



**RESTRICTED USE PESTICIDE**  
**Due to Ground and Surface Water Concerns**

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.  
This product is a restricted use herbicide due to ground and surface water concerns. Users must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach ground and surface water.

**GROUP 15 | 5 HERBICIDES**

# Cadence\* ATZ NXT HERBICIDE

A preemergence herbicide for control of annual grasses and broadleaf weeds in field corn, production seed corn, silage corn, sweet corn, popcorn, Miscanthus and other non-food perennial bioenergy crops.

**ACTIVE INGREDIENTS:**

acetochlor: 2-chloro- N-ethoxymethyl-N- (2-ethyl6-methylphenyl)acetamide .....	33.4%
atrazine: [2-chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine] and related triazines .....	26.9%
<b>OTHER INGREDIENTS:</b> .....	<b>39.7%</b>
	<b>TOTAL 100.0%</b>

Contains 372 grams per liter or 3.1 pounds per gallon acetochlor and 300 grams per liter or 2.5 pounds per gallon atrazine and related compounds per gallon.

Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State.

## KEEP OUT OF REACH OF CHILDREN CAUTION

### FIRST AID

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT, CALL: 1-866-944-8565.**

EPA REG. NO. 34704-1081

EPA EST. NO. 34704-MT-001

NET CONTENTS 2.5 GAL (9.46 L)

091013 V2D 04R14

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Harmful if swallowed. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid breathing vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wear long sleeved shirt and long pants, socks and shoes.

**Personal Protective Equipment (PPE)**

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

**Mixers, loaders, applicators and other handlers must wear:**

- Long-sleeved shirt and long pants;
- Chemical-resistant gloves such as polyethylene or polyvinylchloride;
- Shoes plus socks; and
- Chemical-resistant apron when mixing/loading, cleaning up spills or cleaning equipment, or otherwise exposed to the concentrate.

See Engineering Controls for additional requirements.

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

**Engineering Controls Statement**

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

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

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

Acetochlor demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the groundwater is shallow, may result in groundwater contamination.

Acetochlor has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

Refer to Use Restrictions and Tile-Outletted Terraced Fields sections for additional specific information.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of this product is prohibited in your watershed. AWIC can be assessed through [www.atrazine-watershed.info] or [1-866-365-3014]. If use of this product is prohibited in your watershed, you may return unopened product to your point of purchase or contact Loveland Products, Inc. for a refund.

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.**

**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.

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

- Coveralls;
- Chemical-resistant gloves made of any waterproof material; and
- Shoes plus socks.

**PRODUCT INFORMATION**

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

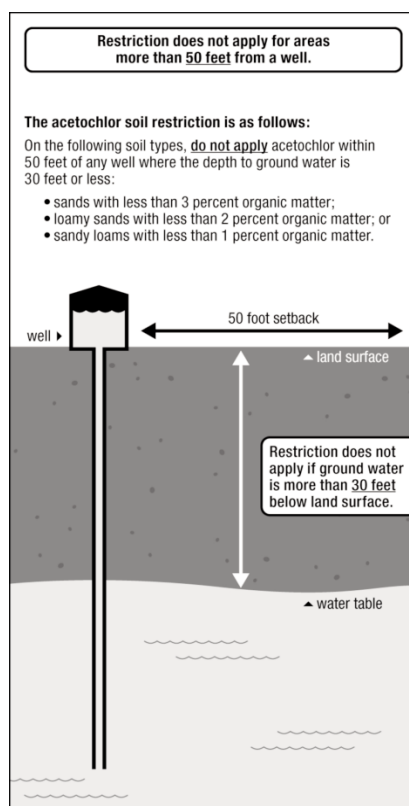
Cadence® ATZ NXT herbicide may be applied to the surface or incorporated into the top 1- to 2-inch layer of soil. It may be used for control alone, or in tank mix combinations, for the weeds listed in the "Target Weeds" section of these use directions. Cadence ATZ NXT Herbicide controls weeds by interfering with normal germination and seedling development. Cadence ATZ NXT Herbicide does not control established or 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.**
- This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the ground water is shallow, may result in ground water contamination.
- Do not apply Cadence ATZ NXT Herbicide before pre-irrigation in irrigated areas.
- Do not allow Cadence ATZ NXT Herbicide to contaminate feed or food.
- Do not contaminate irrigation water used for crops other than corn or water used for domestic purposes.
- Do not use Cadence ATZ NXT Herbicide on any crop other than field corn, production seed corn, silage corn, sweet corn, popcorn, and Miscanthus or other non-food perennial bioenergy crops.

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- 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% organic matter. See the figure for additional clarification.



- This product must not be mixed or loaded within 50 feet 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 to 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.
- Do not apply Cadence ATZ NXT Herbicide postemergence to sweet corn.

