do not mix in spray solution or with spray additives that buffer the pH to below 4 or above 8, as degradation of Pruvin™ Herbicide may occur.
- Do not apply in or on irrigation canals or ditches including their outer banks.
- Do not contaminate any body of water including irrigation water that may be used on other crops.

#### POSTEMERGENCE CONTROL OF WEEDS IN WARM SEASON TURF

**NOT REGISTERED FOR USE ON POSTEMERGENCE CONTROL OF WEEDS IN WARM SEASON TURF IN CALIFORNIA UNLESS ACCOMPANIED BY A SUPPLEMENTAL LABEL.**

#### INFORMATION

Pruvin™ Herbicide is noncorrosive to equipment, nonflammable, and nonvolatile. Control of weeds with Pruvin™ Herbicide requires approximately 3 to 4 weeks, but weed growth ceases soon after application. Pruvin™ Herbicide temporarily suppresses growth of Tifway bermudagrass. This is a growth regulator effect. Delayed green-up of bermudagrass in the spring has not been observed. This is typically followed by a flush of growth within 3 to 4 weeks. Some slight yellowing of bermudagrass may occur and last for approximately 7 days.

Pruvin™ Herbicide is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. Rainfall or sprinkler irrigation is needed to move Pruvin™ Herbicide into the soil. In some cases, susceptible weeds may germinate and emerge a few days after application; but, growth then ceases and leaves become chlorotic 3 to 10 days after emergence. Death of leaf tissue and growing point will follow in some species; in other species, the seedling may remain green but be stunted in growth and remain noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm moist conditions, the expression of herbicide symptoms is accelerated. In cold dry conditions, expression of herbicide symptoms may be delayed. Death of leaf tissue and growing point will follow in some species; in other species, the seedling may remain green but be stunted in growth and remain noncompetitive.

The herbicidal action of Pruvin™ Herbicide may be less effective on susceptible species stressed from environmental conditions (such as extreme temperature or moisture), abnormal soil conditions (saturated or waterlogged soils), or cultural practices. In addition, weeds hardened off by drought stress are less susceptible to Pruvin™ Herbicide. Under cold conditions, Pruvin™ Herbicide activity is delayed and takes longer to control weeds. In order to achieve faster control in cold conditions, increase the rate to 2 ounces per acre.

Lateral movement and tracking have been observed in heavier clay soils which are characterized by low water infiltration rates. These problems can be significantly reduced by use of short, frequent irrigation cycles. A minimum of three irrigation

cycles is recommended in order to move Pruvin™ Herbicide from the turf and weed canopy into the soil. These irrigation cycles should be applied prior to allowing foot or equipment traffic into treated areas. The use of a soil wetting agent may be beneficial in both clay and sandy soils. Where slopes are severe, mechanical aeration prior to spraying may help water penetrate into the soil and move Pruvin™ Herbicide into the soil profile.

Never depend solely upon rainfall to move Pruvin™ Herbicide into the soil. Rainfall is unpredictable and if heavy enough will move Pruvin™ Herbicide laterally. Some foliar uptake may have to be sacrificed when foot and/or equipment traffic is imminent soon after Pruvin™ Herbicide application. Begin irrigation regime 1 hour following Pruvin™ Herbicide application.

Extreme caution should be used when applying this product to slopes of heavy or clay soils that drain onto bentgrass greens, overseeded greens, fairways, or tees. Do not apply to slopes that drain directly onto soil or "push up" bentgrass greens. Tracking and lateral movement onto bentgrass putting greens rarely results in death to bentgrass. Some off color and growth regulator effects have been observed for approximately 14 days. This effect may last longer on non-USGA (sand greens) or during periods of cool weather or on green maintained at low nitrogen levels. Fertilization with liquid fertilizer can help speed bentgrass recovery. The addition of a product containing gibberellic acid may also be beneficial. Application of activated charcoal around and/or on the perimeter of bentgrass putting greens has also been effective in reducing injury potential.

