

264-666

08-17-2010

1/12



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

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Ms. Laura Phelps
Bayer CropScience LP
P.O. Box 12014; 2 T.W. Alexander Dr.
Research Triangle Park, NC 27709

AUG 17 2010

Subject: Label Amendment – Add mefenpyr-diethyl maximum seasonal use rate info.
Product Name: Puma 1EC Herbicide
EPA Registration Number: 264-666
Decision Number: 434608

The label amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you make the following change to the product labeling:

- 1) Since this product is a liquid formulation, replace the safener use rate sentence, "PUMA 1EC Herbicide contains 0.278 pounds of mefenpyr-diethyl pound of product." with the following: "PUMA 1EC Herbicide contains 0.294 lbs. of mefenpyr-diethyl per gallon of product."
- 2) Revise the section heading, "Container Disposal" with "Container Handling" in the Storage and Disposal section.

One copy of the label stamped "Accepted with Comments" is enclosed for your records. Products shipped after 18 months from the date on this notice 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. Your release for shipment of this product constitutes acceptance of these conditions. This label supersedes all previous accepted labels. You must submit one copy of the final printed label before the product is released for shipment.

Sincerely,

Kathryn V. Montague
Product Manager (23)
Herbicide Branch
Registration Division (7505P)

2
12

PUMA® 1EC HERBICIDE

FOR SELECTIVE POSTEMERGENCE CONTROL OF GREEN AND YELLOW FOXTAIL (PIGEONGRASS), VOLUNTEER AND WILD MILLET SPECIES, BARNYARDGRASS, WILD OAT IN WHEAT (including Durum Wheat) and BARLEY

ACTIVE INGREDIENT: fenoxaprop-p-ethyl: (+)-ethyl 2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]propanoate*	11.53%**
INERT INGREDIENTS:***	88.47%
TOTAL	100.00%

* Protected by U.S. Patent No. 5,254,527

** Equivalent to 1.0 pound of pure fenoxaprop-p-ethyl (d isomer) per gallon

*** Contains petroleum distillates

EPA Reg No. 264-666

EPA Est. No. 45639-CAN-001

KEEP OUT OF REACH OF CHILDREN WARNING - AVISO

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

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

For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

FIRST AID

IF SWALLOWED:	<ul style="list-style-type: none"> Immediately call a poison control center or doctor for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person. 	<p style="text-align: center;">ACCEPTED with COMMENTS In EPA Letter Dated: AUG 17 2010 Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. <u>264-666</u></p>
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. 	
IF IN EYES:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice. 	
<p>For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.</p> <p>Have the product container or label with you when calling a poison control center or doctor or going for treatment.</p>		

NOTE TO PHYSICIAN: Possible mucosal damage may contraindicate the use of gastric lavage. May pose an aspiration pneumonia hazard.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

Causes substantial but temporary eye injury or skin irritation. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Wear coveralls worn over short-sleeved shirt and short pants, socks and chemical resistant footwear, goggles or face shield and chemical resistant gloves (such as Nitrile, Butyl, Neoprene and/or Barrier Laminate). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

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

ENGINEERING CONTROL STATEMENT

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the pesticide off of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates or nontarget plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Keep container tightly closed when not in use. Avoid cross contamination with other pesticides.

Do not store over 100°F or below 32°F. Do not use or store near heat or open flame.

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

CONTAINER DISPOSAL

Rigid, Non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons)

Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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.

Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill or if allowed by State and local authorities by burning. If burned stay out of smoke.

Rigid Non-refillable containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs)

Non-refillable Containers

Non-refillable containers - Do not reuse or refill this container. Refer to Bottom Discharge IBC or Top Discharge IBC, Drums, Kegs information as follows.

Bottom Discharge IBC (e.g. – Schuetz Caged IBC or Snyder Square Stackable)

Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. To pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

Top Discharge IBC, Drums, Kegs (e.g. – Snyder 120 Next Gen, Bonar B120, Drums, Kegs).

Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. To triple rinse the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container at least 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this procedure two more times.

Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill.

4
12

Refillable Containers

Refillable container – Refer to Bottom Discharge IBC or Top Discharge IBC, Drums, Kegs information as follows. Refill this container with pesticide only. Do not reuse this container for any other purpose. Contact your Ag retailer or Bayer CropScience for container return, disposal and recycling information.