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- **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 (3.2 quarts Cadence ATZ NXT Herbicide) 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: 1.0 quart per acre Cadence ATZ NXT Herbicide delivers 0.625 pound active ingredient atrazine per acre.
  - Apply a maximum of 2.0 pounds active ingredient (3.2 quarts Cadence ATZ NXT Herbicide) 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.
  - Apply a maximum of 1.6 pounds active ingredient (2.5 quarts Cadence ATZ NXT Herbicide) 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 (3.2 quarts Cadence ATZ NXT Herbicide) per 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 (3.8 quarts Cadence ATZ NXT Herbicide) per acre. Note: 1.0 quart per acre Cadence ATZ NXT Herbicide delivers 0.77 pound active ingredient acetochlor per acre.
- **Preharvest Interval:** Do not apply Cadence ATZ NXT Herbicide within 60 days of harvest of field corn for field corn forage uses or 45 days for sweet corn forage uses.
- Postemergence applications of Cadence ATZ NXT Herbicide 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.
- Cadence ATZ NXT Herbicide should not be used on corn seed stock such as Breeders, Foundation, or Increase.
- Cadence ATZ NXT Herbicide should not be stored near seeds, fertilizers, or foodstuffs.
- All containers of Cadence ATZ NXT Herbicide should be kept tightly closed when not in use.

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- Applied according to directions and under normal growing conditions, Cadence ATZ NXT Herbicide 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. Cadence ATZ NXT Herbicide used under these abnormal conditions could result in crop injury.

**Rotational Crop Restrictions:**

When tank mixing Cadence ATZ NXT Herbicide with other herbicides, follow the most restrictive crop rotation guidelines on the label of each product used. The following rotational crops may be planted following application of Cadence ATZ NXT Herbicide as indicated:

Rotational Crop (1)	Timing or Interval
corn (2)	Immediately – 0 months after application
corn, cotton, sorghum, soybeans (3) (4)	Spring/next season following application
alfalfa, barley, dry beans (adzuki, kidney, lima, navy, or pinto), lupin (grain, white, or white sweet), millet (pearl or proso), oats, peas (blackeyed, chick, cow, crowder, field, pigeon, or Southern), potatoes, rye, sugar beets, sunflower, tobacco, triticale, wheat, wild rice	15 months after application (5)

Numbers within parentheses (-) in the table refer to specific rotational crop requirements below.

- (1) Do not plant dry beans or peas, potatoes, small grains or small-seeded legumes, sugar beets, sunflower, or tobacco during the 15 months following application, or injury from atrazine may occur.
- (2) If crop treated with Cadence ATZ NXT Herbicide 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 (3.8 quarts Cadence ATZ NXT Herbicide) if additional product is applied. If applied after June 10, do not rotate to crops other than corn or sorghum the next year or crop injury from atrazine may occur.
- (3) Injury may occur to soybeans planted the year following application on soils having a calcareous subsurface layer and relatively high pH. In eastern parts of the Dakotas, Kansas, western Minnesota and Nebraska, do not rotate to soybeans if the rate applied was more than 2.0 pounds active ingredient equivalent of atrazine or soybean injury may occur.
- (4) In the High Plains and Intermountain regions of the West where rainfall is sparse and erratic or irrigation is required, use only where corn or sorghum is to follow corn.
- (5) Approved rotation crops list does not include any species of succulent beans or peas.

**Rotation to Non-food Winter Cover Crops**

Following harvest of food crops treated with Cadence ATZ NXT Herbicide, 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 Cadence ATZ NXT Herbicide. This prohibition does not apply to wheat, which may be planted 4 months following the last application of Cadence ATZ NXT Herbicide, or to nongrass animal feeds, which may be planted 9 months after the last application of Cadence ATZ NXT Herbicide.

**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 Loveland Products, Inc. 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.

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**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 specified 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 Loveland Products, Inc. representative, local retailer, or county extension agent.**

## **APPLICATION DIRECTIONS – CORN**

**Carriers**

**Liquids:** Either water or liquid fertilizers such as solutions, slurries or suspensions may be used as liquid carriers. If fluid fertilizers are used, a physical compatibility test with these must be done **before combining** in the spray tank. See Appendix I for details of the compatibility testing procedure. Even if Cadence ATZ NXT Herbicide is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.

**Dry Bulk Fertilizer:** Cadence ATZ NXT Herbicide may be impregnated on dry bulk fertilizer and applied as the fertilizer is spread. See Appendix II for directions and restrictions including which fertilizers are compatible.

**Adding to Spray Tank**

The spray tank must be clean, thoroughly rinsed and decontaminated before adding either Cadence ATZ NXT Herbicide alone or with tank mix combinations. If water is used as the carrier, use clean water.

**Used Alone:** When Cadence ATZ NXT Herbicide is used alone, add the specified amount to the spray tank when the tank is half filled with carrier, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

**Tank Mixed:** If a tank mixture is used, it is recommended that a compatibility test be done before actual tank mixing. See Appendix I for details on the procedure for such a test.

Once compatibility is confirmed for the tank mix, fill the tank half full of carrier. Start and continue agitation throughout mixing. All return lines to the spray tank must discharge below the liquid level. Add components in the following order of formulation:

- If a wettable powder or dry flowable formulation is used, make a slurry with water and add it slowly through the screen into the tank. Agitate during the procedure.
- If a flowable formulation is used, add slowly through screen into the tank. Mixing and compatibility may be improved when the flowable is diluted with water before adding to the tank.
- Add Cadence ATZ NXT Herbicide next.
- Add ammonium sulfate then Makaze® herbicide, Salvo® herbicide (not for use on production seed corn or silage corn), and a nonionic surfactant last, if needed.
- Complete filling the sprayer tank and continue agitation.
- Batches should be mixed and applied the same day.

**Note:** For all tank mixtures, maintain agitation during mixing and throughout application to ensure spray mixture remains uniformly suspended. If spray mixture is allowed to settle at any time, thorough agitation is required to resuspend the mixture before spraying is resumed.

