
SUPPLEMENTAL LABEL

Syngenta Crop Protection, Inc.
P. O. Box 18300
Greensboro, North Carolina 27419-8300
SCP 1182A-S5 0409

| | | |
|-------|----------|-----------|
| GROUP | 9 | HERBICIDE |
|-------|----------|-----------|

Touchdown HiTech®

Herbicide

Nonselective Foliar Systemic Herbicide for Weed Control

Active Ingredient:

| | |
|--|-------|
| *Glyphosate: N-(phosphonomethyl) glycine, in the form of the monopotassium salt | 52.3% |
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| | |
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| <i>Other Ingredients:</i> | 47.7% |
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| | |
|---------------|--------|
| <i>Total:</i> | 100.0% |
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*Contains 5 pounds per U.S. gallon of glyphosate acid equivalents.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

EPA Reg. No. 100-1182

All applicable directions, restrictions and precautions on the EPA-registered label are to be followed. Before using Touchdown HiTech as permitted according to this supplemental label, read and follow all applicable directions, restrictions, and precautions on the EPA registered label on or attached to the pesticide product container. This Supplemental Labeling contains revised use instructions and or restrictions that may be different from those that appear on the container label. This Supplemental Labeling must be in the possession of the user at the time of pesticide application. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

syngenta®

DIRECTIONS FOR USE

ALFALFA (NOT GLYPHOSATE-TOLERANT), CLOVER, AND OTHER LEGUMES

Touchdown HiTech may be used on the legume crops listed below:

| | | |
|---------|-----------|------------|
| Alfalfa | Lespedeza | Trefoil |
| Clover | Lupine | Velvetbean |
| Kudzu | Sainfoin | Vetch |

Method of Application: Before, during, or after planting, but before crop emergence; renovation; spot spray; wiper/wick; preharvest; and postharvest.

Preplant/Preemergence, Dormant, or Renovation

Deep tillage following treatment of weeds with Touchdown HiTech or a sequential application of Touchdown HiTech may be required to control well established perennials.

Preharvest

Use this treatment to eliminate or destroy declining crop stands. Up to 40 fl oz per acre of Touchdown HiTech may be applied as a broadcast spray with ground or aerial equipment at least 36 hours before harvest. For other legumes listed, apply up to 30 fl oz per acre. Applications may be made any time of the year when the crop is in the bud to flower stage of growth. Deep tillage following preharvest treatment or a postharvest application of Touchdown HiTech may be required to provide control of well established perennials.

Follow directions listed in the **Application and Mixing Directions, Spray Additives, and Application Equipment and Techniques** sections. Refer to the **Weeds Controlled** section for rates and timing.

General Use Precautions and Restrictions for Alfalfa, Clover, and Other Legumes

- A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 quart NIS or wetting agent/100 gallons) of finished spray volume. Control of weeds may also be improved by adding dry ammonium sulfate at 1-2% by weight or 8.5-17 lbs./100 gals. of water.
- Spot and wiper/wick application must be made at least 14 days before grazing or harvest of forage and hay.
- Preharvest and renovation applications can be made with no more than 1.25 pts./A at least 36 hours before grazing or harvest of forage or hay.
- Do not apply a preharvest treatment on alfalfa, clover or other legumes grown for seed as a reduction in germination or vigor may occur.

Tank Mixtures for Preplant/Preemergence, Dormant, or Renovation Use for Alfalfa, Clover, and Other Legumes

Touchdown HiTech can be tank mixed with the following herbicides for control or suppression of annual and perennial weeds provided that the tank mix product label allows use of the product. Refer to the **Weeds Controlled** section for application rates and timing. Apply Touchdown HiTech at 0.6-4.8 pts./A in these tank mixes for control or suppression of annual and perennial weeds. For control or suppression of dense populations of weeds greater than 12 inches in height or weeds under stress, consider use rates at the higher end of the rate range.

| | | |
|-------------|--------------|----------|
| Buctril® | Kerb® | Pursuit® |
| Eptam® | Dual Magnum® | Sencor® |
| Karmex® | Prowl® | Velpar® |
| Trifluralin | | |

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

ALFALFA, GLYPHOSATE-TOLERANT

Method of Application: Before, during, or after planting; and postemergence in alfalfa varieties which have been genetically modified to be tolerant to glyphosate-based herbicides. Touchdown HiTech applications should be made after weeds have emerged but before crop growth interferes with spray coverage of the weeds.

Follow directions listed in the **APPLICATION DIRECTIONS, SPRAY ADDITIVES, and APPLICATION EQUIPMENT AND TECHNIQUES** sections. Refer to **WEEDS CONTROLLED** section for application rates and timing.