Bottom Discharge IBC (e.g. – Schuetz Caged IBC or Snyder Square Stackable)

Pressure rinsing 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 pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

Top Discharge IBC, Drums, Kegs (e.g.– Snyder 120 Next Gen, Bonar B120, Drums, Kegs).

Triple rinsing 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 triple rinse the containers before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container at least 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this procedure two more times.

Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill.

Refillable Containers

End users are authorized to remove tamper evident cables as required to remove the product from the container unless the container is equipped with one way valves and refilling or returning is planned. If this is the case, end users are not authorized to remove tamper evident cables, one way valves or clean container. See Container Disposal instructions under Storage and Disposal.

PRODUCT INFORMATION

PUMA® 1EC Herbicide is a postemergence herbicide for the control of green and yellow foxtail (pigeongrass), volunteer and wild millet species, barnyardgrass and wild oat in wheat (including durum wheat) and barley.

DIRECTIONS FOR USE

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

Do not use this product until you have read the entire label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

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, wear: coveralls over long-sleeved shirt and long pants; socks and chemical resistant footwear. Wear goggles or face shield, and chemical resistant gloves (such as nitrile, butyl, neoprene, and/or barrier laminate).

APPLICATION INFORMATION

Ground Application: DO NOT apply when winds are gusty, or when conditions will favor movement of spray particles off the desired spray target. To avoid drift and ensure consistent weed control, apply PUMA® 1EC Herbicide with the spray boom as low as possible while maintaining a uniform spray pattern. Ten (10) gallons of spray solution per acre is recommended. Under conditions where large grass weeds or dense weed populations are present or adverse environmental conditions exist, a greater spray volume of 15 – 20 gallons of spray solution per acre is required for best weed control. A minimum of 5 gallons of spray solution may only be used under conditions that are ideal for weed control. Herbicide applications can be negatively impacted by environmental conditions, weed populations and tank mix partners. Use a recommended spray pressure of 40 psi with flat-fan nozzle tips spaced 10 to 20 inches apart across the boom. Ground speed for application should not exceed 10 mph. To get uniform spray coverage, use nozzles to provide 200 to 350 micron size droplets. DO NOT apply with hollow cone type nozzles or other nozzles that produce a fine droplet spray.

5
12

Aerial Application: Calibrate the spray equipment prior to use. PUMA® 1EC Herbicide should be applied in a minimum of 5 gallons of water per broadcast acre. To get uniform spray coverage, use nozzles to provide 200 to 350 micron size droplets. DO NOT use raindrop nozzles. Aerial applications with this product should be made at a maximum height of 10 feet above the crop with low drift nozzles at a maximum pressure of 40 psi. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

INFORMATION ON HERBICIDE TOLERANT WEEDS

Repeated use of the same herbicide or related herbicides may result in rare, naturally tolerant weeds multiplying to economic infestations. In areas with consistent use of the same herbicide or herbicide mode-of-action, crop rotation and application of alternative mode of action herbicides are encouraged to prevent and/or reduce weed tolerance. For further information, contact a Bayer CropScience representative or your local or state extension service.

TIMING OF APPLICATION

Wheat

Apply PUMA® 1EC Herbicide to the crop from emergence up to 60 days prior to harvesting wheat in the states of Minnesota, Montana, North Dakota, and South Dakota. DO NOT apply PUMA® 1EC Herbicide on wheat within 70 days of harvest in other states.

Barley

Apply PUMA® 1EC Herbicide to the crop from emergence up to the 5-leaf stage. Do not spray barley after jointing begins. DO NOT apply PUMA® 1EC Herbicide within 57 days of harvesting barley. Under cool, wet conditions, tank mixing MCP Ester or MCP Ester + Harmony GT (at listed rates) with PUMA® 1EC Herbicide will further improve crop safety in barley.

PUMA® 1EC Herbicide will control susceptible grass weeds in the 1-leaf (fully expanded) to 2-tiller stage of growth. Blackgrass can be controlled over a wide range of growth stages, from the 1-leaf (fully expanded) through the advanced tillering stage. Windgrass will be controlled from emergence to a height of 3 inches. Applications should be made to young, vigorously growing weeds.

PUMA® 1EC Herbicide has no effect via the soil and will only control emerged grass weeds. PUMA® 1EC Herbicide, when applied as directed, controls the annual grass weeds listed in Table 1 below at rates indicated.