**Volume**

**Liquid:** Use a minimum of 10.0 gallons per acre in broadcast boom equipment for ground applications.

**Dry Bulk Fertilizer:** Use a minimum of 200 pounds of dry bulk fertilizer per acre. See Appendix II for directions and restrictions.

**Pressure**

If liquid carriers are used, the pressure at the nozzle should be 15 to 40 psi to ensure good distribution in the spray pattern. Use appropriate nozzles and 50-mesh or coarser screens, if needed. Maintain sufficient agitation to ensure the mixture is suspended in the spray tank.

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**Application Timing and Methods**

For the optimum period of effective weed control during the time most critical to corn production, preplant applications of Cadence ATZ NXT Herbicide should occur as close as possible to planting. Preemergence applications should occur as close as possible to planting, but prior to weed emergence; this product will not control emerged weeds present at application.

**Early Preplant Surface:** On medium and fine textured soils (see Table 1), Cadence ATZ NXT Herbicide may be applied up to 45 days prior to planting field corn or silage corn. Split applications can be made 30 to 45 days prior to planting with 60 percent of the specified broadcast rate applied initially and the remaining 40 percent applied at planting. Applications made less than 30 days prior to planting can be made either as a split or as a single application. If weeds are present at the time of application, apply this product in a tank mixture with an appropriate contact herbicide. Observe directions for use, precautions, and restrictions on the label of the contact herbicide. During the planting operation, be careful not to move untreated soil to the surface or move treated soil out of the row, as weed control may be reduced.

**Preplant Incorporation:** Cadence ATZ NXT Herbicide and certain tank mixes may be mechanically incorporated in the top 2 inches of the soil with field cultivators, discs, or spring tooth harrows at any time within 14 days prior to planting. Improper incorporation, excessive crop residues, or poor soil tillage may result in erratic, streaked or otherwise unsatisfactory weed control. Do not mix Cadence ATZ NXT Herbicide deeper than 2 inches into the soil and avoid moving or shaping soil after incorporation, as weed control may be reduced.

**Preemergence Surface:** Cadence ATZ NXT Herbicide and certain tank mixes may be applied to the soil surface as a broadcast or banded application. Precipitation or sprinkler irrigation of at least 0.25 inch is required to bring Cadence ATZ NXT Herbicide into contact with germinating seeds. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe, or similar device, to incorporate the herbicide. The device used should be run at a shallow depth to prevent disturbing the corn seed. Do not remove Cadence ATZ NXT Herbicide from the weed control zone or dilute it with untreated soil. Erratic weed control resulting from exposure of untreated soil may occur if surface soil is moved or reshaped during incorporation.

**Postplant-Preemergence:** Cadence ATZ NXT Herbicide may be applied immediately after planting but prior to corn emergence. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe, or similar device, to shallowly incorporate the herbicide. The device used should be run at a shallow depth to prevent disturbing the corn seed. Do not remove Cadence ATZ NXT Herbicide from the weed control zone or dilute it with untreated soil. Erratic weed control resulting from exposure of untreated soil may occur if surface soil is moved or reshaped during incorporation.

**Banding-Preemergence:** Cadence ATZ NXT Herbicide may be applied in a 10- to 14-inch band after corn planting but prior to corn emergence. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe or similar device to incorporate the herbicide. The device used should be run at a shallow depth to prevent disturbing the corn seed. Do not remove Cadence ATZ NXT Herbicide from the weed control zone or dilute it with untreated soil. Erratic weed control resulting from exposure of untreated soil may occur if surface soil is moved or reshaped during incorporation.

**Early Postemergence:** Cadence ATZ NXT Herbicide may be applied early postemergence to corn up to 11 inches tall. Applications must be made prior to weed seedling emergence or in a tank mixture with a herbicide that controls the emerged weeds. Read and follow restrictions and directions on tank mix product labels.

**Note:** Do not make postemergence applications using sprayable liquid fertilizer as the carrier because severe crop injury may occur.

**Note:** Do not apply Cadence ATZ NXT Herbicide postemergence to sweet corn.

**Sprinkler Irrigation:** Do not apply Cadence ATZ NXT Herbicide through sprinkler irrigation systems, unless otherwise directed by approved supplemental labeling in possession of the user at the time of application. A sprinkler system may be used to incorporate Cadence ATZ NXT Herbicide after application. After Cadence ATZ NXT Herbicide has been applied, a sprinkler irrigation system set to deliver 0.25 to 0.75 inch of water per acre may be used to incorporate the product. Using more than 0.75 inch of water could result in reduced performance. On sandy soils low in organic matter, use no more than 0.5 inch of water. Do not use flood irrigation to apply or incorporate Cadence ATZ NXT Herbicide.

**Planting**

Planting should be done as close to the time of application of Cadence ATZ NXT Herbicide as possible. This allows Cadence ATZ NXT Herbicide to provide effective weed control during the time it is most critical in the production of corn.

**Cultivation**

Cultivation should be delayed as long as possible. If weeds emerge, a shallow cultivation or rotary hoeing will generally result in improved weed control. If Cadence ATZ NXT Herbicide was incorporated, cultivate to a depth of less than half the depth of incorporation.

If cultivation is necessary due to soil crusting, compaction, or escaped weeds, adjust equipment to run shallow and minimize soil movement. This will decrease the possibility of diluting or moving the herbicide from the weed control zone.