General Use Precautions and Restrictions for Glyphosate-Tolerant Alfalfa

- Maximum amount of Touchdown HiTech which may be applied from all applications is 4.75 qt/A.
- Maximum preplant/preemergence rate is 40 fl oz/A.
- Maximum amount of Touchdown HiTech applied in crop from all applications is 3.7 qt/A. Maximum single application in crop is 40 fl oz/A.
- Sequential applications of Touchdown HiTech must be at least 7 days apart.
- Remove domestic livestock before application and wait at least 5 days before grazing or harvesting and feeding forage or hay.
- Applications of Touchdown HiTech to alfalfa which is not glyphosate tolerant will result in severe crop injury and reduced yields.

New Stand Establishment (year of seeding) - During stand establishment, make postemergence applications from emergence up to 5 days before first cutting at no more than 40 fl oz/A for any single application. After first cutting in newly established stands, make application of no more than 40 fl oz/A for any single application, up to 5 days before each cutting.

Established stands (non-seeding year) - Make application of no more than 40 fl oz/A for any single application up to 5 days before each cutting.

COTTON, GLYPHOSATE-TOLERANT (INCLUDING ROUNDUP READY FLEX AND ROUNDUP READY COTTON)

Cotton, Roundup Ready Flex Cotton Only

Method of Application: Before, during, or after planting; postemergence; postdirected; hooded; and preharvest in cotton varieties which have been genetically modified to be tolerant to glyphosate based herbicides.

Follow directions listed in the **APPLICATION DIRECTIONS, SPRAY ADDITIVES, and APPLICATION EQUIPMENT AND TECHNIQUES** sections. Refer to **WEEDS CONTROLLED** section for application rates and timing.

General Use Precautions and Restrictions for Roundup Ready Flex Cotton

- A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 quart NIS or wetting agent/100 gallons) of finished spray volume. Control of weeds may also be improved by adding dry ammonium sulfate at 1-2% by weight or 8.5-17 lbs./100 gals. of water.
- Maximum preplant/preemergence rate is 3.0 qt/A.
- Make postemergence over the top applications from ground cracking to 60% open bolls with a maximum of 20 fl oz/A for any single application and a maximum of 3.6 qt/A per season.
- Apply a maximum of 40 fl oz/A per season between layby and 60% open bolls.
- Do not apply more than 20 fl oz/A by air; nor more than 40 fl oz/A by ground from 60% open bolls to 7 days preharvest.
- The maximum allowable combined total per year for all Touchdown HiTech applications is 4.8 qt/A.

- Sequential over the top applications of Touchdown HiTech must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.
- Applications of Touchdown HiTech to cotton varieties which are not glyphosate tolerant will result in severe crop injury and reduced yields. Applications past the 4th leaf stage over the top may only be made to Roundup Ready Flex cotton.
- Drift control agents may be used.

Tank Mixtures (Preplant/Preemergence) for Roundup Ready Flex Cotton

For Control of Annual Weeds in a Residual Herbicide Tank Mix: Refer to the **ANNUAL WEEDS CONTROLLED** section, Tables 1 and 2, for application rates and timing. Apply Touchdown HiTech at 0.6 to 3.6 pt/A for the control of annual weeds that are less than 6 inches tall and actively growing. When annual weeds are taller than 6 inches or under stress, use 1.25 to 4.8 pt/A of Touchdown HiTech.

For Control or Suppression of Perennial Weeds in a Residual Herbicide Tank Mix: Refer to the **PERENNIAL WEEDS CONTROLLED** section, Table 3, for application rates and timing. Use rates at the higher end of the rate range when weed populations are dense or plants are under stress. Perennial weeds may require multiple applications for control.

Touchdown HiTech can be tank mixed with the following products:

| | | |
|------------|----------------|---------|
| Caparol | Direx | Staple |
| Clarity | Dual Magnum | Solicam |
| Command | Dual II Magnum | Valor |
| Cotoran | Karmex | 2-4,D |
| Cotton-Pro | Meturon | |
| Cy-Pro | Prowl | |

Refer to individual product labels for precautionary statements, restrictions, rates, and a list of weeds controlled.

Tank Mixtures (Postemergence) for Roundup Ready Flex Cotton

Touchdown HiTech can be applied in a tank mix with Envoke®. Refer to the Envoke product label for precautionary statements, restrictions, rates, and a list of weeds controlled. A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 qt NIS or wetting agent/100 gallons) of finished spray volume.

Postdirected or Hooded Applications

Touchdown HiTech may be used through postdirected or hooded sprayers through the lay-by stage of cotton. This application type directs the spray to the target weed.

Apply in 10 to 20 gallons of water per acre and do not exceed 30 psi spray pressure. Refer to **WEEDS CONTROLLED** section for application rates and timing.