**APPLICATION INFORMATION**

**I. Control of Annual Bluegrass Infesting Non-Overseeded Bermudagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas**

**Comments and precautions:** Do not allow spray droplet drift to contact desirable ryegrasses, bentgrasses, bluegrasses, fescues, or ornamental shrubs, trees, or flowers. Annual bluegrass (*Poa annua* var. *annua*) is controlled with Pruvin™ Herbicide. The degree of control for the perennial (*Poa annua* var. *reptans*) has not been fully determined. The perennial biotypes/ecotypes are primarily confined to bentgrass putting greens where Pruvin™ Herbicide cannot be used.

**Non-putting green bermudagrass not overseeded:** Apply Pruvin™ Herbicide at 1 to 2 ounces per acre in November/December and again in February/March if necessary. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. Use the higher rate on areas with large plants and high annual bluegrass populations.

**Putting green bermudagrass not overseeded:** Apply Pruvin™ Herbicide at a rate of 1 ounce per acre to annual bluegrass that is no larger than one inch in diameter. Bermudagrass that is not fully dormant may show some yellowing. Repeat applications as needed on a 3-week schedule, but do not exceed a total of 4 applications.

**II. Removal of Perennial Ryegrass and *Poa trivialis* (Rough Bluegrass) from Bermudagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas**

**Precautions and comments:** Perennial ryegrass is more sensitive to Pruvin™ Herbicide than *Poa trivialis* (Rough Bluegrass). Repeat applications of Pruvin™ Herbicide made at lower rates are more efficacious than a single large application. Perennial ryegrass and *Poa trivialis* growing in high density seedlings and maintained at low mowing heights are more sensitive to Pruvin™ Herbicide than individual plants growing as unmowed clumps. Putting green bermudagrass cultivars that have shown tolerance to Pruvin™ Herbicide include: Tifdwarf, TifEagle, Floradwarf, Mississippi Supreme, and Champion.

**Non-putting green bermudagrass:** Apply Pruvin™ Herbicide at 0.5 to 2 ounces per acre in the spring months 3 to 4 weeks before the desired date for overseed removal. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. Use of the higher rate and repeat applications may be necessary for complete removal of *Poa trivialis*.

**Putting green bermudagrass:** Apply Pruvin™ Herbicide at 0.5 to 1 ounce per acre 3 weeks before the desired date for overseed removal. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. The lower rate of Pruvin™ Herbicide can be used for slower transition. Three applications of Pruvin™ Herbicide at the 0.5 ounce per acre rate or 2 applications at the 1 ounce per acre rate are required for removal of *Poa trivialis*.

**III. Annual Bluegrass Control Prior to Overseeding Bermudagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas with Perennial Ryegrass or *Poa trivialis***

**Comments and precautions:** Annual bluegrass control will be reduced in areas where "early overseeding" is practiced. Also, applying Pruvin™ Herbicide earlier than 2 weeks prior to normal overseeding times will result in reduced annual bluegrass control. Avoid mechanical disturbance (aeration, verticutting, etc.) of the turf, thatch, and/or soil layer after Pruvin™ Herbicide application or annual bluegrass control may be reduced. Avoid application to wet and/or waterlogged putting greens. Allow at least 72 hours for drying on waterlogged putting greens before applying Pruvin™ Herbicide.

Stressed bermudagrass turf growing in shaded areas, waterlogged soil, or under other environmental stress (such as nematodes) may exhibit more discoloration or chlorosis following application of Pruvin™ Herbicide. Do not apply Pruvin™ Herbicide after overseeding, except as directed for removal of overseeded grasses.

**Non-putting green bermudagrass:** Apply Pruvin™ Herbicide at 1 to 2 ounces per acre 10 to 14 days prior to overseeding perennial ryegrass and/or *Poa trivialis*. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. Occasional stunting of the overseeded perennial ryegrass and/or *Poa trivialis* may occur, but symptoms disappear in approximately 7

days. Cultural practices and favorable environmental conditions that allow for maximum germination of annual bluegrass prior to application of Pruvini™ Herbicide increase the degree of control.

