

24/29

product labels of any mixing partner for additional restrictions. (2) Do not use in the Red River Valley areas of Minnesota or North Dakota unless corn will be the only crop grown in the following 2 seasons.

Storage and Disposal

Pesticide Storage and Disposal

Storage

Store in a cool, dry place. Do not store this product under wet conditions. Handle outer bag carefully to avoid breakage of inner soluble packets.

Pesticide Disposal

Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment. Open dumping is prohibited. Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office.

Container Disposal

Do not reuse outer bag. Dispose of outer bag in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Causes eye irritation. Harmful if inhaled or absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist.

Statement of Practical Treatment

If in eyes: Flush eyes with plenty of water. Get medical attention.

If inhaled: Remove victim to fresh air.

If on skin: Wash with plenty of soap and water. Get medical attention.

Personal Protective Equipment

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

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

Engineering Control 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 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

AAtrex®, Accu-Pak®, Beacon®, Bicep®, and Dual® trademarks of Ciba-Geigy Corporation
U.S. Patent No. 4,478,635

26/29

Accent®, Bladex® and Extrazine® trademarks of E. I. duPont de Nemours and Company, Inc.

Banvel®, Clarity® and Marksman® trademarks of Sandoz Ltd.

Buctril® trademark of Rhone-Poulenc Ag Company

Counter® and Thimet® trademarks of American Cyanamid Company

Dyfonate® trademark of Zeneca Ag Products

Lorsban® trademark of DowElanco

X-77® trademark of Loveland Industries, Inc.

©1996 Ciba-Geigy Corporation

Ciba Crop Protection
Ciba-Geigy Corporation
Greensboro, North Carolina 27419

CGA

[QUARK/BEACON/BEACON-PEEK-A] - 2/8/96

27/29

PSL
Container Label

Beacon®

HERBICIDE

For postemergence weed control in field corn and popcorn

Active Ingredient:

Primisulfuron-methyl: 3-[4,6-Bis(difluoromethoxy)-
pyrimidin-2-yl]-1-(2-methoxycarbonyl-
phenylsulfonyl) urea

..... .75%

Inert Ingredients25%

Total: 100%

Made in Switzerland

See directions for use in attached booklet.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No. 100-705

EPA Est. 100-NC-2^G (Sample Packet)
32761-MO-3F 11773-IA-1^W
100-SW-001[@]
100-SW-2^E

(Superscript is first letter of lot number on bag)

Beacon is a water dispersible granule.

Beacon® trademark of Ciba-Geigy Corporation
U.S. Patent No. 4,478,635

©1996 Ciba-Geigy Corporation

Ciba Crop Protection
Ciba-Geigy Corporation
Greensboro, NC 27419

28/29

CGA

5 X 1.52 Ounce Water Soluble Packets

Total 7.6 Ounces

Net Weight

KEEP OUT OF REACH OF CHILDREN.

CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes eye irritation. Harmful if inhaled or absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist.

Statement of Practical Treatment

If in eyes: Flush eyes with plenty of water. Get medical attention.

If inhaled: Remove victim to fresh air.

If on skin: Wash with plenty of soap and water. Get medical attention.

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 disposing of equipment wash waters or rinsate.

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

Container Disposal: Do not reuse outer bag. Dispose of outer bag in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

1/21/91 - split application
and adm. amendments
10/4/91 - adm. amendments
2/13/92 - adm. amendments
(Counter and
cultivation)
5/21/92 - tank mixture
recommendation
10/29/92- adm. amendments
3/10/93 - aerial application
5/21/93 - Notification -
PR Notice 93-3

29/29

-29-

- 6/93 - WPS
- 11/93 - Adm. amendments
- 9/94 - Revise Counter®
precaution
- 3/95 - Banvel, Clarity
changes, addition of
peas as rotation crop
- 2/96 -

[QUARK/BEACON/BEACON-PEEK-A] - 2/8/96

PM 23

100-705

1/29

Beacon®
HERBICIDE

For postemergence weed control in field corn and popcorn

Active Ingredient:

Primisulfuron-methyl:3-[4,6-Bis(difluoromethoxy)-
pyrimidin-2-yl]-1-(2-methoxycarbonyl-
phenylsulfonyl) urea

.....	75%
Inert Ingredients	25%
Total:	100%

Made in Switzerland.

Beacon is a water-dispersible granule.

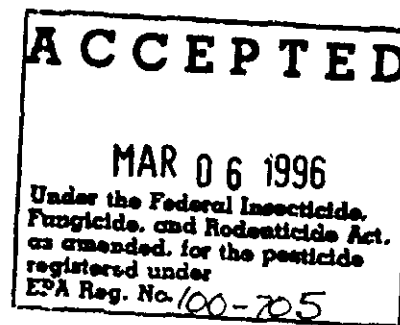
KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-705

EPA Est. 100-NC-2^G (Sample Packet)
32761-MO-3F 11773-IA-1^W
100-SW-001[©]
100-SW-2^E



(Superscript is first letter of lot number on bag)

This outer protective bag contains Beacon in 5 small, inner water-soluble packets. Entire inner packets and contents dissolve in water. After opening outer bag, immediately dump the required number of unopened inner packets into the partially filled sprayer or mix tank. Do not excessively handle the soluble packets or expose them to moisture, because this may cause rupturing.