Application Requirements:

- Postdirected applications should be used that directs the spray onto the main portion of the target weed. For best results, apply to weeds less than 3-6 inches tall.
- Maximum allowable application speed is 5 mph.
- Maximum allowable wind speed at application is 10 mph.
- Use low drift nozzles.

Tank Mixtures (Postdirected or Hooded)

Touchdown HiTech can be applied in a tank mix with most cotton herbicides which are labeled for hooded, shielded, or postdirected applications. Refer to individual product labels for precautionary statements, restrictions, rates, and a list of weeds controlled.

Tank Mixtures with Dual Magnum

Touchdown HiTech tank mixtures with Dual Magnum can be applied postemergence over the top on cotton from 3 inches tall up to 100 days before harvest or 80 days before harvest for post directed applications. Do not use adjuvants or AMS. Do not use this mixture if cotton plants are under any type of stress including, but not limited to drought, insect, disease, or mechanicals. Occasionally following application, cotton leaves may exhibit necrotic spotting which will not affect normal plant development.

For use in the following states: AL, AR, AZ, CA, FL, GA, KS, LA, MO, MS, NC, NM, OK, SC, TN, TX, and VA.

Refer to the Dual Magnum label for rates, precautions and restrictions.

Preharvest

Apply Touchdown HiTech at 20 fl oz/A by air and no more than 40 fl oz/A by ground. No enhancement of harvest aids will occur on glyphosate tolerant cotton. Refer to the **WEEDS CONTROLLED** section for application rates and timing.

SAFFLOWER

Method of Application: Before, during, or after planting, but before crop emergence and preharvest.

Follow directions listed in the **APPLICATION DIRECTIONS**, **SPRAY ADDITIVES**, and **APPLICATION EQUIPMENT AND TECHNIQUES** sections. Refer to **WEEDS CONTROLLED** section for application rates and timing.

General Use Precautions and Restrictions for Safflower

- A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 quart NIS or wetting agent/100 gallons) of finished spray volume. Control of weeds may also be improved by adding dry ammonium sulfate at 1-2% by weight or 8.5-17 lbs./100 gals. of water.
- Make only one preplant or preemergence application with no more than 58 fl oz/A.
- Make preharvest applications at least 7 days before harvest or livestock feeding with no more than 58 fl oz/A.

Method of Application: Pre-harvest

For weed control as a harvest aid, apply to safflower when seed has lost its opaque character, approximately 20-30 days after the end of flowering of the secondary branches.

SUNFLOWER

Method of Application: Preplant/Preemergence and Preharvest

Follow directions listed in the **Application and Mixing Directions**, **Spray Additives**, and **Application Equipment and Techniques** sections. Refer to **Weeds Controlled** section for application rates and timing.

General Use Precautions and Restrictions for Sunflower

- A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 quart NIS or wetting agent/100 gallons) of finished spray volume. Control of weeds may also be improved by adding dry ammonium sulfate at 1-2% by weight or 8.5-17 lbs./100 gals. of water.
- Make only one preplant/preemergence application with no more than 1.25 pts./A.
- Do not graze or feed sunflower forage.
- Make preharvest applications at least 7 days before harvest or livestock feeding with no more than 20 fl. oz./A.
- Avoid contact with sunflower foliage.

Tank Mixtures for Preplant/Preemergence Use for Sunflower

Touchdown HiTech can be tank mixed with the following herbicides: Eptam, Prowl for control or suppression of annual and perennial weeds provided that the tank mix product label allows use of the product. Refer to the **Weeds Controlled** section for application rates and timing. Apply Touchdown HiTech at up to 1.25 pts./A in these tank mixes for control or suppression of annual and perennial weeds. For control or suppression of dense populations of weeds greater than 12 inches in height or weeds under stress, consider use rates at the higher end of the rate range.

Refer to individual product labels for precautionary statements, restrictions, rates, and a list of weeds controlled.

Preharvest

For weed control as a harvest aid in sunflower, apply no more than 20 fl oz/A to physiologically mature sunflower when the back of the heads are yellow and bracts are turning brown and seed moisture content is less than 35%.