Apply 3 to 5 light irrigation cycles approximately 2 to 4 hours after application of Pruvini™ Herbicide to dislodge Pruvini™ Herbicide from the turf canopy. Apply enough irrigation water to penetrate the soil, but do not allow the water to sheet or move laterally onto sensitive areas.

**Putting green bermudagrass:** Apply 2 ounces of Pruvini™ Herbicide per acre without an adjuvant 10 to 14 days prior to overseeding golf putting greens for control of emerged annual bluegrass. Irrigate within 2 to 4 hours of application and continue a routine irrigation schedule. For putting greens growing in the shade, under waterlogged conditions, or other environmental stresses such as nematodes, and to help reduce potential of bermudagrass injury, apply 1 ounce of Pruvini™ Herbicide 3 weeks prior to overseeding and apply another 1 ounce 1 week prior to overseeding.

**IV. Weed Control in Centipedegrass and Zoysiagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas**

**Comments and precautions:** Tolerance of the majority of cultivars of centipedegrass and zoysiagrass to Pruvini™ Herbicide have not been fully investigated. It is known that Emerald, Zenith, and Meyer cultivars of zoysiagrass have shown tolerance to Pruvini™ Herbicide similar to that of bermudagrass. Cultivars of centipedegrass have exhibited moderate tolerance. The effects of Pruvini™ Herbicide on these turfgrasses during transition have not been fully evaluated.

**Dormant and non-dormant turf:** Apply 1 to 2 ounces of Pruvini™ Herbicide per acre for weed control. Some chlorosis of the turf may occur following application. Use the lower rate with repeat applications for weed control in centipedegrass.

Pruvini™ Herbicide will control the following cool-season weed species: annual bluegrass, blue-eyed grass, wild carrots, little barley, ryegrass, tall fescue, rough bluegrass, common chickweed, shepherdspurse, cutleaf evening primrose, henbit, and field pansy. Pruvini™ Herbicide will control the following warm-season weed species: spotted spurge, dollarweed, and suppression of some sedge species.

**Use on bentgrass fairways:** Apply Pruvini™ Herbicide at 0.125 to 0.03 ounce per acre for weed control. Sequential applications should be made 3 to 4 weeks after the initial application to achieve the desired weed control.

**Restrictions to Use of Pruvini™ Herbicide for Postemergence Weed Control in Warm Season Turf**

- Do not apply to residential lawns.
- Do not apply an organophosphate insecticide or nematicide within 7 days of a Pruvini™ Herbicide application as injury potential to the desired grass may increase.
- Do not apply to newly sprigged or sodded bermudagrass.
- Do not apply if wind speed becomes excessive; spray drift can occur at wind speeds greater than 10 mph. If sensitive species are downwind, extreme caution must be used. If conditions for spray drift exist, use a spray shield.
- Do not apply if winds are gusty.
- Do not apply this product through any type of irrigation system.

### STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed, or seed by storage and disposal.

**PESTICIDE STORAGE:** Store product in original container only.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING: Nonrefillable Container (flexible-bag-all weights):** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (rigid-fifty lbs. or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (rigid-greater than fifty lbs.):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling. If recycling is not available, puncture or dispose of in a sanitary landfill or incineration or if allowed by state and local authorities, by burning. If burned stay out of smoke.

**Refillable Container (greater than 55 gallons):** Refillable container. Refill this container with rimsulfuron only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY.**

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

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**Pruvin (66222-184) (to EPA 03-18-11)(resub 5-3-11)**

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## Supplemental Labeling

<b>ACCEPTED</b>
MAY - 5 2011
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. <u>66222-184</u>

# Pruvin™

## Herbicide

EPA REG. NO. 66222-184

### SUPPLEMENTAL DIRECTIONS FOR USE ON POTATOES INCLUDING REDUCTION OF PREHARVEST INTERVAL FROM 60 TO 30 DAYS

#### DIRECTIONS FOR USE

- It is a violation of Federal law to use this product inconsistent with its labeling.
- This supplemental labeling must be in the possession of the user at the time of pesticide application.
- Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA registered label.
- This supplemental label expires on May 15, 2014, and must not be used or distributed after this date.

