MISCANTHUS AND OTHER NON-FOOD PERENNIAL BIOENERGY CROPS

General Information

Product Information

For use only on field corn, production seed corn, silage corn, sweet corn, popcorn, Miscanthus or other non-food perennial bioenergy crops. Corn in this label refers to: field corn, production seed corn, silage corn, sweet corn and popcorn.

Keystone LA NXT herbicide may be applied to the surface or incorporated into the top 1-2 inch layer of soil. It may be used for control alone, or in tank mix combinations, for the weeds listed in the "Target Weeds" section of these use directions. Keystone LA NXT controls weeds by interfering with normal germination and seedling development. Keystone LA NXT does not control emerged weeds present at application.

Use Restrictions
- Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State.
- Do not use Keystone LA NXT on any crop other than field corn, production seed corn, silage corn, popcorn, and Miscanthus or other non-food perennial bioenergy crops.
- Do not apply Keystone LA NXT before pre-irrigation in irrigated areas.
- Do not allow Keystone LA NXT to contaminate feed or food.
- On the following soil types, do not apply this product within 50 feet of any well where the depth to groundwater is 30 feet or less: sands with less than 3% organic matter; loamy sands with less than 2% organic matter; or sandy loams with less than 1 percent organic matter. See the figure for additional clarification.
- This product must not be mixed or loaded within 50 ft. of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product must not be applied by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66-foot buffer or setback from runoff entry points must be planted to crop,

seeded with grass or other suitable crop.
- This product must not be mixed or loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sinks holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

Tile-Outletted Fields Containing Standpipes
To ensure protection of surface water from runoff through standpipes with tile-outlets in fields, one of the following restrictions must be used in applying this product to tile-outletted fields containing standpipes:
1. Do not apply this product within 66 feet of standpipes in tile-outletted fields.
2. Apply this product to the entire tile-outletted field and immediately incorporate it to a depth of 2-3 inches in the entire field.
3. Apply this product to the entire tile-outletted field under a no-till practice only when high crop residue management practices are used. High crop residue management is described as a crop management practice where little or no crop residue is removed from the field during or after crop harvest.
- D o not apply Keystone LA NXT postemergence to sweet corn.

Chemigation: Do not apply this product through any type of irrigation system unless otherwise directed by approved supplemental labeling in possession of the user at

the time of application.
- Do not use flood irrigation to apply or incorporate this product.
- Product must be used in a manner that will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.
- Do not apply under conditions that favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or wind erosion:
- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered soils.
- Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

Aerial Application: Do not apply this product using aerial application equipment unless otherwise directed by approved supplemental labeling in possession of the user at the time of application,
- Do not apply when wind conditions favor drift to non-target sites. To minimize spray drift to non-target areas:
- Use low-pressure application equipment capable of producing a large droplet spray.
- Do not use nozzles that produce a fine droplet spray.
- Minimize drift by using sufficient spray volume to ensure adequate coverage with large droplet size sprays.
- Keep ground-driven spray boom as low as possible above the target surface.
- Make application when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid application when gusts approach 15 mph.
- Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Avoid spraying during conditions of low humidity and/or high temperatures. Do not apply during inversion conditions.
- Flush sprayer with clean water after use.

Maximum Atrazine Application Rates Per Calendar Year:
Maximum annual atrazine broadcast application rates for corn must be as follows:

- If no atrazine was applied prior to corn emergence, apply a maximum of 2.0 pounds active ingredient (contained in 4.7 quarts Keystone LA NXT; however do not apply more than 2.7 quarts Keystone LA NXT, per maximum acetochlor rate restrictions below) per acre. If postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 pounds active ingredient per acre per calendar year. Note: One quart per acre Keystone LA NXT delivers 0.425 pound active ingredient atrazine per acre.
- Apply a maximum of 2.0 pounds active ingredient (contained in 4.7 quarts Keystone LA NXT; however do not apply more than 2.7 quarts Keystone LA NXT, per maximum acetochlor rate restrictions below) per acre if a single preemergence application is made on soils that are not highly erodible or on highly erodible soil if at least 30% of the soil is covered with plant residues, or
- Apply a maximum of 1.6 pounds active ingredient (contained in 3.7 quarts Keystone LA NXT; however do not apply more than 2.7 quarts Keystone LA NXT, per maximum acetochlor rate restrictions below) per acre as a single preemergence application on highly erodible soils if less than 30% of the soil is covered with plant residues; or 2.0 pounds active ingredient (contained in 4.7 quarts Keystone LA NXT; however do not apply more than 2.7 quarts Keystone LA NXT, per maximum acetochlor rate restrictions below) pe r acre if only applied postemergence.
- Maximum Acetochlor Application Rates Per Calendar Year: Maximum annual acetochlor broadcast application rates for corn must not exceed 3.0 pounds active ingredient (2.7 quarts Keystone LA NXT) per acre. Note: One quart per acre Keystone LA NXT delivers 1.075 pound active ingredient acetochlor per acre.

- Preharvest Interval: Do not apply Keystone LA NXT within 60 days of harvest for field corn forage uses or 45 days for sweet corn forage uses.
- Postemergence applications of Keystone LA NXT to corn must be made before the crop reaches 11 inches in height.

Use Precautions
- Failure to strictly follow label directions may result in exceeding the maximum annual atrazine use rates as stipulated by the Environmental Protection Agency.
- Note: This product contains atrazine and thus may not control weeds that are known or suspected to be triazine resistant. Following many years of continuous use of atrazine and chemically related products, biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by atrazine and related herbicides. Where this is known or suspected and weeds controlled by

atrazine are expected to be present along with resistant biotypes, it is recommended that atrazine be used in combinations or in sequence with other registered herbicides which are not triazines. If only resistant biotypes are expected to be present, use a registered non-triazine herbicide.
- Keystone LA NXT should not be used on corn seed stock such as Breeders, Foundation, or Increase.
- Do not contaminate irrigation water used for crops other than corn or water used for domestic purposes.
- Keystone LA NXT should not be stored near seeds, fertilizers, or foodstuffs.
- All containers of Keystone LA NXT should be kept tightly closed when not in use.
- Applied according to directions and under normal growing conditions, Keystone LA NXT will not harm the treated crop. During germination and early stages of growth, extended periods of unusually cold and wet or hot and dry weather, insect or plant disease attack, carryover pesticide residues, the use of certain soil applied systemic insecticides, improperly placed fertilizers or soil insecticides may create abnormal conditions that weaken crop seedlings. Keystone LA NXT used under these abnormal conditions could result in crop injury.

Rotational Crop Restrictions:

When tank mixing Keystone LA NXT with other herbicides, follow the most restrictive crop rotation guidelines on the label of each product used.
1. If a crop treated with this product is lost, field corn, seed corn, silage corn, popcorn or sweet corn may be replanted immediately. Do not exceed a total of 3.0 pounds per acre of acetochlor if additional product is applied.
2. If applied after June 10, do not rotate to crops other than corn or sorghum the next year, or crop injury may occur.
3. Rotate the next season to the following crops: corn (all types), cotton, sorghum or soybeans. Injury from atrazine may occur to soybeans planted the year following application on soils having a calcareous subsurface layer.
4. In the High Plains and Intermountain regions of the West where rainfall is sparse and erratic or irrigation is required, use only when corn or sorghum is to follow corn.
5. In Eastern parts of the Dakotas, Kansas, western Minnesota and Nebraska, do not rotate to soybeans if the rate applied to corn was more than 2.0 pounds active ingredient equivalent of atrazine or soybean injury may occur.
6. Do not plant sugar beets, sunflower, potatoes, tobacco, dry beans or peas, spring-seeded small grains or small-seeded legumes the year following application, or

injury from atrazine may occur.