VEGETABLE CROPS

Touchdown HiTech may be used on the vegetable crops listed below:

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|-----------------------|--|
| Amaranth | Guar |
| Arrugula | Horseradish |
| Artichoke (Jerusalem) | Kale |
| Asparagus | Kohlrabi |
| Beans (all) | Leeks |
| Beet, garden | Lentils |
| Beet, sugar | Lettuce |
| Broccoli (all) | Melons (all including citron, crenshaw, honey balls, honeydew, mango, musk, Persian) |
| Brussels Sprouts | Mizuna |
| Cabbage (all) | Mustard greens |
| Cabbage (Chinese) | Okra |
| Cantaloupe | Onions (green, spring, Japanese bunching) |
| Cardoon | Parsley, turnip-rooted |
| Carrot | Parsnip |
| Casaba | Peas (all) |
| Cavalo Broccolo | Pepinos |
| Cauliflower | Pepper (all) |
| Celeriac | Potato (Irish) |
| Celery | Pumpkin |
| Celery (Chinese) | Purslane |
| Celtuce | Radish |
| Chard (Swiss) | Radish, oriental (daikon) |
| Chayote | Rape greens |
| Chervil | Rhubarb |
| Chick peas | Rutabaga |
| Chicory | Salsify, black |
| Chrysanthemum | Salsify (oyster plant) |
| Collards | Salsify (Spanish) |
| Corn salad | Shallots |
| Cress | Spinach (all) |
| Cucumber | Spinach, mustard |
| Dandelion | Squash (summer, winter) |
| Dock (sorrel) | Sweet potato |
| Eggplant | Tomatillo |
| Endive | Tomato |
| Fennel (Florence) | Turnip |
| Garlic | Watercress |
| Gherkin | Watermelon |
| Ginseng | Yams |
| Gourd, edible | |
| Groundcherry | |

Method of Application: Broadcast application before transplanting or before, during, or after planting but prior to crop emergence if direct seeded; spot spray; wiper/wick (rutabaga only); postharvest and in California only pre-harvest application in garlic grown for processing (dehydration).

Follow directions listed in the **Application and Mixing Directions**, **Spray Additives**, and **Application Equipment and Techniques** sections of this label. Refer to **Weeds Controlled** for application rates and timing.

General Use Precautions and Restrictions for Vegetable Crops

- A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 quart NIS or wetting agent/100 gallons) of finished spray volume. Control of weeds may also be improved by adding dry ammonium sulfate at 1-2% by weight or 8.5-17 lbs./100 gals. of water.
- For **Asparagus**, do not apply broadcast within one week of emergence of first spears. Spot applications can be made immediately after cutting, but before emergence. Spears can be harvested 5 days after spot application. Postharvest applications can be made as a directed or shielded spray avoiding contact of the spray with the ferns, stems, or spears.
- Wiper/wick applications to rutabagas must be made at least 14 days before harvest.
- Make one preharvest or one spot application in **dry beans** with no more than 20 fl oz/A or in **peas, lentils, and chickpeas** with no more than 57 fl oz/A at least 7 days before harvest.
- Do not feed treated vines and hay to livestock.
- Do not combine a preharvest with a spot application on the same crop area.
- Do not treat cowpeas or field (feed) peas; these crops are considered as livestock feed.
- For California use only, make pre-harvest application of no more than 40 fl oz/A to garlic grown for dehydration only, at least 30 days before harvest. Do not apply to garlic grown for seed or make aerial pre-harvest applications.
- Wait 3 days after application before planting cantaloupe, casaba, chayote, Chinese okra, Chinese waxgourd, cucumber, cucuzza, edible gourd, eggplant, gherkin, gourds, groundcherry, melons (all), pepper (all), pumpkin, squash, tomatillo, watercress, and watermelon.
- If transplanting into plastic mulch, ensure residues of this product are removed from the plastic prior to transplanting. Residues can be removed by a minimum of ½ inch of sprinkler irrigation or rainfall.
- Preharvest application is not recommended for legumes grown for seed as reduction in germination or vigor may occur.

Tank Mixtures With Residual Herbicides for Preplant/Preemergence Use in Vegetables

Touchdown HiTech can be tank mixed with the following herbicides for control or suppression of annual and perennial weeds provided that the tank mix product label allows use of the product. Refer to the **Weeds Controlled** section for application rates and timing. Apply Touchdown HiTech at 0.6-4.8 pts./A in these tank mixes for control or suppression of annual and perennial weeds. For control or suppression of dense populations of weeds greater than 12 inches in height or weeds under stress, consider use rates at the higher end of the rate range.

Command

Dual Magnum
Dual II Magnum
Fusilade DX
Goal
Kerb

Lorox
Matrix®
Prefar®
Prowl
Sencor

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

Preharvest

Touchdown HiTech may be applied over-the-top of dry beans, peas, lentils and chickpeas to control weeds before harvest. Apply no more than 20 fl oz/A in dry beans or no more than 58 fl oz/A in peas, lentils, and chickpeas in 3-20 gallons of water per acre at the hard dough stage of the legume seed (30% or less grain moisture). Only one application per year may be made.