#### POTATOES

#### APPLICATION INFORMATION

**Ground Application:** Apply PruvIn™ Herbicide with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan, TwinJet™, underleaf banding nozzles or flood jet nozzles to ensure optimum spray distribution and thorough coverage. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution. With ground application equipment, use enough water to deliver 10 to 40 gallons total spray solution per acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

**Preemergence Applications:** Apply PruvIn™ Herbicide at 1 to 1.5 ounces product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed. To activate PruvIn™ Herbicide and move it 2 to 3" deep into the soil profile, moisture is necessary from a single rainfall event, or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying PruvIn™ Herbicide postemergence would result in better weed control.

If weeds are present at application and it is not possible to apply PruvIn™ Herbicide to a clean, newly prepared seedbed, free of emerged or germinating weeds add a spray adjuvant to the spray mix (See the **Spray Adjuvant** section of this label for additional information). Control may not be adequate for weeds that have an established root system before activation of PruvIn™ Herbicide.

**Postemergence Applications:** Apply PruvIn™ Herbicide at 1 to 1.5 ounces product per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the **Specific Weed Problems-Potatoes and Tomatoes** section of this label for more information). For best postemergence weed control, activate PruvIn™ Herbicide in the soil with rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application.

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Temporary chlorosis (lime green color) may occur after application of Pruvin™ Herbicide if potato plants are growing under conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations). Symptoms usually disappear within 5 to 15 days.

**Tank Mixtures – Preemergence Applications:** Pruvin™ Herbicide may be tank mixed with pesticide products labeled for use on potatoes (such as Eptam® 7E, Prowl®, Lorox® DF, DuPont Cinch® or Dual II MAGNUM®, Roundup® or glyphosate-containing products registered for potatoes) in accordance with the most restrictive of label limitations and precautions. When tank mixing Pruvin™ Herbicide with another potato pesticide(s), read and follow all use directions, restrictions, and precautions on the labels of both Pruvin™ Herbicide and the tank mix partner(s). Pruvin™ Herbicide may also be used in three-way tank mix combinations on potatoes with the above pesticide(s). If these recommendations conflict with the use directions on this Pruvin™ Herbicide label, do not use as a tank mix with Pruvin™ Herbicide.

#### SPECIFIC USE DIRECTIONS FOR PREEMEGENCE TANK MIXTURES IN POTATOES WITH PRUVIN™ HERBICIDE

TANK MIXTURES	COMMENTS
With metribuzin (such as Sencor®) *	<ul style="list-style-type: none"> <li>Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Metribuzin at 0.3 to 1.3 pound per acre for improved control of such weeds as kochia, Russian thistle and common lambsquarters.</li> <li>Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>
With Eptam 7E *	<ul style="list-style-type: none"> <li>Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Eptam 7E at label rates for improved control of such weeds as hairy nightshade and crabgrass.</li> <li>Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> <li>The rates and incorporation methods for Eptam 7E vary by region, therefore, follow the recommendations for the local region.</li> <li>Use irrigation rather than equipment to incorporate the tank mixture of Eptam 7E and Pruvin™ Herbicide to prevent poor weed control from deep incorporation of the Pruvin™ Herbicide.</li> <li>If incorporation by irrigation is not allowed, apply Eptam 7E and Pruvin™ Herbicide in a split application.</li> </ul>
With pendimethalin (such as Prowl) *	<ul style="list-style-type: none"> <li>Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Prowl at label rates for better control of such weeds as kochia, crabgrass, and common lambsquarters.</li> <li>Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>
With linuron (such as Lorox DF) *	<ul style="list-style-type: none"> <li>Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus Lorox DF at 1 to 4 pounds per acre for better control of such weeds as common lambsquarters and common ragweed.</li> <li>Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>
With metolachlor or S-metolachlor (such as MANA Parallel®, DuPont Cinch or Dual II MAGNUM) *	<ul style="list-style-type: none"> <li>Apply Pruvin™ Herbicide at 1 to 1.5 ounces per acre plus MANA Parallel or DuPont Cinch or Dual II MAGNUM at 1 to 2 pints per acre for better control of such weeds as yellow nutsedge and black nightshade.</li> <li>Apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.</li> </ul>