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**Soil Texture and Organic Matter**

The specified use rate of Cadence ATZ NXT Herbicide is determined by a combination of two factors, soil texture and organic matter, which must be determined prior to application. Soils are grouped into three textural classes (coarse, medium and fine), as outlined in Table 1.

**Table 1: Soil Texture Groupings for Cadence ATZ NXT Herbicide Use Rate Selection.**

Coarse	Medium	Fine
Sand	Loam	Silty Clay Loam
Loamy sand	Silt loam	Clay loam
Sandy loam	Silt	Sandy clay
	Sandy clay loam	Silty clay
		Clay

**Use Rates for Conventional Tillage Systems**

**Table 2: Cadence ATZ NXT Herbicide Use Rates by Soil Texture and Organic Matter Content in Conventional Tillage Systems.**

The following use rates are for preplant incorporated, preemergence, and early postemergence applications (see Application Timing and Methods). Apply this product before weeds reach the 2-leaf stage and the corn is no more than 11 inches in height. Consult Table 3 if reduced- or no-till applications are made or application is made more than 14 days prior to planting under conventional tillage.

Soil Texture	Broadcast Rate/Acre (Qt)*	
	Soil Organic Matter Content	
	Less than 3%	3% or Greater
Coarse	1.4	1.7
Medium	1.7 to 2.4	2.3 to 2.6 <sup>†</sup>
Fine	2.3 to 2.6 <sup>†</sup>	2.3 to 3.0 <sup>†</sup>

\*Use the higher rate in the rate range in areas of heavy weed infestation.

**Note:** In areas of heavy weed infestations, use up to 2.3 quarts per acre on coarse-textured soils and 2.3 to 3.0 quarts per acre on medium- and fine-textured soils.

† On highly erodible soils with less than 30% plant residue, do not apply more than 2.5 quarts of Cadence ATZ NXT Herbicide per acre in a single preemergence application.

**Use Rates for Reduced Tillage Systems or Early Preplant Applications in Conventional Tillage Systems**

Cadence ATZ NXT Herbicide may be used in reduced- and no-till systems and in early preplant applications in conventional tillage systems. Single applications may be made up to 30 days prior to planting or after planting but before crop emergence. Optimal weed control will be obtained when applications are made as close to planting as possible but before crop emergence. If weeds are emerged at time of application, apply a labeled burndown herbicide such as Makaze, Gramoxone®, or Salvo (not for use on production seed corn, or silage corn) with Cadence ATZ NXT Herbicide.

**Table 3: Cadence ATZ NXT Herbicide Use Rates by Soil Texture in Reduced and No-till Systems or Conventional Tillage Systems when Applications are made more than 14 days Prior to Planting**

Soil Texture	Broadcast Rate/Acre (Qt)*
Coarse**	1.7 to 2.3
Medium	2.3 to 3.0 <sup>†</sup>
Fine	2.3 to 3.0 <sup>†</sup>

\* Use the higher rate in the rate range in areas of heavy weed infestation. Rates are for single applications. Split applications may be used; apply 60% of the specified rate up to 45 days before planting and the remaining 40% at or immediately following planting but before crop emergence.

\*\* Do not apply more than 14 days prior to planting on coarse textured soils.

† On highly erodible soils with less than 30% plant residue, do not apply more than 2.5 quarts of Cadence ATZ NXT Herbicide per acre in a single preemergence application.

This product may also be tank mixed with 1.0 to 1.25 quarts per acre of Princep® 4L (1.1 to 1.4 pounds per acre of Princep Caliber 90®) to provide improved control of crabgrass and fall panicum.

**Band Applications**

For band applications, use row and band width measurements (inches) to calculate the amount of Cadence ATZ NXT Herbicide to be applied per acre as follows:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Rate per acre for a broadcast treatment} = \text{Amount of Cadence ATZ NXT Herbicide to apply per acre}$$

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**Weeds Controlled**

Cadence ATZ NXT Herbicide applied as directed in this label will provide control or partial control of the weeds listed in Table 4. Additional weeds may be controlled with tank mixes. See the "Tank Mix Combinations" section of this label for tank mix directions. Always consult the tank mix product labels for specific use rates and directions. Always follow the most restrictive label when tank mixing Cadence ATZ NXT Herbicide with another product. Cadence ATZ NXT Herbicide may be tank mixed with any other registered corn product as long as compatibility is verified and tank mixing is not prohibited by the tank mix product label. **Note:** This product contains atrazine and may not control weeds that are known or suspected to be triazine resistant.

**Table 4: Weeds Controlled or Partially Controlled by Cadence ATZ NXT Herbicide at Specified Use Rates.**

<b>Grasses and Sedges</b>	<b>C = Control PC = Partial Control</b>	<b>Broadleaves</b>	<b>C = Control PC = Partial Control</b>
Barnyardgrass	C	Beggarweed, Florida	C
Crabgrass spp.	C	Carpetweed	C
Crowfootgrass	C	Cocklebur (2)	C
Cupgrass, southwestern	C	Galinsoga	C
Cupgrass, woolly	PC	Groundcherry, annual	C
Foxtail, giant	C	Groundcherry, cutleaf	C
Foxtail, green	C	Henbit	C
Foxtail, robust (purple, white)	C	Jimsonweed	C
Foxtail, yellow	C	Kochia	C
Goosegrass	C	Lambsquarters, common	C
Jjohnsongrass, seedling	PC	Morningglory spp. (2)	C
Millet, foxtail	C	Mustard spp.	C
Millet, wild proso	PC	Nightshade, black	C
Nutsedge, yellow (1,2)	C	Nightshade, hairy	C
Oat, wild	C	Pigweed, spp.	C
Panicum, browntop	C	Purslane, common	C
Panicum, fall	C	Pusley, Florida	C
Panicum, Texas (3)	PC	Ragweed, common	C
Rice, red	C	Ragweed, giant	PC
Sandbur, field	PC	Sicklepod	PC
Shattercane	PC	Sida, prickly	C
Signalgrass, broadleaf (3)	C	Smartweed spp.	C
Sprangletop, red	C	Sunflower, common	PC
Wheat, volunteer	C	Velvetleaf (2)	C
Witchgrass	C	Waterhemp, tall	C

