

## **CORN - FINE**

### General Information

#### Product Information

Surpass NXT herbicide is for preplant, preemergence, or early postemergence use in corn and for weed control in Miscanthus and other non-food perennial bioenergy crops. Use of this product in corn is limited to field corn, production seed corn, silage corn, sweet corn, popcorn. Do not apply this product to any crop other than corn or for weed control in Miscanthus or other non-food perennial bioenergy crops.

Surpass NXT may be applied to the surface or incorporated into the top 1 to 2 inch layer of soil. It is specified for control alone, or in tank mix combinations as indicated, for the weeds listed in the Target Weeds section of these use directions. Surpass NXT controls weeds by interfering with normal germination and seedling development. Surpass NXT will not control emerged weeds present at application.

#### Use Restrictions

- 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.
- Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State.
- 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.
- 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.
- Chemigation: Do not apply this product through any type of irrigation system, unless otherwise directed by approved supplemental labeling in the possession of

the user at the time of application.

- Do not use flood irrigation to apply or incorporate this product.
- This product must not be mixed or loaded within 50 feet of any wells including abandoned wells and drainage wells, sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.
- 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. States may have in effect additional requirements regarding wellhead setbacks and operational containment.
- 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 must 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.
- 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.
- Do not apply Surpass NXT to sweet corn as an early postemergence application.
- Maximum Acetochlor Application Rates Per Calendar Year:  
Maximum annual acetochlor broadcast application rates for corn must not exceed 3.0 pounds active ingredient (3.4 pints Surpass NXT) per acre. Note: One pint per acre Surpass NXT delivers 0.875 pound active ingredient acetochlor per acre.

#### Rotational Crop Restrictions:

When tank mixing 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 sweet corn or milo (sorghum) may be replanted immediately. When planting milo (sorghum), only use seed properly treated with a seed protectant or safener. Do not exceed a total of 3.0 pounds per acre of active ingredient if additional product is applied.
2. Nongrass animal feeds such as alfalfa, clover, kudzu, lespedeza, lupin, sanfoin, trefoil, and Vetch spp. may be planted 9 months after application. Wheat may be planted 4 months after application.
3. Rotate the next season to the following application to the following crops: soybeans, corn (all types), cotton, milo (sorghum), tobacco, sugar beets, sunflowers, potatoes, barley, buckwheat, millet (pearl and proso), oats, rye, teosinte, triticale, wild rice, dried shelled bean group *Lupinus* spp. (including grain lupin, sweet lupin and white lupin); *Phaseolus* spp. (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean, bean); *Vigna* spp. (includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea and urd bean); broad bean (dry) chickpea, guar, lablab bean, lentil, pea (*Pisum* spp., includes field pea); pigeon pea.

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

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

#### Weed Resistance Management Guidelines

Acetochlor, the active ingredient in this product, is a Group 15 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population can contain plants naturally resistant to Group 15 herbicides. Such resistant weed plants may not be effectively managed using Group 15 herbicides but may be effectively managed utilizing another herbicide 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 treatment or tillage in combination with a preemergence 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

### CORN

#### Application Directions

#### Carriers and Spray Volume

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 Surpass NXT is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.

Apply in a minimum broadcast spray volume of 10 gallons per acre using boom equipment for ground applications. Use low pressure nozzles designed for application of herbicides. Use sufficient operating pressure to produce the desired spray pattern for the nozzle (15 to 40 psi) and follow manufacturer's instructions for nozzle spacing and operating height to ensure uniform spray distribution at the soil surface. Use 50-mesh or coarser screens, if needed.

Dry Bulk Fertilizer: Surpass NXT may be impregnated on dry bulk fertilizer and applied as the fertilizer is spread. Use at least 200 lb of dry bulk fertilizer per acre. See Appendix II for more details including which fertilizers are compatible.