5 X 1.52 Ounce Water Soluble Packets

Total 7.6 Ounces
Net Weight

CGA

[QUARK/BEACON/BEACON-PEEK-A] - 2/8/96

DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire **Directions for Use** and the **Conditions of Sale and Warranty** before using this product. If terms are not acceptable, return the unopened product container at once.

Conditions of Sale and Warranty

The **Directions for Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with 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 Ciba-Geigy or the Seller. All such risks shall be assumed by the Buyer.

Ciba-Geigy warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions for Use** subject to the inherent risks referred to above. **Ciba-Geigy makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Ciba-Geigy or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product.** Ciba-Geigy and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing **Conditions of Sale and Warranty**, which may be varied only by agreement in writing signed by a duly authorized representative of Ciba-Geigy.

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 responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- coveralls
- waterproof gloves
- shoes plus socks

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

Observe all precautions and limitations on this label and on the labels of each product used in tank mixtures with this product.

4/29

General Information

Beacon is a selective herbicide applied postemergence for the control of shattercane, sorghum-alum, johnsongrass, quackgrass, and many broadleaf weeds in field corn grown for silage or grain and popcorn. Application may be made by ground or aerial equipment to young, actively growing weeds. Refer to Tables for lists of weeds controlled by Beacon alone and in tank mix combinations.

The level of weed control following Beacon application is dependent upon weed species, weed size at application, and growing conditions. Weed control is better when ample soil moisture exists before and after Beacon application than when the soil is dry and weeds are under stress from lack of moisture.

Where reference is made to weeds partially controlled, partial control can mean either erratic control from good to poor or consistent control at a level below that generally considered acceptable for commercial weed control.

Growth of susceptible weeds is inhibited following application of Beacon. The leaves turn yellow and/or red after several days followed by death of the growing point and complete plant death occurs 7-30 days after Beacon application depending upon weed species and growing conditions. Weeds not completely killed by Beacon are often stunted and are less competitive to corn. Beacon reaching the soil during a postemergence application provides preemergence control of certain weed species.

This herbicide controls weeds by inhibiting a biochemical process which produces certain essential amino acids necessary for plant growth. The inhibited enzyme system is acetolactate synthase (ALS). Occurrence of ALS-resistant weed biotypes can be prevented or delayed by using this product in sequence or in tank mixtures with other herbicides having a different mode of action, and by using some form of mechanical control or a herbicide with a different mode of action to control weed escapes before they set seed.

Beacon application at labeled rates rarely causes corn injury. When injury occurs, it is generally of short duration and yields are not affected.

Precautions

Follow the precautions listed below to reduce chances for crop injury and/or to avoid reduced weed control:

1. Field Corn: Apply either a single postemergence Beacon application at the standard use rate (0.76 oz./A) or the initial application of a

5/29

split postemergence application (2 applications of 0.38 oz./A) over-the-top directed or semi-directed when free-standing field corn height is between 4 and 20 inches. Corn plants less than 4 inches tall may be more susceptible to injury. The second Beacon application of the split must be applied directed with drop nozzles when corn is between 20 inches tall and before tassel emergence.

2. Beacon should not be applied if corn shows severe stress or injury due to drought, saturated soil conditions, disease, insect damage, nutrient deficiency, previously applied herbicides or other causes.
- 3a. If a "normal" corn hybrid (not an IR hybrid) is planted and Dyfonate®, Lorsban®, Thimet® or other organophosphate insecticide is applied at planting or before applying Beacon, temporary injury may occur following the Beacon application. Do not apply Beacon if this corn crop was previously treated with Counter® 15G (any application method) or Counter CR applied in-furrow at planting or over the row at cultivation, as severe crop injury may occur. Application of Beacon to corn previously treated with labeled rates of Counter CR applied in a surface band or T-band (in front of press wheel) at planting time, may result in crop injury. Ciba Crop Protection, Ciba-Geigy Corporation will not be held responsible for losses or damage resulting from such use.

Do not make a foliar postemergence or soil application of any organophosphate insecticide within 10 days before or 7 days after a Beacon application, or severe crop injury may occur.

- 3b. If an IR corn hybrid is planted, organophosphate insecticides, including terbufos (Counter), can be applied at any time according to label directions without increasing the likelihood of injury to those hybrids. **Note:** The interaction between organophosphate insecticides and Beacon is completely overcome by corn hybrids with IR designations, but not by IT hybrids; i.e., IT hybrids should be considered like "normal" hybrids with regard to this interaction.
4. Beacon may be applied to all field corn hybrids except the few that are classified by Ciba Crop Protection as potentially susceptible to injury following Beacon application. Consult your chemical dealer, seed supplier, or Ciba Crop Protection representative for a current listing of field corn hybrids classified as "potentially susceptible" to Beacon.
5. Popcorn and Seed Corn: Beacon can be applied directed or semi-directed to popcorn and inbred lines of field corn; however, all inbred lines and all popcorn hybrids have not been tested for sensitivity to Beacon. Therefore, inbred lines and popcorn hybrids must be thoroughly tested for potential sensitivity to Beacon before treating large acreages. To avoid crop injury, popcorn and inbred lines should not

6/29

be sprayed with over-the-top applications of Beacon; i.e., only semi-directed or directed applications using drop nozzles when the popcorn or inbred plants are between 10 and 48 inches tall, and before tassel emergence.