- (1) Preplant incorporate for improved control.
- (2) Use the higher rate in the specified application rate range. Control of these weeds can be erratic, especially under dry conditions. Additional atrazine and/or sequential herbicide applications may be needed for complete control.
- (3) Best control is achieved when Cadence ATZ NXT Herbicide 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.

**CADENCE ATZ NXT HERBICIDE TANK MIX COMBINATIONS**

**When tank mixing or sequentially applying atrazine or simazine or products containing either active ingredient to corn, the total pounds of simazine and/or atrazine applied (pound active ingredient per acre) must not exceed 2.5 pounds of active ingredient per year.**

**For all applications, do not exceed the maximum rate of acetochlor as specified in the Maximum Acetochlor Application Rates per Calendar Year section of this label.**

**Use of Spray Adjuvants**

Cadence ATZ NXT Herbicide is a preemergence herbicide for which spray adjuvants have little or no effect on performance. However, several herbicides used in tank mixtures with Cadence ATZ NXT Herbicide require use of adjuvants to aid in the burndown of emerged weeds. Use only those adjuvants specified on tank mix product labels and approved for agricultural crop use. Adjuvants and/or low rate liquid fertilizers (28%, 30% or 32% UAN) or ammonium sulfate (AMS) may be used with tank mixes applied preplant or preemergence to the crop. **Note:** Do not use liquid fertilizer as the carrier when Cadence ATZ NXT Herbicide is applied postemergence to corn as severe injury may result. The addition of liquid fertilizers used as adjuvants with Cadence ATZ NXT Herbicide tank mixes applied postemergence to corn under environmental stress conditions may result in significant crop injury and should be avoided if the risk of crop injury is unacceptable.

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**Preemergence Tank Mix Combinations**

Tank mix combinations may be used in either conventional, reduced or no-till systems and be applied by the same methods and at the same timings as Cadence ATZ NXT Herbicide unless otherwise specified in the tank mix product label.

Cadence ATZ NXT Herbicide may be tank-mixed with Aim® EC, atrazine, Balance® Pro, Balance Flexx, Callisto®, Callisto Xtra, Distinct®, Hornet® WDG, Linex® 4L, Lorox® DF, Makaze, Marksman®, Princep, Python® WDG, Resource®, Rifle®, Salvo (not for use on production seed corn, or silage corn) or Strut® for preemergence use in corn. Ensure that specific product being used in the tank mixture is registered for preemergence application to corn. Read and follow label directions of all products in the tank mixture; the most restrictive label directions apply.

**When tank mixing Cadence ATZ NXT Herbicide with atrazine, do not exceed the maximum allowable rate of atrazine in your county or state. In some atrazine management areas, atrazine is more restricted. Consult your county extension office or state university for further information.**

**Conventional Tillage Corn (Cadence ATZ NXT Herbicide Plus):**

<b>Tank Mix Herbicide †</b>	<b>Comments</b>
Atrazine 4L	Preplant surface, preplant incorporated, preemergence. If emerged weeds are greater than 1.5" tall at the time of application, add an appropriate postemergence herbicide. Longer growing season areas. High rainfall areas. Heavy broadleaf weed pressure.
Balance Pro	Not labeled in all states; refer to the Balance Pro label for precautionary statements, use directions, and geographic and other restrictions. For use in field corn only. Refer to the use rates section of the Cadence ATZ NXT Herbicide label for minimum use rates.
Cadence NXT Herbicide	Tank mix 1.0 pt/acre for enhanced grass and nutsedge control.
Hornet WDG	Tank mixing 3.0 to 4.0 oz/A Hornet WDG herbicide provides consistent control of velvetleaf, lambsquarters, pigweed species, waterhemp and triazine resistant varieties of these species. Will also provide improved control of cocklebur, common ragweed, giant ragweed, common sunflower and jimsonweed.
Princep 4L	Provides improved crabgrass or fall panicum control.
Python WDG	Tank mixing 0.8 to 1.0 oz/A Python WDG herbicide provides consistent control of velvetleaf, lambsquarters, pigweed species, waterhemp and triazine resistant varieties of these species.

† Formulations that are not listed may be used: Perform a compatibility test and check the label of the tank mix product label for application rates, applicable use directions, precautions and limitations.