\* Read and follow all manufacturers' label instructions for companion products including use restrictions, labeled crops, rotational cropping recommendations, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply. If any of those recommendations





### Supplemental Labeling

conflict with this label, follow the most restrictive labeling, or do not tank mix the herbicide with Pruvini™ Herbicide.

**Tank Mixtures – Postemergence Applications:** Pruvini™ Herbicide may be tank mixed with pesticide products labeled for use on potatoes (such as Eptam 7E and metribuzin) in accordance with the most restrictive of label limitations and precautions. When tank mixing Pruvini™ Herbicide with another potato pesticide(s), read and follow all use directions, restrictions, and precautions on labels of both Pruvini™ Herbicide and the tank mix partner(s). Pruvini™ Herbicide may also be used in three-way tank mix combinations on potatoes with the above pesticide(s). If these recommendations conflict with the use directions on this Pruvini™ Herbicide label, do not use as a tank mix with Pruvini™ Herbicide.

#### SPECIFIC USE DIRECTIONS FOR POSTEMERGENCE TANK MIXTURES IN POTATOES WITH PRUVINI™ HERBICIDE

TANK MIXTURES	COMMENTS
With metribuzin (such as Sencor) *	<ul style="list-style-type: none"> <li>- Apply Pruvini™ Herbicide at 1 to 1.5 ounces per acre plus Metribuzin at 0.25 to 0.67 pounds per acre for improved weed control of such weeds as Russian thistle, common lambsquarters and triazine-resistant weeds.</li> <li>- Use a NIS at 0.125% v/v (1 pint per 100 gallons of water).</li> <li>- Use adjuvants with caution because the addition of adjuvants to postemergence metribuzin applications may reduce crop tolerance.</li> <li>- If the potato crop is under stress, or if metribuzin sensitive varieties are being grown, avoid postemergence applications of metribuzin.</li> <li>- <b>Note:</b> The use of a COC or MSO adjuvants is not recommended for tank mix combinations with Pruvini™ Herbicide plus metribuzin.</li> </ul>
With Eptam 7E *	<ul style="list-style-type: none"> <li>- Apply Pruvini™ Herbicide at 1 to 1.5 ounces per acre plus Eptam 7E at 1 pint per acre.</li> <li>- Add 1% v/v (1 gallon per 100 gallons spray solution) of either a MSO or 0.5% v/v (0.5 gallon per 100 gallons of spray solution) of organo-silicon/modified seed oil blend (OS/MSO – such as Dyne-Amic®, Rivet™, or Phase®). Also include 2 pounds per acre of a spray-grade ammonium sulfate (AMS).</li> <li>- Use irrigation rather than equipment to incorporate the tank mixture of Eptam 7E and Pruvini™ Herbicide to prevent poor weed control from deep incorporation of the Pruvini™ Herbicide.</li> <li>- For best results, rainfall or sprinkler irrigation totaling 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours after application, but not more than 1 day after application is required.</li> <li>- Additional Eptam 7E can be added during the water in process if desired (read and follow all use directions, restrictions, and precautions on the Eptam 7E label before use. If these recommendations conflict with this Pruvini™ Herbicide label, do not use as a tank mix with Pruvini™ Herbicide).</li> </ul>
With Foliar Fungicides *	<ul style="list-style-type: none"> <li>- Pruvini™ Herbicide may be tank mixed with suitable registered fungicides on potatoes (such as DuPont Curzate® 60DF, Manzate®, and Bravo®).</li> </ul>

\* Read and follow all manufacturers' label instructions for companion products including use restrictions, labeled crops, rotational cropping recommendations, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply. If any of those recommendations conflict with this label, follow the most restrictive labeling, or do not tank mix the pesticide with Pruvini™ Herbicide.