In California only, Touchdown HiTech may be applied by ground equipment prior to harvest of garlic grown for dehydration, to control weeds such as field bindweed and nutsedge. Apply 20 to 40 fl oz/A Touchdown HiTech in a minimum of 5 gal/A when garlic tops have fully dried and there is no green tissue present.

Spot Treatment

Touchdown HiTech may be applied as a spot treatment to control troublesome weeds in dry beans at no more than 20 fl oz/A and in peas, lentils, and chickpeas at no more than 58 fl oz/A. Apply in 10-20 gallons of water using a ground sprayer or use a 2% solution in a hand-held sprayer. For best results, make applications at or beyond the

GENERAL INFORMATION - NONAGRICULTURAL USE AREAS

Touchdown HiTech may be used for control of a broad spectrum of emerged annual and perennial grass and broadleaf weeds and unwanted woody brush and trees in **NONAGRICULTURAL USE AREAS** including; Christmas tree farms; farmsteads fencerows; forestry and utility rights-of-way; golf courses, habitat management and habitat restoration; highways; natural areas; railroads; roadsides; turfgrass (including roadsides).

FORESTRY AND UTILITY RIGHTS-OF-WAY USES

Touchdown HiTech may be used for the control or partial control of woody brush, trees, annual, and perennial weeds in forestry and utility sites. Touchdown HiTech may also be used in preparing or establishing wildlife openings within these sites, for maintaining logging roads, and for side trimming along utility rights-of-way (including electrical power; pipeline and telephone rights-of-way; and utility sites such as substations).

Broadcast applications can be made at 1-6 qt/A in 5-30 gals./A by air; and 10 to 60 gallons/A by ground.

Spray to wet applications can be made with a handgun, backpack, or mistblower applicator with a 0.6 to 1.7% spray solution. For low volume directed spray applications, use a 4 to 8% solution of TouchdownHiTech. Handguns, backpack, or mistblower applicators can be used. For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results.

Use of 0.5 to 1% NIS is recommended. Mix 2-4 qt of NIS per 100 gallons of spray solution.

Refer to the **WEEDS, WOODY BRUSH AND TREES CONTROLLED** sections for use rates. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the specified range for control of perennial weeds any time after emergence and before seedheads, flowers, or berries appear.

Use the lower rates of Touchdown HiTech within the specified range for control of annual weeds and actively growing perennial weeds after seedheads, flowers, or berries appear.

Tank Mixtures for Use in Forestry Site Preparation and Utility Rights-of-Way

Tank mixtures of Touchdown HiTech may be used to increase the spectrum of vegetation controlled. Any specified rate of Touchdown HiTech may be used in a tank mix.

Arsenal®

Chopper®

Escort®

Garlon™ 3A

Garlon™ 4

Oust XP

Vanquish®

- Only use Garlon 4 tank mixes or use Touchdown HiTech alone at specified rates in utility side trimming.
- Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding to tank mixture. Ensure adequate agitation at the time Garlon 3A is added to avoid spray compatibility problems.
- For forestry site preparation, make sure the tank mix product is approved for use prior to planting desired species.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

Forestry Conifer and Hardwood Release – Directed Spray and Selective Equipment

Touchdown HiTech may be applied with selective equipment or as a directed spray for forestry conifer and hardwood release, including Christmas tree plantations and silvicultural nurseries. See the **APPLICATION PROCEDURES** section for recommended equipment.

Spray to wet applications can be made with a 1.7% spray solution for control of undesirable woody brush and trees. Use a 0.8 to 1.7% spray solution for most annual and perennial weeds. For low volume directed spray applications, use a 4-8% solution of Touchdown HiTech. Handguns, backpack, or mistblower applicators can be used. Coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results.

Equipment calibrated for broadcast applications can be used. Use 1.2 to 6.0 qt of Touchdown HiTech in 10 to 60 gallons of clean water per acre. Use shielded application equipment to avoid contact with foliage or green bark of desirable plants.

Use of 0.5 to 1.5% NIS is recommended. Mix 2-6 qt NIS per 100 gallons of spray solution.

Wiper application equipment may be used. Refer to the **Wiper Applicators and Sponge Bars** section for rate and use directions.

Refer to the **WEEDS, WOODY BRUSH AND TREES CONTROLLED** sections for use rates. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the specified range for control of perennial weeds any time after emergence and before seedheads, flowers, or berries appear.

Use the lower rates of Touchdown HiTech within the specified range for control of annual weeds and actively growing perennial weeds after seedheads, flowers, or berries appear.

Tank Mixtures for Use in Directed Spray and Selective Equipment

Tank mixtures of Touchdown HiTech may be used to increase the spectrum of vegetation controlled. Any specified rate of Touchdown HiTech may be used in a tank mix.