**Reduced or No-Tillage Corn (Cadence ATZ NXT Herbicide Plus):**

<b>Tank Mix Herbicide †</b>	<b>Comments</b>
Atrazine 4L	Longer growing season areas High rainfall areas Heavy broadleaf weed pressure If emerged weeds are greater than 1.5" tall at the time of application, add an appropriate postemergence herbicide
Cadence NXT Herbicide	Enhanced grass and nutsedge control
Gramoxone Inteon®	Control annuals, suppress perennials
Makaze Roundup WeatherMax® Touchdown®	Burndown existing weeds
Pendimax® / Stealth®	Preemergence to early postemergence (up to 3" tall corn) but before weeds are more than 1" tall.
Princep 4L	Provides improved crabgrass or fall panicum control.
Rifle/Strut	Apply preplant or preemergence in reduced/ no-till systems for burndown of existing weeds.
Marksman	Preemergence on all soils; medium and fine textured with >2% OM.
Salvo	Burndown existing weeds

† Formulations that are not listed may be used: Perform a compatibility test and check the product label for application rates, applicable use directions, precautions and limitations.

**Cadence ATZ NXT Herbicide plus Burndown Herbicide Tank Mixtures**

In reduced or no-tillage corn, Gramoxone Inteon, Makaze, Roundup WeatherMax, Salvo (not for use on production seed corn or silage corn) and/or Touchdown can be tank mixed with Cadence ATZ NXT Herbicide to burn down existing weeds. Burndown herbicides should be applied to emerged weeds when they are small; weeds less than 6 inches in height are easiest to control. Consult the burndown product labels for further information on weeds controlled.

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**Postemergence Tank Mix Combinations**

Cadence ATZ NXT Herbicide may be applied before, with, or following the use of one or more of the following herbicides for postemergence use in corn: Accent®, Aim EC, atrazine, Balance Flexx, Basis®, Basis Gold®, Beacon®, Buctril®, Buctril/atrazine, Callisto, Callisto Xtra, Capreno®, Distinct, Hornet WDG, Impact®, Laudis®, Liberty®, Lightning®, Linex 4L, Lorox DF, Marksman, Peak®, Permit®, Pendimax, Pursuit®, Resource, Rifle, Salvo (not for use on production seed corn, or silage corn), Shotgun®, Spirit®, Status®, Steadfast®, Stealth (not for use on silage corn) or Strut. Refer to the tank mix product label(s) regarding use directions, precautions and restrictions, and the list of weeds controlled. Cadence ATZ NXT Herbicide may be tank mixed with any product approved for use on corn unless it is prohibited on the tank mix product label. Ensure that specific product being used in the tank mixture is registered for postemergence application to corn. Read and follow label directions of all products in the tank mixture; the most restrictive label directions apply. **Note:** DO NOT use liquid fertilizer as the carrier when Cadence ATZ NXT Herbicide is applied postemergence to corn as severe injury may result. The addition of liquid fertilizers used as adjuvants with Cadence ATZ NXT Herbicide tank mixes applied postemergence to corn under environmental stress conditions may result in significant crop injury and should be avoided if the risk of crop injury is unacceptable.

When tank mixing, refer to the tank mix product label and follow the additional use directions given in this table. Cadence ATZ NXT Herbicide can be applied to corn up to 11 inches tall.

**Postemergence Tank Mixes (Cadence ATZ NXT Herbicide):**

<b>Tank Mix Herbicide</b>	<b>Rate</b>	<b>Comments</b>
Aim herbicide	0.3 oz/A	Always add a NIS at 0.25% v/v.
Atrazine	0.5 to 2.0 lb AI/A	Preplant surface, preplant incorporated, preemergence or early postemergence (up to 8" tall corn). If emerged weeds are greater than 1.5" tall at the time of application, add an appropriate postemergence herbicide. <b>Note:</b> The maximum atrazine application rate for corn is 2.5 lb atrazine AI/A/ calendar yr.
Buctril	1.5 pt/A	Refer to product label for use directions.
Buctril/atrazine	2.0 pt/A	Refer to label for Shotgun herbicide for timing and use directions.
Shotgun herbicide	2.0 to 3.0 pt/A	
Distinct	4.0 to 6.0 oz/A	Always add a NIS at 0.25% v/v and 1.25% UAN. Can be applied up to 10" corn.
Hornet WDG	2.0 to 5.0 oz/A	Always add NIS at 0.25% v/v or COC at 1% v/v.
Liberty	16.0 to 28.0 oz/A	<b>For use on Liberty tolerant corn only.</b> Apply to grass and broadleaves up to 6" tall. Do not add additional surfactant.
Lightning	1.28 oz/A	<b>For use on Clearfield® corn only.</b> Use a NIS at 25%v/v and a liquid nitrogen fertilizer at 1.0 to 2.0 qt/A or ammonium sulfate at 2.5 lb/A.
Marksman	2.0 to 3.5 pt/A	Early postemergence up to 8" tall corn on all soils. If grasses are more than 2-leaf stage, combine with another herbicide to control these weeds. The maximum atrazine application rate for corn is 2.5 lb AI/calendar yr or 2.0 lb atrazine AI for postemergence application if no atrazine was applied preemergence.
Rifle	0.5 to 1.0 pt/A	
Strut	0.5 to 1.0 pt/A	
Pendimax / Stealth	1.8 to 3.6 pt/A	Preemergence to early postemergence (up to 3" tall corn) but before weeds are more than 1" tall.
Pursuit 2.5L	4.0 fl oz/A	Use only on <b>Clearfield</b> varieties.
Pursuit 70DG	1.4 fl oz/A	Apply preplant surface, preplant incorporated, preemergence or early postemergence (up to 3" tall weeds).
Resource	4.0 to 6.0 oz/A	Apply to weeds less than 5" tall. Add a crop oil concentrate at 1.0 to 2.0 pt/A and either 28% nitrogen at 2% v/v or ammonium sulfate at 2.5 lb/A. May cause some burn or spotting to corn leaves.
Salvo	See Label	Apply preplant surface or preemergence to control emerged broadleaf weeds in corn.
Spirit	1.0 oz/A	Always add crop oil concentrate at 1% v/v. See label for geographic restrictions.