6. Do not use Beacon on sweet corn.
7. Aphids or other insects infesting johnsongrass may move to the corn crop following control of the johnsongrass with Beacon. The insects may transmit viral diseases to the corn resulting in corn stunting, leaf discoloration, and yield loss. Virus resistant corn hybrids and/or control of the insects may be used to reduce the likelihood of disease development.
8. Do not irrigate within 4 hours after Beacon application. Rainfall occurring within 4 hours after Beacon application may reduce weed control.
9. Crop competition with the weeds is particularly important for season-long control of target grasses. Some regrowth may occur where the corn crop is not competitive. Best performance can be obtained by following weed height and application recommendations listed later in this label.
10. Decaying johnsongrass rhizomes have been shown to release compounds which can stunt corn. The potential for corn stunting may be reduced if rhizome masses are broken up through tillage prior to planting corn.

Application Procedures

Ground Spray Equipment: Use stainless steel, aluminum, fiberglass, or polyethylene spray tanks. Spray nozzles should be uniformly spaced and of the same size, and should provide accurate and uniform application.

To assure accuracy, calibrate sprayer at the beginning of the season before use and recalibrate frequently, especially when changing carriers. For ground application, use a minimum of 10 gals. of water per acre. Higher volumes (e.g., 20 gals./A) should be used under severe weed infestations to ensure adequate spray coverage.

Use a pump with capacity to: (1) maintain 35-40 psi pressure at nozzles, and (2) provide sufficient agitation within the tank to keep product in suspension. Lower pressures may be used with extended range or low pressure nozzles. A centrifugal pump which provides propeller shear action for dispersing and mixing the product is recommended. The pump should provide a minimum of 20 gals./minute/100 gals. tank size circulated

7/29

through correctly positioned sparger tubes or jets. Agitation during both mixing and application is essential. Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and when required, at the nozzles. Check nozzle manufacturer's recommendations.

Good weed coverage with the spray mixture is essential for optimum weed control results. Observe sprayer nozzles frequently during the spraying operation to ensure that the spray pattern is uniform. Avoid application under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur. To reduce spray drift, do not apply under windy conditions. Allow adequate distance between target area and desirable vegetation to prevent drift to nontarget areas. Avoid spray overlap, because crop injury may result. **Use a nozzle spacing and boom height arrangement that avoid applying an excessive rate of Beacon directly over the corn rows.** Boom height for broadcast over-the-top application should be based upon the free-standing height of the corn, not height above the soil surface; and should be at least 15 inches above the corn canopy.

Do not apply Beacon as a band application directly over the corn rows. Beacon must be applied postemergence over-the-top, directed, or semi-directed. If the corn canopy would prevent adequate weed coverage, apply Beacon directed or semi-directed with drop nozzles even if the corn height is less than 20 inches. Beacon must be applied directed with drop nozzles when corn is between 20 inches tall and before tassel emergence. **Avoid all direct or indirect contact (such as spray drift) of Beacon with crops other than corn since injury may occur.**

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

Aerial Application: Apply Beacon in water using a minimum spray volume of 3 gals./A acre. Include a nonionic surfactant, i.e., X-77®, at 1 qt. per 100 gals. of spray mix (0.25% volume/volume) or a good quality crop oil concentrate at no more than 2 pts./A. (See following **Mixing Instructions**). Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. Make applications at a maximum height of 10 ft. above the corn with low drift nozzles at a maximum pressure of 40 psi and wind speed not exceeding 10 mph to assure accurate Beacon application within the target area.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

8/29

Spray Drift Use Precautions

Avoid Spray Drift

Do not allow spray from ground or aerial equipment to drift onto adjacent land or crops. When drift may be a problem, do everything possible to reduce spray drift, including:

- Do not spray if wind speeds are or become excessive. Do not spray if wind speed is 10 mph or greater. If sensitive crops or plants are down-wind, extreme caution must be used under all conditions. Do not spray if winds are gusty.
- Use extreme caution when conditions are favorable for drift (high temperatures, drought, low relative humidity), especially when sensitive plants are located nearby.
- Drift from aerial applications of the herbicide is likely to result in damage to sensitive plants adjacent to the treatment site. This damage can occur at levels below the concentrations that can be detected with chemical analysis.
- Do not apply when a temperature inversion exists. If an inversion condition is suspected, consult with local weather services before making an application.
- Further reductions in drift can be obtained by:
 1. Using nozzles that provide a uniform droplet size. Do not use nozzles that produce small droplets that are more prone to result in spray drift.
 2. Applying as close to target plants as practical to obtain a good spray pattern for adequate coverage, while maintaining a minimum boom height of 15 inches over the crop canopy.

Mixing Instructions

1. Make sure the spray tank is clean before mixing. If it is contaminated with material, clogging may occur or injury to corn may result.
2. Fill the spray tank $\frac{1}{4}$ - $\frac{1}{2}$ full with clean water and begin agitation.
3. Make certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface.
4. Drop the required number of unopened water soluble packets containing Beacon into the spray tank while continuing agitation and allowing time to fully disperse.