Arsenal
Garlon 4
Oust XP

- Only use Oust XP tank mixes or use Touchdown HiTech alone at specified rates in hardwood plantations.
- Only use Garlon 4 or Arsenal tank mixes or use Touchdown HiTech alone at specified rates in pine plantations.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of trees, woody brush, and weeds controlled.

Forestry Conifer Release – Broadcast Spray

Use of 0.25 to 1% NIS is recommended. Mix 1-4 qt NIS per 100 gallons of spray solution.

To avoid injury to desirable species, make sure final resting buds have formed and are well hardened off before fall application or prior to initial bud swelling in the spring.

Outside Southeastern U.S.

Touchdown HiTech can be used as a broadcast spray for conifer forest release. Apply Touchdown HiTech at 0.6 to 1.8 qt/A for species listed in the following table in areas outside the southeastern U.S., unless specified otherwise in the table.

Use for Release of the Following Conifer Species Outside the Southeastern U.S.

| Species | Scientific Name | Remarks |
|---------------------|------------------------------|---|
| Douglas Fir | <i>Pseudotsuga menziesii</i> | Apply 0.6 to 0.9 qt/A at end of first growing season (except CA). |
| Fir | <i>Abies</i> spp. | --- |
| Hemlock | <i>Tsuga</i> spp. | Do not add surfactant. Injury may result. |
| Pines | <i>Pinus</i> spp. | Not for use on loblolly, long leaf, short leaf, or slash pine. Apply 0.6 to 0.9 qt/A at end of first growing season (except CA). |
| Redwood, California | <i>Sequoia</i> spp. | Do not add surfactant. Injury may result. |
| Spruce | <i>Picea</i> spp. | In Michigan, Minnesota, and Wisconsin, up to 1.8 qt/A may be used for difficult to control woody brush and trees. In other areas, apply 0.6 to 0.9 qt/A at end of first growing season. |

Tank Mixtures for Broadcast Sprays Outside the Southeastern U.S.

Tank mixtures of Touchdown HiTech may be used to increase the spectrum of vegetation control.

Arsenal Applicators Concentrate

Oust XP

- In Maine and New Hampshire, use 1 fl oz/A of Arsenal Applicators Concentrate in a tank mix to control difficult species.
- For Douglas Fir release, use 2 to 6 fl oz/A of Arsenal Applicators Concentrate in a tank mix with 0.6 to 0.9 qt/A of Touchdown HiTech.
- For Balsam Fir and Red Spruce release, use 1 to 2.5 fl oz/A of Arsenal Applicators Concentrate with 1.2 qt/A of Touchdown HiTech.
- For Jack Pine and White Spruce release, use 1 to 3 oz/A of Oust XP in a tank mix with 0.6 to 1.2 qt/A of Touchdown HiTech. For White Pine release, use 1 to 1.5 oz/A of Oust XP in a tank mix with 0.6 to 1.2 qt/A of Touchdown HiTech. Over-the-top applications to established stands can be made. Make sure late summer or final fall resting buds have formed before application.

Forestry Conifer Release – Broadcast – Annual and Perennial Weed Control

Touchdown HiTech may be used for the control of annual weeds and control or suppression of perennial weeds listed in the **WEED CONTROL** sections (Table 1 and 2). Make applications to actively growing weeds as a broadcast spray over the top of labeled conifers. For best results, apply in a maximum of 25 gallons of clean water per acre.

Tank Mixtures for Residual Annual and Perennial Weed Control in Conifer Forests

Touchdown HiTech in a tank mix with the following residual herbicides can provide residual control of annual and perennial weeds.

Atrazine

Oust XP

- For Loblolly Pine release, apply 9.6 to 14.4 fl oz/A of Touchdown HiTech in a tank mix with 2 to 4 oz/A of Oust XP.
- For Slash Pine release, apply 7.2 to 9.6 fl oz/A of Touchdown HiTech in a tank mix with 2 to 4 oz/A of Oust XP.
- These applications can be made to newly planted pines. For best results, apply after emergence of annual and perennial weeds in the spring or early summer. May and June applications are often the best.
- For Douglas Fir release, apply 0.6 qt/A of Touchdown HiTech in a tank mix with 4 lb a.i./A atrazine. Do not add surfactant. Applications can only be made to Douglas firs established at least one full growing season. Apply in early spring (mid-March to early April) before bud swell. Injury will occur if applications are made after bud swell.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of trees, woody brush, and weeds controlled.

Railroads

For specific use rates, refer to **WEEDS CONTROLLED, WOODY BRUSH AND TREES CONTROLLED** section.