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**Postemergence Tank Mixes (Cadence ATZ NXT Herbicide) cont'd.:**

<b>Tank Mix Herbicide</b>	<b>Rate</b>	<b>Comments</b>
Accent 75WDG	0.25 to 0.6 oz/A	Minimum Cadence ATZ NXT Herbicide use rates (qt/A): Soil <u>≤3%OM</u> <u>3% or more OM</u> Coarse 1.7            1.7 Medium 1.7           1.7 to 2.3 Fine 1.7                1.7 to 2.3  Always add NIS at .25% (v/v); and in addition if applied in dry conditions, add 4% (v/v) clear liquid fertilizer. Buctril, Buctril/ atrazine, Marksman, Rifle, Strut may be added to this mixture to provide burndown and residual control of broadleaf weeds.
Basis	0.25 to 0.6 oz/A	
Beacon 75WDG	0.76 oz/A	
Steadfast	0.75 oz/A	
Basis Gold	14.0 oz/A	Minimum Cadence ATZ NXT Herbicide use rates (qt/A): Soil <u>≤3%OM</u> <u>3% or more OM</u> Coarse 1.7            1.7 Medium 1.7           1.7 to 2.3 Fine 1.7                1.7 to 2.3  Always add crop oil concentrate at 1.0% v/v or under dry arid conditions, 2.0% v/v and 28% liquid nitrogen at 2.0 qt/A or ammonium sulfate at 2.0 lb/A. Buctril, Marksman, Rifle, Strut, or Tough® herbicide may be added to this mixture to provide burndown and residual control of broadleaf weeds. The maximum atrazine application rate for corn is 2.5 lb AI/ calendar yr or 2.0 lb atrazine AI for postemergence application if no atrazine was applied preemergence.

**Miscanthus and Other Non-food Perennial Bioenergy Crops**

For weed control in Miscanthus and other non-food perennial bioenergy crops, apply Cadence ATZ NXT Herbicide herbicide at 1.4 to 1.9 quarts per acre after the crop has been transplanted or after fully emerged to a height of at least 2 to 3 inches.

Up to 2 applications of Cadence ATZ NXT Herbicide herbicide may be made each year. The total amount of this product applied each year must not exceed 3.8 quarts per acre.

**Restrictions:**

- Do not allow the Miscanthus or other non-food perennial bioenergy crop treated with Cadence ATZ NXT Herbicide to be grazed or used as animal feed.

**APPENDIX I**

**Procedure for Testing the Compatibility of Cadence ATZ NXT Herbicide and Tank Mixes with Fluid Fertilizers.**

Since fluid fertilizers vary, the following procedure is suggested for determining whether Cadence ATZ NXT Herbicide may be combined with a specific fluid fertilizer for spray tank application.

**Materials Needed:**

- Cadence ATZ NXT Herbicide and any tank mix products.
- Fluid fertilizer to be used.
- Adjuvant for fertilizer tank mix: Use any adjuvant cleared for use on growing crops under 40 CFR 180.1001 to improve the compatibility of Cadence ATZ NXT Herbicide with fluid fertilizers. The adjuvant that provides the best emulsification depends on the specific fertilizer under consideration.
- Two 1.0 quart, wide mouth glass jars with lid or stopper.
- Measuring spoons (a 25.0-milliliter pipette or graduated cylinder provides more accurate measurement).
- Measuring cup, 8.0 ounces (257 milliliters).

**Procedure:**

1. Pour a pint (about 473 milliliters) of the fluid fertilizer into each of the quart jars.
2. Add Cadence ATZ NXT Herbicide and any tank mix combination to the jars. The order of addition is wettable powders first with mixing, followed by flowables with mixing and the ECs last. The rate of wettable powders and dry flowables is 1.5 teaspoon per pound of product per acre to be applied. ECs should be added at the rate of 0.5 teaspoon for each pint per acre to be applied. Premixing the wettable powders in 1.0 ounce of water before adding to the pint of fluid fertilizer will improve the compatibility of the final mixture.

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3. Add 0.5 teaspoon (2.0 milliliters) adjuvant to one of the jars, label it as "with" and mix. The rate of 0.5 teaspoon per pint is equal to 3.0 pints of adjuvant per 100 gallons of fluid fertilizer.
4. Close both jars with lids or stoppers and mix the contents by turning the jars upside down 10 times.
5. Inspect the surface and body of the mixtures:
  - (a) Immediately after completing the jar inversions
  - (b) After allowing the jars to stand quietly for 30 minutes
  - (c) And then again after turning the jars upside down 10 times after the 30-minute inspection

**Evaluation:**

If either mixture remains uniform for 30 minutes, the combination may be used. Should either mixture separate after 30 minutes, but readily remix uniformly with 10 jar inversions, the mixture can be used if adequate agitation is maintained in the tank. If the mixture with adjuvant is satisfactory but the mixture without adjuvant is not, be sure to use the adjuvant in the spray tank. Add the adjuvant first at a rate of 3.0 pints per 100 gallons of fluid fertilizer. Foaming may be minimized by using only moderate agitation. **If non-dispersible oil, sludge, or clumps of solids form in the mixtures, the combination should not be used.**

## APPENDIX II

### Dry Bulk Fertilizer Impregnation

Impregnation of bulk fertilizer is restricted to commercial facilities. On-farm fertilizer impregnation is prohibited. No more than 500 tons of bulk fertilizer can be impregnated per day. No single facility may impregnate fertilizer with this product for more than 30 days per calendar year.