9/29

5. Follow by adding either a nonionic surfactant with a minimum of 80% of the constituents effective as a spray adjuvant (e.g., X-77), at the rate of 1 qt. per 100 gals. of spray volume (0.25% volume/volume) or a petroleum- or vegetable-based crop oil concentrate containing not less than 10% emulsifier at 1-4 pts./A as specified on the oil adjuvant label. The concentration of the oil adjuvant should not exceed 2.5% volume/volume. In addition to crop oil concentrate or nonionic surfactant, liquid nitrogen fertilizer (28-34% nitrogen-ammonium form) may also be added at 2-4 qts./A. Instead of the liquid nitrogen fertilizer, spray grade ammonium sulfate may be used at the rate of 2-4 lbs./A. Liquid nitrogen fertilizers or ammonium sulfate should not be used as a substitute for crop oil concentrate or nonionic surfactant in the spray mixture. **Do not use liquid fertilizer as the spray carrier.**
6. Fill the spray tank approximately $\frac{3}{4}$ full.
7. If AAtrex® (atrazine), Accent®, Banvel®, Buctril®, Buctril + atrazine, Clarity®, Marksman®, or 2,4-D is desired as a tank mix partner, add it next while continuing to agitate. When Beacon is used alone or tank mixed with AAtrex (atrazine) or Accent, either crop oil concentrate or a nonionic surfactant should be included, with or without liquid nitrogen fertilizer or ammonium sulfate, as described in item 5 above. In dry areas, crop oil concentrate is recommended instead of nonionic surfactant. Do not use crop oil concentrate as the spray adjuvant or add liquid nitrogen or ammonium sulfate when using tank mixtures with Banvel (more than 2 oz./A), Buctril, Buctril/atrazine, Clarity (more than 2 oz./A), Marksman, or 2,4-D, i.e., use a nonionic surfactant as the additive in tank mixtures containing those products.
8. Complete filling the tank, maintaining sufficient agitation at all times to ensure surface action until the spray tank mixture is uniform.
9. An anti-foaming agent may be added to reduce excessive foaming, if it occurs.
10. Do not leave spray in the spray tank without continuous agitation. Always maintain agitation to avoid separation and buildup of undesirable residues on the walls of the spray tank.
11. Make only sufficient spray mixture which can be used the day in which it will be sprayed. Beacon will remain active in the spray solution for at least 48 hours.

10/29

Cleaning Equipment after Beacon Application

Because many crops are extremely sensitive to low rates of Beacon, special attention must be given to cleaning equipment before spraying a crop other than corn. Mix only as much spray solution as needed. Immediately after spraying, clean equipment thoroughly using this procedure:

1. Prepare a tank cleaning solution of 1 gal. of household ammonia per 50 gals. of water. Use sufficient cleaning solution to thoroughly rinse all surfaces.
2. When available, use a pressure rinser to clean the inside of the spray tank with this solution. Start agitation in the sprayer and thoroughly recirculate the cleaning solution for at least 15 minutes. All visible deposits must be removed from the spraying system.
3. Dispose of rinsate in an appropriate manner. Spray the cleaning solution on untreated corn, or return to a rinsate tank for later use as make-up water for spraying corn.
4. Repeat steps 1-3.
5. Remove nozzles and screens and clean separately after completing the above procedures to avoid injury to crops sprayed after the Beacon/corn application.

Beacon Applied Alone

Grass and broadleaf weeds which are controlled following postemergence application of a full (0.76 oz./A) rate of Beacon are listed in Tables 1 and 2. If weeds other than those listed in Tables 1 and 2 are anticipated, apply an appropriately labeled preplant, preemergence, or postemergence herbicide or herbicide combination. Dual®, Bicep®, and Dual plus AAtrex are examples of herbicide treatments that can precede Beacon application. Consult their respective labels for directions, precautions, and limitations before applying.

Beacon is packaged in water soluble packets. One packet treats 2 acres at the standard use rate of Beacon (0.76 oz./A). Apply a single application of Beacon at the standard use rate plus spray adjuvant postemergence over-the-top, directed, or semi-directed when weed(s) are within the height range specified for optimum control in Tables 1 and 2 and when the free-standing height of the field corn is between 4 and 20 inches (minimum of 10 inches and only directed applications for inbred lines and popcorn). Complete weed coverage is essential for optimum effectiveness of Beacon. To ensure good spray coverage of the weeds and avoid potential crop injury, applications made after field corn is 20

11/29

inches tall should be directed or semi-directed. Use drop nozzles for directed or semi-directed applications.

Seed corn and Popcorn - Refer to Precaution #5 for application timing and other information.

Cultivation or split application of the standard use rate is recommended to control reinfestation that may occur from regrowth or late germination of weeds and to improve weed control under dry conditions. A waiting period of 7 days after Beacon application is recommended before making a cultivation or weed control may be reduced. Where shattercane is the target weed species, Beacon may be applied at cultivation, but some regrowth of shattercane may occur. Apply Beacon ahead of cultivators; do not cultivate and then apply Beacon.

For optimum control of johnsongrass, cultivation or split application of the standard use rate (2 applications of 0.38 oz./A) is recommended to control reinfestation that may occur from regrowth. Alternatively, apply 0.50 oz./A (3 acres/packet) at the first application, followed by an application of 0.25 oz./A (6 acres/packet) to control regrowth. The initial application of the split should be made when the weed height is within the range specified for optimum control in Table 1 and when the free-standing field corn height is between 4 and 20 inches. The second application of the split should be made when the new weed growth is within the height range for optimum control listed in Table 1 and before tassel emergence.