**M A N A**

## Supplemental Labeling

### Precautions with Tank mixtures:

- Crop injury in the form of leaf burn and temporary yellowing can occur when applications are made under high temperatures. Addition of fungicides may increase the level of crop injury.
- In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed and may be more variable in weed control.

### Sequential Applications – Potatoes

To maximize weed control, it may be necessary to apply Pruvit™ Herbicide a second time to control annual weeds that have had a second flush of germinating seedlings, or treated perennials that produce new growth from underground roots or stems. Make the second application 14 to 28 days after the first application to small weeds that are actively growing and are less than 1" in height or diameter. The combined rate of the two applications of Pruvit™ Herbicide cannot exceed 2.5 ounces per acre per growing season.

### Potatoes Grown for Seed

Pruvit™ Herbicide may be used on potatoes grown for seed in fields that use field grown tubers as the planted seed piece, and are at least the progeny of the first field planting<sup>1</sup>. Pruvit™ Herbicide may be applied preemergence at 1.5 ounces per acre, postemergence at 1 to 1.5 ounces per acre, sequential applications of 1 to 1.5 ounces per acre preemergence followed by 1 ounce per acre postemergence, or two postemergence applications of 1 ounce per acre. Do not exceed 2.5 ounces per acre of Pruvit™ Herbicide in the same growing season.

When Pruvit™ Herbicide is applied preemergence it needs to be activated within 5 days after application by moisture from a single rainfall event, or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), to move the product 2" to 3" deep into the soil profile.

### Precautions and Restrictions For Potatoes Grown For Seed

- The rotational crop interval listed in the Pruvit™ Herbicide label may need to be extended to 18 months if seed potato production practices decrease water and/or time for Pruvit™ Herbicide breakdown. Practices that may shorten the breakdown are late planting or less frequent irrigations as compared to commercial production practices. Potatoes can be planted at anytime.
- Consider informing your state seed certification agency or inspector that Pruvit™ Herbicide has been applied. Under growing conditions that promote crop stress (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application. These symptoms may appear similar to virus like symptoms (such as chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.
- Do not apply to plants suffering stress from lack of moisture, cold, herbicide injury, and insect or disease injury.
- Do not use on potatoes grown for seed if these are grown from microtubers or transplants. Depending on geography, these may be referred to as Generation 1, Nuclear, Elite 1, or Pre-Elite.
- The rotational crop interval for Spring Barley is extended to 18 months due to the shorter growing seasons and different cultural practices in seed production in the states of CA, ID, OR, MT, SD, WA, CO, and parts of ND<sup>2</sup>.
  1. First field planting utilizes laboratory tested stocks which may be tissue cultured plantlets, greenhouse produced in microtubes, minitubes, stem cuttings or line selections.
  2. All counties in ND except Pembina, Towner, Walsh, Grand Forks, Trail and Cass.

### **WEEDS CONTROLLED OR PARTIALLY CONTROLLED IN POTATOES**

When used according to the label use directions Pruvit™ Herbicide provides control or partial control of the following weeds:

#### **PREEMERGENCE**

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## Supplemental Labeling

GRASSES	BROADLEAVES
Barnyardgrass	Chamomile, False
Crabgrass <sup>1</sup>	Cocklebur <sup>1</sup>
Foxtail (Giant, Green, Yellow)	Filaree, Redstem
Wheat, Volunteer	Henbit
Wild Oat <sup>1</sup>	Kochia
	Lambsquarters, Common <sup>1</sup>
	Mustard (Birdsrape, Black) <sup>1</sup>
	Nightshade, Black <sup>1,2</sup>
	Nightshade, Hairy <sup>1</sup>
	Pigweed, Prostrate <sup>1</sup>
	Pigweed (Redroot, Smooth)
	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Velvetleaf <sup>1</sup>