#### Application Timing and Methods

For the optimum period of effective weed control during the time most critical to corn production, preplant application of Surpass 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. Postemergence applications should occur prior to weed emergence or in tank mix combination with a product that controls emerged weeds. Note: Do not apply Surpass NXT to sweet corn as an early postemergence application.

**Preemergence Surface:** Surpass NXT 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 Surpass NXT 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 equipment to incorporate the herbicide. Incorporation equipment should be run at a shallow depth to avoid disturbance of germinating corn seed. Erratic weed control resulting from exposure of untreated soil may occur if surface soil is moved or reshaped after incorporation.

**Banding-Preemergence:** Surpass NXT may be applied in a 10 to 14 inch band after corn planting but prior to emergence. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by shallow incorporation using a rotary hoe or similar equipment. Do not disturb the germinating corn seed. Erratic weed control resulting from exposure of untreated soil may occur if surface soil is moved or reshaped during incorporation.

**Sprinkler Irrigation:** Do not apply Surpass NXT by sprinkler irrigation, unless otherwise directed by approved supplemental labeling in the possession of the user at the time of application. Use a sprinkler system to incorporate Surpass NXT after application. After Surpass NXT 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 soil low in organic matter, use no more than 0.5 inch of water. Do not use flood irrigation to apply or incorporate Surpass NXT.

Fall Application - For use only in Iowa, Minnesota, North Dakota, South Dakota, Wisconsin, north of Route 91 in Nebraska, and north of Route 136 in Illinois.

Following soybean harvest, apply to soybean stubble after September 30, when the sustained soil temperature at 4-inch depth is less than 55oF, but before ground freezes. Use on medium- and fine-textured soils with greater than 2.5% organic matter. Only corn may be planted the following spring.

Ground may be tilled before or after application. Do not exceed 2-inch incorporation depth if tilled after application.

If a spring application is made, the total rate of the fall plus spring application must not exceed the maximum labeled rate for corn grown on that soil.

#### 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 Surpass NXT was incorporated, cultivate to a depth of less than half the depth of incorporation.

If cultivation is necessary due to soil crusting or compaction, 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.

#### Use Rates for Reduced Tillage Systems or Early

#### Preplant Applications in Conventional Tillage Systems



Surpass NXT may be used in reduced and no-till systems or as an early preplant application (more than 14 days prior to planting) in conventional tillage systems. Single applications may occur up to 30 days before planting but prior to weed emergence; application on coarse soils should not be made more than 14 days prior to planting. Optimal weed control will be obtained when applications are made as close as possible to planting but before weeds emerge. Split applications of Surpass NXT may be used; apply 60% of the recommended rate prior to weed emergence and up to 45 days before planting and the remaining 40% at or immediately following planting but before crop emergence. If weeds are present at application, it is recommended that a burndown herbicide such as paraquat (Gramoxone), glyphosate (Durango DMA), or 2,4-D be tank mixed with Surpass NXT.

#### Weeds Controlled:

Cupgrass Woolly: Use 3.0 to 3.4 pints per acre applied alone or in tank mixtures for best results. Control may be erratic, especially under dry conditions. Control escaped weeds with cultivation or application of a registered postemergence herbicide.

Lambsquarters Ragweed Common: Use the higher rate in the application rate range.

Millet Wild Proso, Shattercane: Use 3.0 to 3.4 pints per acre.

Nutsedge Yellow: Use 2.5 to 3.4 pints per acre applied alone or in tank mixtures and apply preplant incorporated only for control on medium- and fine-textured soils.

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

#### Method

[Broadcast/Foliar Ground](#)

[Surface](#)

[Broadcast/Foliar Ground](#)

[Surface](#)

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.

Soils

[Fine](#)

[Silty Clay Loam](#)

[Silty Clay](#)

[Sandy Clay](#)

[Clay Loam](#)

[Clay](#)

Tillages

[Conventional](#)

[Fallow/Reduced](#)

[No-Tillage](#)

Timings

[Preemergence \(Crop\)](#)

[Preplant](#)