After several years' use of Beacon or other products for johnsongrass or shattercane control, stands of these weeds may be substantially reduced. In fields with only seedling johnsongrass or with light populations of shattercane, use a split application of Beacon by applying 0.5 oz./A (3 acres/packet) of Beacon. Follow with a second application of 0.26 oz./A (6 acres/packet) to control rhizome johnsongrass or any shattercane which may germinate in later flushes.

The number of packets required to treat various acreages with a single or split Beacon application is listed in Table 4.

Notes: To avoid possible illegal crop residues: (1) Do not graze or feed forage from Beacon treated corn to livestock within 30 days after application, (2) Do not harvest silage within 45 days after application, (3) Do not harvest grain within 60 days after application, (4) Do not apply more than the standard use rate per acre of Beacon, and (5) Complete all Beacon applications to corn before tassel emergence.

12/29

Table 1 - Grass Weed Species Controlled with Beacon.

Grass Weed Species	Weed Height Range for Optimum Control (inches)
Foxtails (<i>Setaria</i> spp.)***	1-2
Johnsongrass, Rhizome (<i>Sorghum halepense</i>)*	8-16
Johnsongrass, Seedling (<i>Sorghum halepense</i>)	4-12
Nutsedge, Yellow (<i>Cyperus esculentus</i>)***	1-4
Panicum, Fall (<i>Panicum dichotomiflorum</i>)	Less than 2
Quackgrass (<i>Elytrigia repens</i>)** (formerly <i>Agropyron repens</i>)	4-8
Ryegrass, Annual (<i>Lolium multiflorum</i>)	1-4
Sandbur (<i>Cenchrus</i> spp.)***	1-4
Shattercane (<i>Sorghum bicolor</i>)	4-12
Sorghum-almum (<i>Sorghum almun</i>)	4-12
Sorghum, Volunteer (<i>Sorghum bicolor</i>)	4-12

*Regrowth may occur. Control unacceptable regrowth with cultivation or the split application as described above.

**Control of quackgrass is slower compared to other grass weed species.

***Partial control/suppression. Control is most effective under conditions favorable for weed growth (i.e., adequate moisture, optimum temperature conditions). Do not use Beacon to control these species if the weeds are subject to stress conditions (i.e., drought, cold temperature, etc.), or are not actively growing. Some other means of control should be used if infestations are severe.

13/29

Table 2 - Broadleaf Weed Species Controlled with Beacon Applied at 0.76 oz./A.

Broadleaf Weed Species	Weed Height Range for Optimum Control (inches)
Alfalfa (<i>Medicago sativa</i>)*	Less than 1.5
Artichoke, Jerusalem (<i>Helianthus tuberosus</i>)	1-4
Beggarweed, Florida (<i>Desmodium tortuosum</i>)	1-4
Burdock (<i>Sicyos angulatus</i>)	1-4
Cocklebur, Common (<i>Xanthium strumarium</i>)	1-4
Devilsclaw (<i>Proboscidea louisianica</i>)	1-4
Horsenettle (<i>Solanum carolinense</i>)*	2-9
Horseweed (Marestail, <i>Conyza canadensis</i>)*	2-9
Jimsonweed (<i>Datura stramonium</i>)	1-4
Kochia (<i>Kochia scoparia</i>)	1-4
Ladysthumb (<i>Polygonum persicaria</i>)	1-4
Lambsquarters, Common (<i>Chenopodium album</i>)*	Less than 1.5
Morningglory (<i>Ipomoea</i> spp.)*	Less than 1.5
Mustard, Wild (<i>Brassica kaber</i>)	1-4
Nightshade, Black (<i>Solanum nigrum</i>)	1-4
Nightshade, Eastern Black (<i>Solanum ptycanthum</i>)	1-4
Nightshade, Hairy (<i>Solanum sarrachoides</i>)	1-4
Pigweeds (<i>Amaranthus</i> spp.)	1-4
Puncturevine (<i>Tribulus terrestris</i>)	1-4
Radish, Wild (<i>Raphanus raphanistrum</i>)	1-4
Ragweed, Common (<i>Ambrosia artemisiifolia</i>)	2-9
Ragweed, Giant (<i>Ambrosia trifida</i>)	2-9
Sesbania (<i>Sesbania exaltata</i>)	1-4
Sicklepod (<i>Cassia obtusifolia</i>)	Less than 1.5
Sida, Prickly (<i>Sida spinosa</i>)	1-4
Smartweed, Pennsylvania (<i>Polygonum pensylvanicum</i>)	1-4
Sunflowers (<i>Helianthus</i> spp.)	2-9
Thistle, Canada (<i>Cirsium arvense</i>)*	2-9
Thistle, Russian (<i>Salsola iberica</i>)*	1-4
Velvetleaf (<i>Abutilon theophrasti</i>)**	1-4

*Partial control/suppression.

Crop oil concentrate plus liquid nitrogen fertilizer or ammonium sulfate are recommended as spray adjuvants (refer to **Mixing Instructions).