1. Partial Control.
2. Eastern black nightshade is NOT controlled or suppressed.

### POSTEMERGENCE

GRASSES/SEDGES	BROADLEAVES
Barley, Volunteer	Chamomile, False
Barnyardgrass	Cocklebur <sup>1</sup>
Bluegrass, Annual	Chickweed, Common
Crabgrass	Henbit
Foxtail (Bristly, Giant, Green, Yellow)	Kochia
Johnsongrass, Seedling <sup>1</sup>	Lambsquarters, Common <sup>1</sup>
Millet, Wild Proso <sup>1</sup>	Morningglory, Ivyleaf <sup>1</sup>
Panicum, Fall	Mustard (Birdsrape, Black, Wild)
Quackgrass <sup>1,3</sup>	Nightshade, Hairy <sup>1</sup>
Stinkgrass <sup>1</sup>	Nightshade, Black <sup>1,2,3</sup>
Wheat, Volunteer	Pigweed (Redroot, Smooth)
Wild Oat <sup>1</sup>	Pigweed, Prostrate <sup>1</sup>
Yellow nutsedge <sup>1</sup>	Purslane, Common
	Ragweed, Common <sup>1</sup>
	Shepherdspurse
	Smartweed, Pennsylvania <sup>1</sup>
	Thistle, Canada <sup>1,3</sup>



## Supplemental Labeling

	Velvetleaf <sup>1</sup>
	Volunteer Alfalfa <sup>4</sup>
	Wild Radish

1. Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.
2. Eastern Black Nightshade is NOT controlled or suppressed.
3. See **Specific Weed Problems-Potatoes and Tomatoes**.
4. Except in CA.

### AERIAL APPLICATION

Pruvin™ Herbicide may be applied to potatoes by air in all potato growing states except NY where aerial application of Pruvion™ Herbicide is prohibited. In the state of CA, aerial application to potatoes is allowed only in the counties of Modoc and Siskiyou. Always use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA (in CA use a minimum of 10 GPA). Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement (See the **SPRAY DRIFT MANAGEMENT** section of this label for more information).

### CHEMIGATION – POTATOES

Pruvin™ Herbicide can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. Do not apply Pruvion™ Herbicide using any other type of irrigation system. Check irrigation systems to insure uniform application of water to all areas. Failure to apply Pruvion™ Herbicide uniformly may result in crop injury and/or poor weed control. For best results, use the highest listed rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall). If weeds are present at application, add a NIS containing at least 80% active ingredient to the spray mix at a rate of 1 to 2 pints per acre.

Pruvin™ Herbicide may be mixed in a supply tank with water, fertilizer, or other appropriate agricultural chemicals. Maintain continuous agitation in the injection nurse tanks during application to keep the product in suspension.

For solid set and hand move irrigation systems, apply Pruvion™ Herbicide at the beginning of the set and then apply 1/3 to 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"). For center pivot and lateral move irrigation systems, apply Pruvion™ Herbicide in 1/3 to 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

If you have questions about calibrating chemigation equipment, contact state cooperative extension service, equipment manufacturers, or other experts. If the chemigation equipment needs adjustment, only the custodian responsible for its operation, or someone under the supervision of that custodian, should make the necessary adjustments.

### Irrigation System Requirements

The irrigation system must contain the following:

- A functional check valve
- A vacuum relief valve
- A low pressure drain (to prevent water source contamination from backflow; should be located on the irrigation pipeline)
- Functional interlocking controls (to automatically shut-off the pesticide injection pump when the water pump motor stops)



## Supplemental Labeling

- A metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

The pesticide injection pipeline must contain the following:

- A functional, automatic, quick-closing check valve (to prevent the flow of fluid back toward the injection pump)
- A functional, solenoid-operated valve (normally closed) located on the intake side of the injection pump (should be connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is shut down either automatically or manually)

The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when pesticide distribution is adversely affected by a decrease in water pressure.