**Table 1.
RATE RECOMMENDATION CHART
for Grass Weed Control**

Grass Weed Species, Common Name	Grass Weed Species, Scientific Name	Rate, Pints per Acre (Fluid Ounces/Acre)	Tankmix Table
Green foxtail	<i>Setaria viridis</i>	0.33 (5.3)	See Table 2
Foxtail millets (volunteer), common, Siberian, Hungarian, German millet	<i>Setaria italica</i>		
Volunteer corn	<i>Zea mays</i>		
Yellow foxtail	<i>Setaria lutescens</i>	0.40 (6.4)	See Table 3
Proso millet (volunteer, wild)	<i>Panicum iliaceum</i>		
Barnyardgrass	<i>Echinochloa crus-galli</i>	0.66 (10.6)	See Table 4
Blackgrass	<i>Alopecurus myosuroides</i>		
Hood canarygrass	<i>Phalaris paradoxa</i>		
Littleseed canarygrass	<i>Phalaris minor</i>		
Windgrass	<i>Apera interrupta</i>		
Wild oat	<i>Avena fatua</i>		
Field sandbur	<i>Cenchrus incertus</i>		
Woolly cupgrass	<i>Erichloa villosa</i>		

MOISTURE EFFECTS ON ANNUAL GRASS WEED CONTROL

The following conditions will result in optimum wild oat control:

1. Adequate soil moisture which occurs under normal rainfall in wheat or barley following a fallow year.
2. Temperatures lower than 85° F for several days prior to application.

Low soil moisture levels, low humidity, and high temperatures prior, during or following application may reduce wild oat and foxtail control provided by PUMA® 1EC Herbicide.

Foxtail under drought stress will exhibit rolled leaves ("onion leaf") and should not be sprayed as poor control may result. Apply PUMA® 1EC Herbicide when conditions improve.

TANK MIX COMBINATIONS

When tank mixing, read and follow the precautionary statements, directions for use, weeds controlled, geographic, and other restrictions on the labeling of each tank mix partner used. Use in accordance with the most restrictive label limitations and precautions. Tank mix partners not recommended on this label may cause reduced annual grass control (antagonism) or crop injury. PUMA® 1 EC Herbicide contains 0.278 pounds of mefenpyr-diethyl pound of product. Applying the maximum labeled rate of PUMA® 1EC Herbicide delivers 0.023 lbs of mefenpyr-diethyl per acre. Do not apply more than 0.053 pounds of mefenpyr-diethyl per acre per year. Do not apply any pesticide, not listed on this label, 5 days before or after an application of PUMA® 1EC Herbicide. Do not tank mix PUMA® 1EC Herbicide with liquid fertilizers unless specifically listed on this label.

Compatibility Testing with Tank Mix Partners

If PUMA® 1EC Herbicide is to be tank mixed with other pesticides, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5-15 minutes after mixing. Read and follow the label of each tank-mix product used for precautionary statements, directions for use, geographic and other restrictions.

Insecticides

PUMA® 1EC Herbicide may be tank mixed with either Furadan® 4F, Sevin® XLR PLUS, or Warrior® insecticides if timing for insect and weed control are proper. **Do not tank mix with malathion as wild oat control will be reduced.**

Fungicides

Fungicides such as mancozeb (Dithane F-45®; Manzate® 75DF; Penncozeb® 75DF), Tilt® and Stratego® without additional adjuvant, or Topsin® M can be tank mixed with PUMA® 1EC Herbicide when timing for application of each tank mix partner is the same for the use site.

Broadleaf Herbicides

Broadleaf weed control options are listed in Tables 2, 3, or 4, when timing of application for each tank mix partner is the same for the use site. Always check the tank mix partner label to determine if the addition of a surfactant is required.

Tank Mixes for Green Foxtail, Foxtail Millets and Volunteer Corn Control

The tank mix partners listed in Table 2 may be used for the control of green foxtail, foxtail millets, and volunteer corn with PUMA® 1 EC at a rate of 0.33 pt/A. If wild oat or yellow foxtail is the primary weed, see sections addressing tank mixes for these weeds.