14/29

Beacon applied at 0.38 oz./A (4 acres/packet) will control the broadleaf weeds listed in Table 3 when applied at the specified heights. Additionally, Beacon applied at 0.38 oz./A alone or in tank mixtures will provide partial control/suppression of 4-12" shattercane, sorghum-alum, and seedling johnsongrass under conditions favorable for weed growth (i.e., adequate moisture, no excessively cool temperatures, etc.). If residual control of the broadleaf weed species is desired, or if prevailing weather or soil conditions (cold temperatures, drought, etc.) are not favorable for weed growth, use Beacon at the rates listed in Table 2, or in combination with other broadleaf herbicides as described in the **Beacon Tank Mix Combinations for Weed Control in Corn** section.

Table 3: Broadleaf Weed Species Controlled with Beacon Applied Alone at 0.38 oz./A*

Broadleaf Weed Species	Weed Height Range for Optimum Control (inches)
Cocklebur, Common (<i>Xanthium strumarium</i>)	1-4
Jimsonweed (<i>Datura stramonium</i>)	1-4
Nightshade, Eastern Black (<i>Solanum ptycanthum</i>)	1-4
Pigweed, Redroot (<i>Amaranthus retroflexus</i>)	1-3
Ragweed, Common (<i>Ambrosia artemisiifolia</i>)	2-6
Ragweed, Giant (<i>Ambrosia trifida</i>)	2-6
Smartweed, Pennsylvania (<i>Polygonum pensylvanicum</i>)	1-2
Sunflowers (<i>Helianthus</i> spp.)	2-6

*If residual control is desired, or if conditions are unfavorable for weed growth (i.e., drought, cool temperature), use the 0.76 oz./A (2 acres/packet) rate of Beacon.

15/29

Table 4 - Number of Beacon Water Soluble Packets Required to Treat Various Acreages with a Single or Split Application of the Standard Use Rate.

Number of Acres to Treat	Number of Water Soluble Packets		
	Single Application	Split Application	
		1st Application	2nd Application
2	1 packet	—	—
4	2 packets	1 packet	1 packet
6	3 packets	—	—
8	4 packets	2 packets	2 packets
10	5 packets (1 bag)	—	—
12	6 packets	3 packets	3 packets
14	7 packets	—	—
16	8 packets	4 packets	4 packets
18	9 packets	—	—
20	10 packets (2 bags)	5 packets (1 bag)	5 packets (1 bag)

1 bag contains 5 packets.

Beacon Tank Mix Combinations for Weed Control in Corn

Beacon may be applied postemergence in tank mix combinations for improved control of various weeds. For all tank mixtures of Beacon with other herbicides, refer to both labels for weeds controlled and application information; and follow all restrictions and precautions on both labels.

Precautions for Tank Mix Combinations: 1) Beacon applied alone or in tank mixtures with AAtrex/atrazine or Accent can be applied using either a nonionic surfactant or crop oil concentrate with or without liquid nitrogen or ammonium sulfate. Refer to item 5 under **Mixing Instructions** for information on rates of the various additives. 2) Do not use crop oil concentrate as the spray adjuvant or add liquid nitrogen or ammonium sulfate when using tank mixtures with Banvel (more than 2 oz./A; refer to footnotes in Tables 6 and 7), Buctril, Buctril + atrazine, Clarity (more than 2 oz./A; refer to footnotes in Tables 6 and 7), Marksman, or 2,4-D. In mixtures with those products, use only a nonionic surfactant with a minimum of 80% of the constituents effective as a spray adjuvant at the rate of 1 qt. per 100 gallons of spray volume (0.25% volume/volume). 3) Do not apply Beacon in tank mixture with cyanazine (Bladex® or Extrazine® II), or severe crop injury may result. 4) Ciba Crop Protection does not recommend tank mixtures of Beacon with other agricultural products not listed on this label due to the possibility of reduced control, crop injury, or other undesirable interactions. If Beacon is applied in tank mixtures with

K6/29

other products, follow the most restrictive labeling requirements.

Beacon Standard Rate (0.76 oz./A; 2 acres/packet) Tank Mixtures

For postemergence control of weeds not controlled by Beacon used alone, tank mixtures with AAtrex (atrazine), Accent, Banvel (dicamba), Buctril (bromoxynil), Buctril + atrazine, Clarity, Marksman, or 2,4-D may be used to increase the spectrum of control. When used in tank mixtures with these herbicides, apply Beacon as recommended in this label and use the tank mix partner as directed on its label.

Beacon Reduced Rate (0.38 oz./A, 4 acres/packet) Tank Mixtures

For postemergence control of weeds in corn, Beacon applied at 0.38 oz./A will control/suppress the weeds listed in:

- Table 5 when tank mixed with AAtrex (atrazine)
- Table 6 when tank mixed with Accent
- Table 7 when tank mixed with Banvel or Clarity
- Table 8 when tank mixed with Buctril
- Table 9 when tank mixed with 2,4-D

Weeds should be actively growing at application. If weeds exceed the heights listed in Tables 5-9, use either the standard 0.76 oz./A rate of Beacon alone, a tank mixture with the full rate of the tank mix partner, or utilize another solution.

In addition to the tank mixtures described in Tables 5-9, Beacon at 0.38 oz./A may be tank mixed with Buctril + atrazine at 1-2.5 pts./A or Marksman at 1-2 pts./A. Apply mixtures with Buctril + atrazine when the corn is 4-12 inches tall and Marksman should be applied when the corn is 4-8 inches tall. Refer to Table 3 of this label and the paragraph preceding that table, as well as the label of the mixing partner, for information on weeds controlled and optimum weed heights. Under favorable growing conditions, these mixtures can prove particularly useful for managing light infestations of shattercane along with various broadleaf weeds.