The commercial facility impregnating the dry bulk fertilizer must inform, in writing, the user (applicator) of the dry bulk fertilizer that:

- Applicator must wear long-sleeved shirt, long pants, shoes, and socks
- The restricted entry interval is 12 hours.

All individual state regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company selling the Cadence ATZ NXT Herbicide.

Dry bulk fertilizers (Table 5) may be impregnated with this product or the tank mixtures of this product plus atrazine on corn. This product and these tank mixtures must be applied with 200 to 450 pounds of dry bulk fertilizer per acre and shallowly incorporated within 14 days prior to planting. On medium- and fine-textured soils in areas where incorporation is not planned (i.e., reduced tillage situations or in some conventional tillage situations), applications can be made up to 30 days before planting to allow moisture to move the herbicide-fertilizer mixture into the soil. On coarse-textured soils, applications can be made up to 14 days prior to planting. When applying Cadence ATZ NXT Herbicide alone or in tank mixes with dry bulk fertilizers, follow all directions for use and precautions on the respective tank mix product labels regarding rates, soil type, application methods and rotational restrictions. Refer to the table for broadcast rate per acre to determine the application rate per acre for the herbicide treatment to be applied.

**Table 5: Approved Dry Fertilizer Ingredients for Use with Cadence ATZ NXT Herbicide.**

Fertilizer	N	P	K
Ammonium Phosphate-Sulfate	16	20	0
Ammonium Sulfate	21	0	0
Diammonium Phosphate	18	46	0
Monoammonium Phosphate	11	56	0
Potassium Chloride	0	0	60
Potassium Sulfate	0	0	52
Urea †	45	0	0

† Some ureas may be phytotoxic when high rates are applied to corn. Use only urea rates known to be safe for corn application.

For impregnating the pesticides on dry fertilizers, use an appropriate mixer equipped with suitable spraying equipment. The spray nozzles should be positioned inside the mixer to provide uniform spray coverage of the tumbling fertilizer. The Cadence ATZ NXT Herbicide should be sprayed uniformly onto the fertilizer using a fine spray pattern. Tank mix components may be applied as separate ingredients with powders and dry flowables added first or they may be mixed in a slurry in the proper ratio and added jointly. Cadence ATZ NXT Herbicide may also be impregnated on the go and applied with pneumatic applicators.

The following table provides a reference to determine the amount of Cadence ATZ NXT Herbicide to be mixed per ton of dry bulk fertilizer for a range of herbicide and fertilizer rates per acre.

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**Table 6. Cadence ATZ NXT Herbicide Fertilizer Impregnation Rate Conversions.**

Fertilizer Rate (lb/A)	Acres Covered (per ton)	Quarts of Cadence ATZ NXT Herbicide per Ton of Fertilizer to Deliver:		
		1.4 qt/A	1.8 qt/A	2.3 qt/A
200	10.0	14.0	18.0	23.0
250	8.0	11.2	14.4	18.4
300	6.7	9.4	12.0	15.4
350	5.7	8.0	10.3	13.1
400	5.0	7.0	9.0	11.5
450	4.5	6.2	8.0	10.4

To determine the amount of Cadence ATZ NXT Herbicide needed for other fertilizer rates, use the following formula:

$$\frac{\text{Cadence ATZ NXT Herbicide rate (quarts/acre)}}{\text{Pounds of fertilizer/acre}} \times 2000 = \text{Quarts of Cadence ATZ NXT Herbicide per ton of fertilizer}$$

If the herbicide/fertilizer mixture is too wet, use of a drying agent is required to provide a dry, free-flowing mixture. For mixtures to be used in spinning-disc applicators, Micro-Cel® E calcium silicate powder (Manville, Filtration and Minerals) is recommended for use as a drying agent. Mixtures to be used in pneumatic applicators should use Micro-Cel E or Agsorb® 16/30 RVM-MS granular clay. The drying agents should be added separately and uniformly to the prepared pesticide/fertilizer mixture, in a quantity that is sufficient to provide a suitable free-flowing mixture. Generally, less than 2% Micro-Cel E or 5% Agsorb 16/30 RVM-MS by weight is required.

**Precaution:** To avoid potential for explosion, do not impregnate Cadence ATZ NXT Herbicide on ammonium sorbate nitrate, potassium nitrate, or sodium nitrate fertilizer or fertilizer blends. Do not impregnate on single (0-20-0) or triple (0-46-0) super phosphate. Do not impregnate on agricultural limestone because Cadence ATZ NXT Herbicide will not be absorbed.

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with vermiculite, earth, or synthetic absorbent.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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 HANDLING: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**For packages up to 5 gallons: 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. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**CADENCE® ATZ NXT HERBICIDE  
EPA REG. NO. 34704-1081**

***Storage & Disposal cont'd.:***

**For refillable containers:** Refill this container with this product only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.**

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BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

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