**Table 2.
Green Foxtail, Foxtail Millets, Volunteer Corn**

Herbicides for Broadleaf Weed Control	Rate	Range of Dosages: *** 0.50 - 0.75 pt/A of MCP Ester (4 lb/gal – formulation) may be added as an option
Ally® 60DF	0.10 oz/A	Yes
Amber® 75DF	0.28 oz/A	Yes
Banvel® (for use on wheat only) (4 lb/gal)	2.00 fl oz/A	Yes
Banvel® SGF (for use on wheat only) (2 lb/gal)	4.00 fl oz/A	Yes
Bronate Advanced™ Herbicide */**	0.80 pt/A	No
Bronate Advanced™ + Starane™	0.60 – 0.80 pt/A + 0.25 – 0.33 pt/A	No
Buctril® Herbicide */**	1.00 pt/A	Yes
Clarity® (for use on wheat only)	2.00 fl oz/A	Yes
Curtail™ M	1.75 pt/A	No
Curtail™ M + Clarity® (for use on wheat only)	1.75 pt/A + 2.00 oz/A	No
Curtail™ M + Starane™	1.75 pt/A + up to 0.66 pt/A	No
Express® 75DF	1/6 oz/A	Yes
Finesse	0.28 oz/A	Yes
Harmony® Extra 75DF	0.30 – 0.40 oz/A	Yes
Harmony® Extra + Starane™	0.30 oz/A + up to 0.66 pt/A	No
Harmony® GT	0.30 – 0.50 oz/A	Yes
Harmony® GT + Starane™	0.30 oz/A + up to 0.66 pt/A	No
MCP Ester (4 lb/gal) ***	0.75 pt/A	No
Peak®	0.50 oz/A	Yes
Rave®	4.00 oz/A	No
Starane™	Up to 0.66 pt/A	Yes
Stinger™	0.25 – 0.33 pt/A	Yes

* Equivalent bromoxynil products may be substituted in a tank mix for these products.

** Do not tankmix PUMA® 1EC with either Buctril® Herbicide or Bronate Advanced™ Herbicide on two row malting barley.

*** 4 lb/gal formulation of MCP Ester. Other formulations of MCP Ester may be used providing 0.25 - .375 lb ai/ A of MCP Ester is used.

Tank Mixes for Yellow and Green Foxtail, Wild and Volunteer Proso Millets Control

The tank mix partners listed in Table 3 below are approved for the control of yellow and green foxtail and/or wild and volunteer proso millets using PUMA® 1 EC at a rate of 0.4 pt/A. If wild oat is the primary weed, see the section addressing tank mixes for wild oat control.

Table 3.
Yellow and Green Foxtail, Wild & Volunteer Proso Millets

Herbicides for Broadleaf Weed Control	Rate	Range of Dosages: *** 0.50 - 0.75 pt/A of MCP Ester (4 lb/gal - formulation) may be added as an option
Banvel® (for use on wheat only) (4 lb/gal)	2.00 fl oz/A	Yes
Banvel® SGF (for use on wheat only) (2 lb/gal)	4.00 fl oz/A	Yes
Clarity® (for use on wheat only)	2.00 fl oz/A	Yes
Curtail™ M	1.75 pt/A	No
Curtail™ M + Clarity® (for use on wheat only)	1.75 pt/A + 2.00 oz/A	No
Curtail™ M + Starane™	1.75 pt/A + up to 0.66 pt/A	No
MCP Ester (4 lb/gal)	0.75 pt/A	No
Peak®	0.50 oz/A	Yes
Starane™	Up to 0.66 pt/A	Yes
Stinger™	0.25 - 0.33 pt/A	Yes

*** 4 lb/gal formulation of MCP Ester. Other formulations of MCP Ester may be used providing 0.25 - 0.375 lb a.i./A of MCP Ester is used.

Tank Mixes for Wild Oat, Green and Yellow Foxtail, Blackgrass and Barnyardgrass Control

The tank mix partners listed in Table 4, below are approved for the control of wild oat, green and yellow foxtail, blackgrass, and barnyardgrass using PUMA® 1 EC at a rate of 0.66 pt/A.

Table 4.
Wild Oat, Green and Yellow Foxtail, Blackgrass and Barnyardgrass

Herbicides for Broadleaf Weed Control	Rate	Range of Dosages: *** 0.50 - 0.75 pt/A of MCP Ester (4 lb/gal – formulation) may be added as an option
Bronate Advanced™ Herbicide */**	0.80 pt/A	No
Bronate Advanced™ + Harmony GT	0.60 – 0.80 pt/A + 0.10 oz/A	No
Bronate Advanced™ + Starane™	0.60 – 0.80 pt/A + 0.25 – 0.33 pt/A	No
Buctril® Herbicide */**	1.00 pt/A	Yes
Buctril® Herbicide + Starane™	1.00 pt/A + 0.25 - 0.33 pt/A	No
Curtail™ M	1.75 pt/A	No
Curtail™ M + Starane™	1.75 pt/A + up to 0.66 pt/A	No
Harmony® Extra 75DF	0.30 – 0.40 oz/A	No
Harmony® Extra 75DF + Starane™	0.30 oz/A + up to 0.66 pt/A	No
Harmony® GT	0.30 – 0.50 oz/A	Yes
Harmony® GT + Starane™	0.30 oz/A + up to 0.66 pt/A	No
MCP Ester (4 lb/gal) ***	0.75 pt/A	No
Peak®	0.50 oz/A	Yes
Peak® + Starane™	0.50 oz/A + up to 0.66 pt/A	No
Starane™	Up to 0.66 pt/A	Yes
Stinger™	0.25 – 0.33 pt/A	Yes