### Chemigation Precautions – Potatoes

Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the listed rate, use sufficient water, and apply the mixture for the proper length of time.

- Do not permit run-off during chemigation.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not connect an irrigation system (including greenhouse systems) used for PruvIn™ Herbicide application to a public water system.

### **PRUVIN™ HERBICIDE ROTATIONAL CROP GUIDELINES – POTATO**

For the crops listed below, planting prior to the interval shown may result in crop injury when using PruvIn™ Herbicide. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and an amount greater than 15" has been applied during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotational Crop	Time Interval Before Planting (months)
Alfalfa <sup>2</sup>	4
Barley, Spring <sup>1</sup>	9
Beans, Dry	10
Beans, Succulent	10
Carrots (Kern County, CA) <sup>2</sup>	4
Carrots <sup>2</sup>	10
Corn, Field	Anytime
Corn, Popcorn	10
Corn, Sweet	10
Cotton	10
Cover Crops (erosion control)	4
Cucumber	10
Garlic	6
Grass, pasture, hay, seed <sup>2</sup>	4
Mint <sup>2</sup>	4
Oats, Spring	9
Onions <sup>2</sup>	10
Peas <sup>2</sup>	8
Potatoes	Anytime
Sunflowers	10
Soybeans	4
Tomatoes	Anytime
Wheat, Spring	9

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Wheat, Winter	4
Crops Not Listed	18

1. In the state of ID – 18 months for Teton county, Caribou county, Madison county east of Hwy 20, and Fremont county east of Hwy 20.

In the state of CO – Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 ounces or less Pruvini™ Herbicide per acre per season – 9 months; greater than 1.5 ounces of Pruvini™ Herbicide per acre per season – 18 months.

2. Applies to potatoes grown under sprinkler irrigation with a minimum of 18 " of water per season. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 " of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 " of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotation to Alfalfa: Pruvini™ Herbicide application in potatoes must not exceed 1 ounce per acre per use season in Adams, Grant, Douglas and Lincoln counties of WA, and Pruvini™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in WA and Morrow and Umatilla counties in OR.

Rotation to Onions and Carrots: Pruvini™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of WA, and Pruvini™ Herbicide application in potatoes must not exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in WA and Morrow and Umatilla counties in OR.

Rotation to Grass Crops Grown for Seed, Hay or Pasture: Pruvini™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of WA, and Pruvini™ Herbicide application in potatoes must not exceed 2.5 ounces per acre per use season in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in WA and Morrow and Umatilla counties in OR.

Rotation to Peas and Mints: Pruvini™ Herbicide application in potatoes must not exceed 1.5 ounces per acre per use season in all areas.

**NOTE:** Pruvini™ Herbicide should not be used in a tank mix or sequential application program with other soil residual ALS-inhibiting herbicides on potatoes as the combined effects of these herbicides on the planting of subsequent crops have not been thoroughly investigated and crop injury may occur.

### Restrictions to Use of Pruvini™ Herbicide on Potatoes

- Do not use COC or MSO with Pruvini™ Herbicide when potatoes are under heat stress (>85° F) as multiple stresses may cause crop injury.
- Do not apply Pruvini™ Herbicide on potatoes within 30 days of harvest.
- Do not exceed 2.5 ounces Pruvini™ Herbicide per acre on potatoes during the same growing season.
- Do not apply to sweet potatoes or yams.
- Do not use Pruvini™ Herbicide on potatoes grown for seed, except as directed on this labeling or supplemental labeling.

Do not apply to potatoes growing in greenhouses, cold frames, pot cultures, etc. Apply only to potatoes growing in fields.