

CORN (FIELD CORN, PRODUCTION SEED CORN, SILAGE CORN, SWEET CORN, POPCORN) - PREEMERGENCE APPLICATION

General Information

Product Information

Instinct NXTGEN nitrogen stabilizer is a water-based microencapsulated formulation of nitrapyrin that may be used in the application of ammoniacal dry fertilizers (such as urea, MAP, DAP), aqua ammonia, other liquid ammoniacal or urea nitrogen fertilizer compositions (such as 28%, 30% or 32 % UAN), or manure. This product is not a substitute for fertilizer. Incorporation may occur at any time up to 10 days after application and may be either by mechanical means or by moisture (rainfall or overhead irrigation). For moisture incorporation, a minimum of 0.5 inch of moisture is necessary. If 0.5 inch of moisture does not occur within the 10-day window, incorporate mechanically with light tillage.

Precautions

This product is no more corrosive to standard liquid fertilizer equipment than liquid fertilizer alone or liquid manure alone.

Restrictions

Rotational Crop Restrictions: All crops (except for root and tuber crops) must be planted no earlier than 30 days after the last application of this product. Do not plant root and tuber crops less than one year after last application.

Application Directions

Aerial Application: This product may be applied by aircraft in a liquid carrier such as liquid fertilizer or pesticides, or as impregnated on a granular fertilizer. See Spray Drift Advisories for information to reduce likelihood of drift on other crops or non-target areas.

Ground Application: This product may be applied through ground application equipment that may be used in the application of ammoniacal dry or liquid fertilizers, or manure.

Chemigation: In corn, Instinct NXTGEN may be applied through properly equipped chemigation systems at a preplant or postplant application timing prior to crop

emergence. In wheat, Instinct NXTGEN may be applied through properly equipped chemigation systems preplant up to the 1st detectable joint (Feekes 6 or Zadock 31) growth stage. Unless otherwise indicated in specific use directions, the application rates for chemigation are the same as those specified for broadcast applications.

Directions for Chemigation: This product may be applied through the following irrigation systems: center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro sprinkler, drip, hand move, or other systems that provide uniform application.

Chemigation Equipment Preparation: Thoroughly clean the chemigation system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injection system with soap and/or a cleaning agent and water. Determine the amount of Instinct NXTGEN needed to cover the desired acreage. Mix according to instructions in the Mixing Directions section and bring mixture to desired volume. Maintain continuous agitation during mixing and throughout the application period.

Chemigation Equipment Calibration: In order to calibrate the irrigation system and injector to apply the mixture containing Instinct NXTGEN, calculate or determine the following.

- Calculate the number of acres to be irrigated by the system.
- Calculate the amount of Instinct NXTGEN required and other crop inputs such as fertilizers, insecticides, or herbicides.
- Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area.
- Divide the total gallons of Instinct NXTGEN mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. The following value equals the gallons per minute output that the injector or educator must deliver. Convert the gallons per minute to milliliters or ounces per minute, if needed.

- Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the timed output of the injector pump be checked at least twice before operation and the system monitored during operation.

Chemigation Equipment Requirements

- The system must contain an air gap, an approved backflow prevention device, a functional check valve, vacuum relief valve (including inspection port), and/or low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information or state specific regulations.
- The Instinct NXTGEN mixture injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The Instinct NXTGEN mixture injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the Instinct NXTGEN mixture injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump when the water pressure decreases to the point where the Instinct NXTGEN mixture distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with the Instinct NXTGEN mixture and capable of being fitted with a system interlock.
- To ensure uniform mixing of the Instinct NXTGEN mixture into the water line, inject the mixture through a nozzle placed in the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence will assist in mixing. The injection point must be located after all back-flow prevention devices on the water

line.

- The tank holding the Instinct NXTGEN mixture must be free of rust, sediment, and foreign material and equipped with an in-line strainer situated between the tank and the injector point.

Chemigation Operation: Start the water pump and irrigation system and let the system achieve the desired pressure and speed before starting the injector. Check for leaks and uniformity and make repairs before any chemigation takes place. Start the injector system and calibrate according to manufacturer's specifications. The following procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, flush and clean the entire irrigation and injector system prior to shutting down the system to remove any Instinct NXTGEN, herbicide, insecticide, or fertilizer residue from the system.

Chemigation Precautions

- Crop injury, lack of effectiveness, or illegal pesticide residues in crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact state extension service specialist, equipment manufacturers, or other experts.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and make necessary adjustments should the need arise and continuously monitor the injection.

Chemigation Restrictions

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- The Instinct NXTGEN mixture injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off

the Instinct NXTGEN mixture injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where Instinct NXTGEN mixture distribution is adversely affected.

- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with the Instinct NXTGEN mixture and capable of being fitted with a system interlock.
- Do not allow irrigation water to collect or runoff and pose a hazard to livestock, wells, or adjoining crops.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Mixing Directions

Mix or shake well before use.

For large containers, use a cage mixer / motor for 30-60 minutes to improve product uniformity.

This product may be applied alone or in combination with dry fertilizers (such as urea, MAP, or DAP), liquid fertilizers (such as UAN, aqua ammonia, other liquid ammoniacal, or urea nitrogen fertilizers), liquid manures, fungicides, insecticides, herbicides, and/or water at the use rates specified for each crop.

Liquid Fertilizers

This product may be applied with liquid fertilizers such as UAN or aqua ammonia or other liquid ammoniacal or urea nitrogen fertilizers. Instinct NXTGEN can be added to urea ammonium nitrate liquid fertilizer without a compatibility agent, although when mixing this product with fertilizer plus herbicides, fungicides, or insecticides, a jar test may indicate that a compatibility agent is needed.

There are two methods which may be used to create a stable emulsion with Instinct NXTGEN plus a compatibility agent in liquid fertilizer:

Premix Method: The compatibility agent and Instinct NXTGEN may be mixed

together in a separate container and then added to the liquid fertilizer. Continuously agitate as the mixture is added to the fertilizer.

Sequential Method: The compatibility agent may be added to the fertilizer and thoroughly agitated. While the agitation continues, the required amount of Instinct NXTGEN may be added to the tank.

Most phosphate ester types of compatibility agents are suitable for use in these mixtures. Follow the label directions for the compatibility agent to determine rates and any use precautions.

Liquid Manure

This product may be applied with liquid manure. Apply to the field or directly to the manure immediately prior to or during application. Ensure that this product is uniformly blended with the manure prior to application or properly injected with the manure application equipment to deliver the targeted rate per acre. The best practice for fertilization using manure is to inject the liquid manure into the soil ensuring soil coverage or surface application followed by immediate incorporation. Check local laws and regulations on acceptable manure practices and for the area where manure is to be applied.

Granular Ammonium and Urea

This product may be applied by impregnation on urea, most dry ammoniacal fertilizers, or fertilizer blends containing ammoniacal fertilizers (MAP, DAP, or others). Uniform impregnation on fertilizer and uniform application in the field is necessary to ensure optimum results.

Various types of equipment can be used to impregnate Instinct NXTGEN onto dry fertilizers, including vertical and horizontal mixers. Once impregnated, fertilizer may be applied with either spinner, airflow, or other suitable equipment.

Use a minimum of 100 lb of dry fertilizer per acre. With lower rates of fertilizer (higher concentrations of Instinct NXTGEN), the fertilizer may not readily absorb all of the liquid. For a suitable free-flowing mixture, add a drying agent to the mixture. Use a minimum of 1 lb of drying agent per pint of Instinct NXTGEN unless experience indicates a different amount works well.

Do not apply more than 1 lb active ingredient (ai) nitrapyrin per acre per year.

Apply bulk fertilizers impregnated with Instinct NXTGEN within 24 hours of impregnation. Do not store the impregnated fertilizer. Following all individual state regulations, including those related to dry bulk blending registration, labeling, and application, is the responsibility of the individual and/or company selling mixtures of Instinct NXTGEN and fertilizer.

Do not mix seed with dry fertilizers impregnated with Instinct NXTGEN.

Tank Mixing

This product may also be applied in tank mixtures with preplant incorporated or preemergence herbicides, fungicides, or insecticides registered for use on corn and wheat. The tank mixes may be in water or in most urea-ammonium nitrate solutions, N-P-K solutions, slurries, or suspensions. Check the physical compatibility of tank mixtures as indicated below before mixing in the tank. Maintain constant agitation during both the mixing and application processes to ensure uniform spray mixture. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Limitations, Restrictions, and Exceptions

Corn (field corn, production seed corn, silage corn, sweet corn, popcorn)

Preplant, At-Plant, Postplant, or Preemergence Application

Greater rates from 24 to 48 fl oz (0.5 to 1.0 lb ai) per acre may be applied with liquid nitrogen fertilizer prior to corn emergence or with liquid manure in the fall prior to spring corn planting when a greater duration of activity is desired.

Restrictions:

- Preharvest Interval: Do not apply past V6 corn growth stage.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Chemigation](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Chemigation](#)

Restricted Entry Interval

24 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

[Preemergence \(Crop\)](#)

[Preemergence \(Crop\)](#)