* Equivalent bromoxynil products may be substituted in a tank mix for these products.

** Do not tank mix PUMA® 1EC with either Buctril® Herbicide or Bronate Advanced™ Herbicide on two row malting barley.

*** 4 lb/gal formulation of MCP Ester. Other formulations of MCP Ester may be used providing 0.25 – 0.375 lb a.i./A of MCP Ester is used.

NOTE: When tank mixing PUMA® 1EC Herbicide with the recommended herbicides above, do not exceed the labeled use rate shown for each tank mix partner, as reduced annual grass control may occur.

For the Control of Wild Oat and Blackgrass in Winter Wheat in the States of Washington, Oregon and Northern Idaho

In winter wheat only, liquid nitrogen fertilizer may be tank mixed with PUMA® 1EC alone or with PUMA® 1EC and recommended broadleaf tank mixes. Only 28 – 32% liquid nitrogen fertilizer may be added. Do not exceed 5 gallons/acre of liquid nitrogen for ground applications or 50% of the total spray volume by air.

In winter wheat only, the following broadleaf herbicides may be tank mixed with PUMA® 1EC Herbicide at the 0.66 pint per acre rate when the target grass weeds are wild oat and/or blackgrass.

19
12

Table 5.
Wild Oat and Blackgrass in Winter Wheat in the states of Montana, Oregon, Northern Idaho and Washington

Herbicides for Broadleaf Weed Control	Rate
Ally®	up to 0.10 oz /A
Bronate Advanced™ *	up to 1.20 pt/A
Bronate Advanced™ + Harmony® Extra 75 DF *	up to 0.80 pt/A + up to 0.33 oz/A
Bronate Advanced™ + Harmony® GT *	up to 0.80 pt/A + up to 0.50 oz/A
Bronate Advanced™ + Peak® *	up to 0.80 pt/A + up to 0.50 oz/A
Bronate Advanced™ + Starane™ *	up to 0.80 pt/A + up to 0.50 pt/A
Buctril® Herbicide *	up to 1.50 pt/A
Buctril® Herbicide + Ally® *	up to 1.00 pt/A + up to 0.10 oz/A
Buctril® Herbicide + Ally Extra®*	up to 1.00 pt/A + up to 0.20 oz/A
Buctril® Herbicide + Express® *	up to 1.00 pt/A + up to 1/6 oz/A
Buctril® Herbicide + Harmony® Extra 75 DF *	up to 1.00 pt/A + up to 0.40 oz/A
Buctril® Herbicide + Harmony® GT *	up to 1.00 pt/A + up to 0.50 oz/A
Buctril® Herbicide + Peak® *	up to 1.00 pt/A + up to 0.50 oz/A
Buctril® Herbicide + Starane™ *	up to 1.00 pt/A + up to 0.50 pt/A
Curtail™ M + Harmony® GT	up to 1.75 pt/A + up to 0.50 oz/A
Express® 75DF	up to 1/6 oz/A
Harmony® Extra + Starane™	up to 0.40 oz/A + up to 0.66 pt/A
Harmony® GT + Starane™	up to 0.50 oz/A + up to 0.66 pt/A
MCP Ester + Ally® **	up to 0.75 pt/A + up to 0.10 oz/A
MCP Ester + Ally Extra® **	up to 0.75 pt/A + up to 0.20 oz/A
MCP Ester + Express® **	up to 0.75 pt/A + up to 1/6 oz/A
MCP Ester + Harmony® Extra 75 DF **	up to 0.75 pt/A + up to 0.40 oz/A
MCP Ester + Harmony® GT **	up to 0.75 pt/A + up to 0.50 oz/A
MCP Ester + Harmony® GT + Starane™ **	up to 0.75 pt/A + up to 0.50 oz/A + up to 0.50 pt/A
MCP Ester + Peak® **	up to 0.75 pt/A + up to 0.50 oz/A
MCP Ester + Peak® + Starane™ **	up to 0.75 pt/A + up to 0.50 oz/A + up to 0.50 pt/A

* Equivalent bromoxynil products may be substituted in a tank mix for these products.