Touchdown HiTech may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of Touchdown HiTech may be used, as weeds emerge, to maintain bare ground. Touchdown HiTech may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used. Touchdown HiTech may be tank mixed with the following products for ballast, shoulder, spot, bare ground, and crossing treatments.

| | | | | |
|---------|---------|---------|----------|-------|
| Arsenal | Escort | Krovar | Spike® | 2,4-D |
| Banvel | Garlon™ | Oust XP | Telar | |
| Diuron | Hyvar® | Sahara | Vanquish | |

Woody Brush and Tree Management

For specific use rates, refer to **WEEDS CONTROLLED, WOODY BRUSH AND TREES CONTROLLED** section.

Touchdown HiTech may be used to control woody brush and tree weeds in any area described in **GENERAL USE AREAS**.

Apply Touchdown HiTech as a broadcast spray, using boom-type or boomless nozzles.

Apply a 0.6 to 1.7% solution of Touchdown HiTech when using high-volume spray-to-wet applications. Use a 4-8% solution of Touchdown HiTech when using low volume directed sprays for spot treatment.

For weeds that have been mowed, grazed, or cut; allow regrowth to occur prior to treatment. Reduced results may occur when treating weeds heavily covered with dust.

Tank Mixtures for Woody Brush Control on Railroad Rights-of-Way

Touchdown HiTech can be tank mixed with the following products for enhanced control of woody brush and trees.

| | |
|---------|---------|
| Arsenal | Garlon |
| Escort | Tordon® |

Cut Stumps

Touchdown HiTech will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed. Apply Touchdown HiTech using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100% solution of Touchdown HiTech completely covering the freshly-cut surface immediately after cutting. Application delay may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion. Avoid applications during peak sap flow in spring.

| | | |
|--------------|-------------|------------|
| Alder | Madrone | Salt-cedar |
| Coyote Brush | Maple | Sweetgum |
| Dogwood | Oak | Tan oak |
| Eucalyptus | Poplar | Willow |
| Hickory | Reed, giant | |

Note: Avoid making cut stump applications when roots of desirable adjacent trees may have grafted onto the roots of the cut stump.

Tree Injections and Frill Applications

Touchdown HiTech may be used to control woody brush and trees by using injection and frill applications in any areas described in **GENERAL NONAGRICULTURAL USE AREAS**.

Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). For best results, apply a 25 to 100% solution of Touchdown HiTech to a continuous frill or to evenly spaced cuts around the tree below all branches. In larger diameter trees, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings.

Avoid runoff in species that exude sap freely by making frills or cuts at an oblique angle, producing a cupping effect. Use Touchdown HiTech in an undiluted form. For best results, avoid applications during peak sap flow in the spring. Make applications during periods of active growth and after full leaf expansion.

Following is a partial list of species that can be controlled using this technique.

| | |
|-------------------------|----------|
| Black gum ¹ | Oak |
| Dogwood ¹ | Poplar |
| Hickory ¹ | Sweetgum |
| Maple, red ¹ | Sycamore |

¹Partial Control

Note: Avoid making injection or frill applications when roots of desirable adjacent trees may have grafted onto the roots of the cut stump.

ROADSIDES

For specific use rates, refer to **WEEDS CONTROLLED, WOODY BRUSH AND TREES CONTROLLED** section.

Touchdown HiTech may be used on road shoulders, medians, and landscape areas. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

Touchdown HiTech may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Touchdown HiTech may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Touchdown HiTech may be tank mixed with the following products for shoulder, guardrail, spot, and bare ground treatments:

| | | | | |
|-----------|---------|----------|----------|----------|
| Banvel | Escort | Pendulum | Sahara | Telar |
| Diuron | Krovar | Princep | Simazine | Vanquish |
| Endurance | Oust XP | Ronstar | Surflan | 2,4-D |

TURFGRASS USES (INCLUDING ROADSIDES)

Touchdown HiTech may be used on turf in any areas described in **GENERAL NONAGRICULTURAL USE AREAS**.

Chemical Mowing

Touchdown HiTech, at 4 fl oz in 10 to 40 gallons of water per acre, will suppress Kentucky bluegrass and serve as a substitute for mowing.

Touchdown HiTech, at 5 fl oz in 10 to 40 gallons of water per acre, will suppress fine fescue, orchardgrass, quackgrass, or tall fescue and serve as a substitute for mowing.

Touchdown HiTech, at 2 to 3 fl oz in 10 to 40 gallons of water per acre, will suppress some annual grasses such as ryegrass, wild barley, and wild oats growing in coarse turf on roadsides or other industrial areas. Make applications while the annual grasses are actively growing and before the seedheads reach the boot stage of development. Treatment may cause injury to the desired grasses.