Rotation to Non-food Winter Cover Crops

Following harvest of food crops treated with Keystone LA NXT, only non-food or non-feed winter cover crops (with the exception of wheat) may be planted. Do not graze or harvest rotational cover crops for food or animal feed for 18 months following the last application of Keystone LA NXT. This prohibition does not apply to wheat, which may be planted 4 months following the last application of Keystone LA NXT, or to nongrass animal feeds, which may be planted 9 months after the last application of Keystone LA NXT.

Weed Resistance Management Guidelines

Acetochlor and atrazine, the active ingredients in this product, are Group 15 and Group 5 herbicides, respectively, based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 15 or Group 5 herbicides. Such resistant weed plants may not be effectively managed using Group 15 or Group 5 herbicides but may be effectively managed utilizing another herbicide alone or in mixtures from a different Group and/or by using cultural or mechanical practices. However, any herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides. Consult your Dow AgroSciences representative, state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

Best Management Practices

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using full labeled rates and following directions for use is important to delay the selection for resistance. Scouting after a herbicide application is important because it can facilitate the early identification of weed shifts and/or weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in

retarding the spread of resistant weed seed.

General principles of herbicide resistance management:
1. Apply integrated weed management practices. Use multiple herbicide modes-of-action with overlapping weed spectrums in rotation, sequences, or mixtures.
2. Use the full recommended herbicide rate and proper application timing for the hardest to control weed species present in the field.
3. Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
4. Monitor site and clean equipment between sites.

For annual cropping situations also consider the following:
- Start with a clean field and control weeds early by using a burndown herbicide treatment or tillage in combination with a soil-applied residual herbicide as appropriate.
- Use cultural practices such as cultivation and crop rotation, where appropriate.
- Use good agronomic principles that enhance crop competitiveness.
- Use new commercial seed that is as free of weed seed as possible. Report any incidence of repeated non-performance of this product on a particular weed to your Dow AgroSciences representative, local retailer, or county extension agent.

Limitations, Restrictions, and Exceptions

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For weed control in Miscanthus and other non-food perennial bioenergy crops, apply Keystone LA NXT herbicide at 1.0-1.4 quarts per acre after the crop has been transplanted or after fully emerged to a height of at least 2-3 inches.

Up to two applications of Keystone LA NXT herbicide may be made each year. The total amount of this product applied each year must not exceed 2.7 quarts per acre.

Restrictions:
- Do not allow the Miscanthus or other non-food perennial bioenergy crop treated with Keystone LA NXT herbicide to be grazed or used as animal feed.

Weeds Controlled or Partially Controlled:

- Cupgrass Woolly: Apply 2.7 quarts of Keystone LA NXT per acre to control this weed; control can be erratic, especially under dry conditions. Control escaped

weeds with cultivation or application of an appropriate registered postemergence herbicide.

- Nutsedge , yellow: Preplant incorporate for improved control. Use the higher rate in the recommended application rate range. Activity may be reduced under dry conditions or following early (more than 14 days) preplant applications. Additional atrazine and/or sequential herbicides may be needed for complete control.

Panicum, Texas, Signalgrass, broadleaf: Best control is achieved when Keystone LA NXT is applied within 5 days of planting and rainfall occurs shortly after application or mechanical incorporation is used to activate the herbicide. If rainfall does not occur within 7 days after application, shallow cultivation will enhance activity. Excessive rainfall after application may reduce control. Under adverse weather conditions and/or heavy infestations, a cultivation or follow-up herbicide application may be needed.

Cocklebur, Morningglory spp., velvetleaf: Use the higher rate in the recommended application rate range. Activity may be reduced under dry conditions or following early (more than 14 days) preplant applications. Additional atrazine and/or sequential herbicides may be needed for complete control.

Method
Surface
Soil incorporation
Rates
field_rates 0

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Restricted Entry Interval

12 hours

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Timings
After the crop a s been transplanted or after fully emerged to a height of at least 2-3 inches