** 4 lb/gal formulation of MCP Ester. Other formulations of MCP Ester may be used providing up to 0.375 lb ai/ A of MCP Ester is used.

NOTE: When tank mixing PUMA® 1EC Herbicide with the recommended herbicides above, do not exceed the labeled use rate shown for each tank mix partner, as reduced annual grass control may occur.

11
12

Directions for the Control of Wild Oat, Littleseed Canarygrass, and Hood Canarygrass in Wheat and Barley in California Only

PUMA® 1EC Herbicide Application Rates

Grasses (2-leaf to 2-tiller stage)	Broadcast Rate in Pints/Acre (Fluid Ounces/Acre)
Wild oat	0.66
Hood canarygrass	(10.6)
Littleseed canarygrass	

Notes: In California, PUMA® 1EC Herbicide may be tank mixed with Buctril® Herbicide. Follow the label directions, use restrictions and precautions for use of Buctril® Herbicide, when tank mixing it with PUMA® 1EC Herbicide.

SPECIAL NOTES

1. Rainfall within 1 hour of an application may cause a reduction in weed control.
2. DO NOT make more than 1 application in a growing season; DO NOT apply more than 0.66 pints per acre per growing season.
3. DO NOT apply this product through any irrigation system.
4. Tank mix partners not recommended on this label may cause reduced annual grass control or crop injury. Do not apply any pesticide, not listed on this label, 5 days before or after an application of PUMA® 1EC Herbicide.
5. Due to reduced weed control, do not tank mix with other herbicides or liquid fertilizers unless specifically listed on this label.
6. DO NOT use when there is hazard from drifting mists. Coarse sprays are less likely to drift.

Directions for the Control of Wild Oat in Winter Wheat in Texas and Oklahoma Only

PUMA® 1EC Herbicide Application Rates

Grasses (2-leaf to 2-tiller stage)	Broadcast Rate in Pints/Acre (Fluid Ounces/Acre)
Wild oat	0.66 (10.6)

Note: In Texas and Oklahoma, PUMA® 1EC Herbicide may be tank mixed with Ally®, Harmony® Extra, MCP Ester and Peak®. Follow label directions, use restrictions and precautions for use of these tank mix partners when tank mixing with PUMA® 1EC Herbicide.

SPECIAL NOTES

1. Rainfall within 1 hour of an application may cause a reduction in weed control.
2. DO NOT harvest winter wheat until 70 days after application.
3. DO NOT make more than 1 application in a growing season; DO NOT apply more than 0.66 pints per acre per growing season.
4. DO NOT apply this product through any irrigation system.
5. Tank mix partners not recommended on this label may cause reduced annual grass control or crop injury. Do not apply any pesticide, not listed on this label, 5 days before or after an application of PUMA® 1EC Herbicide.
6. Due to reduced weed control, do not tank mix with other herbicides or liquid fertilizers unless specifically listed on this label.
7. DO NOT use when there is hazard from drifting mists. Coarse sprays are less likely to drift.

12
12

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer 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 Bayer CropScience. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience LP is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

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 BAYER CROPSCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.

Net Contents: 2.5 gallons, 5 gallons, 15 gallons, 60 gallons, 120 gallons and returnable and refillable containers 15 and 30 gallons, and bulk

Puma, Buctril, Bronate, Sevin and Stratego are registered trademarks and Bronate Advanced is a trademark of Bayer. Ally, Ally Extra, Express, Harmony and Manzate are registered trademarks of E.I. du Pont de Nemours Company. Banvel, and Clarity are registered trademarks of BASF Corporation. Dithane F45 is a registered trademark and Stinger, Curtail and Starane are trademarks of Dow AgroSciences L.L.C. Furadan is a registered trademark of FMC Corporation. Amber, Peak, Rave, Tilt and Warrior are registered trademarks of Syngenta Crop Protection, Inc.. Topsin and Penncozeb are registered trademarks of Elf Atochem North America, Inc.

Produced for



Bayer CropScience

**Bayer CropScience LP
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709
1-866-99BAYER (1-866-992-2937)
<http://www.bayercropscienceus.com>**

PUMA 1EC Herbicide (PENDING) 07/15/10