With all tank mixtures containing atrazine, application must be made before the corn exceeds 12 inches in height; and the total atrazine applied may not exceed 2.5 lbs. active ingredient per acre per calendar year. Control of relatively large cocklebur, sunflower, and velvetleaf may be antagonized somewhat by tank mixtures of Beacon with atrazine containing products.

For all Beacon reduced rate tank mixtures, a preemergence herbicide (such as Dual or Bicep) should be applied for grass control, and will improve control of several of the weeds listed in Tables 5-9.

17/29

Table 5: Broadleaf Weeds Controlled or Suppressed with Tank Mixtures of Beacon at 0.38 oz./A with AAtrex (Atrazine) at 2-3 pts./A*

Broadleaf Weed Species	Weed Height Range for Optimum Control (inches)
Cocklebur, Common	1-4
Jimsonweed	1-4
Kochia	1-4
Lambsquarters, Common	1-5
Morningglories	1-4
Nightshade, Eastern Black	1-4
Pigweed, Redroot	1-5
Pigweed, Smooth	1-4
Ragweed, Common	2-6
Smartweed, Pennsylvania	1-4
Sunflowers	2-6
Velvetleaf	1-3

*The rates of AAtrex or atrazine listed above are expressed in pints of 4L per acre. If another formulation is used, adjust the dosage to apply the same amount of active ingredient (1-1 1/2 lbs. ai/A)

18/29

Table 6: Weeds Controlled or Suppressed with Tank Mixtures of Beacon at 0.38 oz./A with Accent at 0.33 oz./A.*

Weed Species	Weed Height Range for Optimum Control (inches)
Barnyardgrass	1-4
Burcucumber	1-4
Cocklebur, Common	1-4
Cupgrass, Woolly *****	1-3
Foxtails, Giant	1-4
Foxtails, Green	1-4
Foxtails, Yellow	1-4
Horsenettle	2-6
Jimsonweed	1-4
Johnsongrass, Rhizome	8-16
Johnsongrass, Seedling	4-12
Lambsquarters, Common***	1-3
Millet, Wild Proso*****	1-4
Morningglories****	1-2
Nightshade, Eastern Black	1-4
Panicum, Fall	1-4
Panicum, Texas	1-4
Pigweed, Redroot	1-5
Pigweed, Smooth	1-4
Quackgrass	4-8
Ragweed, Common	2-6
Ragweed, Giant	2-6
Shattercane	4-12
Signalgrass, Broadleaf	1-3
Smartweed, Pennsylvania	1-4
Sorghum, Volunteer	4-12
Sunflowers	2-6
Velvetleaf**	1-4

*These Beacon + Accent tank mixtures are for rescue control of escaped grasses and broadleaf weeds following preemergence treatments of a grass herbicide (such as Dual or Bicep).

Crop oil concentrate plus liquid nitrogen fertilizer or ammonium sulfate are recommended as spray adjuvants (refer to **Mixing Instructions).

***Partial control/suppression: $\frac{1}{8}$ - $\frac{1}{2}$ pt./A of Banvel can be added to this mixture for improved control of this weed. If $\frac{1}{8}$ pt./A (2 oz./A) of Banvel or Clarity is used, up to 4 pts./A of crop oil concentrate, with or without nitrogen, may be used in place of nonionic surfactant, for improved broadleaf weed control. Use only nonionic surfactant with tank mixtures containing more than $\frac{1}{8}$ pt./A of Banvel or Clarity to

19/29

avoid crop injury.

****Partial control/suppression; 1-1 1/2 lbs. a.i./A of AAtrex or atrazine can be added to this mixture for improved control of this weed.

*****Partial control/suppression; 1/6-1/3 oz./A of additional Accent can be added to this mixture for improved control of these weeds.

20/29

Table 7: Broadleaf Weeds Controlled or Suppressed with Tank Mixtures of Beacon at 0.38 oz./A with Banvel or Clarity*

Broadleaf Weed Species	Pints of Banvel or Clarity	Weed Height Range for Optimum Control (inches)
Bindweed, Hedge	1/4 - 1/2	1 - 8
Burcucumber	1/4 - 1/2	1 - 4
Cocklebur, Common	1/8 - 1/2	1 - 4
Dogbane, Hemp **	1/2	2 - 6
Horsenettle	1/4 - 1/2	2 - 6
Ivy, Poison **	1/2	1 - 3
Jimsonweed	1/4 - 1/2	1 - 4
Kochia	1/4 - 1/2	1 - 4
Ladysthumb	1/4 - 1/2	1 - 4
Lambsquarters, Common	1/8 - 1/2	1 - 3
Nightshade, Black	1/4 - 1/2	1 - 4
Nightshade, Eastern Black	1/8 - 1/2	1 - 4
Pigweeds	1/8 - 1/2	1 - 5
Pokeweed**	1/2	2 - 6
Ragweed, Common	1/8 - 1/2	2 - 6
Ragweed, Giant	1/8 - 1/2	2 - 6
Sunflower, Common	1/8 - 1/2	2 - 10
Smartweed, Pennsylvania	1/4 - 1/2	1 - 4
Thistle, Canada	1/2	1 - 8
Velvetleaf	1/4 - 1/2	1 - 4

*Best control is obtained if weeds are at the listed heights at application. Use the higher rate of Banvel or Clarity when weeds are at the higher end of the height range or if conditions are unfavorable for weed growth (i.e., drought, cool temperatures, etc.). If 1/8 pt./A (2 oz./A) of Banvel or Clarity is used, 2 pts./A of crop oil concentrate, with or without nitrogen, may be used in place of nonionic surfactant, for improved broadleaf weed control. Use only nonionic surfactant with tank mixtures containing more than 1/8 pt./A of Banvel or Clarity to avoid crop injury.

**Partial control/suppression

21/29

Table 8: Broadleaf Weeds Controlled or Suppressed with Tank Mixtures of Beacon at 0.38 oz./A with Buctril*

Broadleaf Weed Species	Pints of Buctril	Weed Height Range for Optimum Control (inches)
Burdock	1/2 - 3/4	1 - 3
Cocklebur, Common	1/2 - 3/4	1 - 4
Jimsonweed	1/2 - 3/4	1 - 4
Ladysthumb	1/2 - 3/4	1 - 4
Lambsquarters, Common	1/2 - 3/4	1 - 8
Nightshade, Black	1/2 - 3/4	1 - 4
Nightshade, Eastern Black	1/2 - 3/4	1 - 4
Pigweeds	1/2 - 3/4	1 - 5
Ragweed, Common	1/2 - 3/4	2 - 10
Ragweed, Giant	1/2 - 3/4	2 - 6
Smartweed, Pennsylvania	1/2 - 3/4	1 - 4
Sunflower, Common	1/2 - 3/4	2 - 6
Velvetleaf	3/4 - 1	1 - 4

*Best control is obtained if weeds are at the listed heights at application. Use the higher rate of Buctril if conditions are unfavorable for weed growth (i.e., drought, cool temperatures, etc.)

Table 9: Broadleaf Weeds Controlled or Suppressed with Tank Mixtures of Beacon at 0.38 oz./A with 2,4-D*

Broadleaf Weed Species	Rates of 2,4-D**	Weed Height Range for Optimum Control (inches)
Burcucumber	1/2	1 - 3
Cocklebur, Common	1/4 - 1/2	1 - 4
Dogbane, Hemp ***	1/2 - 3/4	2 - 6
Ivy, Poison ***	1/2 - 3/4	1 - 3
Jimsonweed	1/4 - 1/2	1 - 4
Ladysthumb	1/4 - 1/2	1 - 4
Lambsquarters, Common	1/4 - 1/2	1 - 3
Milkweed, Common***	1/2 - 3/4	1 - 3
Milkweed, Honeyvine***	1/2 - 3/4	1 - 3
Nightshade, Black	1/4 - 1/2	1 - 4
Nightshade, Eastern Black	1/4 - 1/2	1 - 4
Pigweeds	1/4 - 1/2	1 - 5
Pokeweed***	1/2 - 3/4	2 - 6
Ragweed, Common	1/4 - 1/2	2 - 6
Ragweed, Giant	1/4 - 1/2	2 - 6
Smartweed, Pennsylvania	1/4 - 1/2	1 - 4
Sunflower, Common	1/4 - 1/2	2 - 10
Thistle, Canada	1/2 - 3/4	1 - 3
Velvetleaf	1/2	1 - 4

*Best control is obtained if weeds are at the listed heights at application. Use the higher rate of 2,4-D when weeds are at the higher end of the height range or if conditions are unfavorable for weed growth (i.e., drought, cool temperatures, etc.)

**The rates of 2,4-D listed in this table are in pints of 4 lb./gal. formulation per acre. If another formulation is used, adjust the dosage to apply the same amount of active ingredient (0.125-0.375 lb. ai/A).

***Partial control/suppression

23/29

Crop Failure

If corn treated with Beacon is lost due to a catastrophe (for example, hail-storm), corn hybrids with good tolerance to Beacon (refer to current list of tolerant corn hybrids) may be replanted 14 days or more after application unless dry weather has persisted. An IR or IMR corn hybrid may be replanted immediately. For control of weeds in replanted corn, Beacon may be applied postemergence a second time only if the total Beacon applied during the cropping season does not exceed the standard rate (0.76 oz./A).

Rotational Crops

The following crops may be rotated at the intervals indicated following an application of Beacon to corn.

Rotational Crop	Interval	Notes
IR or IMR Field Corn Hybrids	None	Refer to crop failure section.
Field corn	14 days	Refer to crop failure section.
Winter wheat, Winter barley, Rye	3 months	Injury may occur if dry weather prevails during much of the time between Beacon application and seeding of winter cereals.
Alfalfa, sweet corn, popcorn, cotton, dry beans, peanuts, peas, sorghum, soybeans, sunflowers, spring seeded small grains, tobacco	8 months	Injury may occur to sorghum, alfalfa, or sunflowers if dry weather prevails during much of the time between Beacon application and seeding of these crops.
Potatoes	8 months	Only following 0.38 oz./A rate.
All other crops	18 months	

Notes: (1) For rotational crop restrictions when Beacon is used in tank mixtures, refer to the rotations above for Beacon and to the respective