Dormant Bermudagrass

Touchdown HiTech may be used to control or partially control many winter annual weeds and tall fescue for effective release in dormant bermudagrass. Treat only when turf is dormant and prior to spring greenup. Apply 5 to 38 fl oz of Touchdown HiTech in 10 to 40 gallons of water per acre to control winter annuals less than 6 inches in height and tall fescue at or beyond the 4 to 6 leaf stage.

Dormant Bahiagrass

Touchdown HiTech may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bahiagrass. Treat only when turf is dormant and prior to spring greenup. Apply 5 to 38 fl oz of Touchdown HiTech in 10 to 40 gallons of water per acre to control winter annuals less than 6 inches in height and tall fescue at or beyond the 4 to 6 leaf stage.

Rates to Achieve Control (C) or Suppression (S) in Dormant Bermudagrass and Bahiagrass

| | Touchdown HiTech fluid oz/acre | | | | |
|---------------------|--------------------------------|-----|-----|------|----|
| Weed Species | 4.8 | 7.2 | 9.6 | 14.4 | 19 |
| Barley, little | S | C | | | |
| Bedstraw, catchweed | S | C | | | |
| Bluegrass, annual | S | C | | | |
| Chervil | S | C | | | |
| Chickweed, common | S | C | | | |
| Clover, crimson | * | S | S | C | |
| Clover, largehop | * | S | S | C | |
| Fescue, tall | * | * | * | * | S |
| Geranium, Carolina | * | * | S | S | C |
| Henbit | * | S | C | | |
| Ryegrass, Italian | * | * | S | C | |
| Speedwell, corn | S | C | | | |
| Vetch, common | * | * | S | C | |

*These rates apply only to sites where an established competitive turf is present.

Tank Mix with Oust XP - Dormant Bermudagrass

Touchdown HiTech can be tank mixed with Oust XP for residual control. Apply 5 to 40 fl oz of Touchdown HiTech with 0.25 to 1 oz of Oust XP per acre. Use where some temporary injury or discoloration to a desirable bermudagrass stand can be tolerated. Use a maximum of 1 oz of Oust XP to minimize injury and avoid delays in greenup.

Actively Growing Bermudagrass

Touchdown HiTech may be used to control or partially control many annual and perennial weeds for effective release in actively growing, well established bermudagrass. Apply 10 to 30 fl oz of Touchdown HiTech in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height or runner length. Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass
Bluestem, silver
Fescue, tall

Johnsongrass*
Trumpetcreeper**
Vaseygrass

*Johnsongrass is controlled at the higher rate.

**Suppression at the higher rate only.

Use only on well established bermudagrass. Bermudagrass injury may occur but regrowth will occur under moist conditions. Repeat applications are not recommended in the same season.

Tank Mix with Oust XP - Actively Growing Bermudagrass

Touchdown HiTech can be tank mixed with Oust XP for residual control. Apply 10 to 19 fl oz of Touchdown HiTech with 1 to 2 oz of Oust XP per acre. Use lower rates of both products when treating annual weeds below 6 inches in height or runner length. Use the higher rates of both products as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass
Bluestem, silver
Broomsedge

Dallisgrass
Dock, curly
Dogfennel

Fescue, tall
Johnsongrass
Poor Joe

Trumpetcreeper
Vaseygrass
Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may occur but regrowth will occur under moist conditions. Repeat applications are not recommended in the same season.

Tank Mix with Oust XP - Dormant Bahiagrass

Touchdown HiTech can be tank mixed with Oust XP for residual control. Apply 5 to 38 fl oz of Touchdown HiTech with 0.25 to 0.5 oz of Oust XP per acre. Use where some temporary injury or discoloration to a desirable bahiagrass stand can be tolerated.

Actively Growing Bahiagrass

Touchdown HiTech, at 3 fl oz in 10 to 40 gallons of spray solution per acre, may be used to suppress vegetative growth and inhibit seedhead formation of actively growing bahiagrass for approximately 45 days. Make applications 1 to 2 weeks after green-up or after mowing to a height of 3 to 4 inches. Applications must be made before seedhead emergence. Suppression can be extended to 120 days with an application of Touchdown HiTech at 2.5 fl oz, followed in 45 days with an application at 1.25 to 2.5 fl oz. Do not make more than 2 applications per year.

Tank Mix with Oust XP - Actively Growing Bahiagrass

Touchdown HiTech can be tank mixed with Oust XP for residual control. One to 2 weeks following an initial spring mowing, apply 3.6 fl oz. of Touchdown HiTech with 0.25 oz of Oust XP. Do not make more than one application per year.

Bahiagrass Seedhead and Vegetative Suppression – Touchdown HiTech, at 3.6 fl oz in 10 to 25 gallons of spray solution per acre, may be used to suppress vegetative growth and inhibit seedhead formation of actively growing bahiagrass for approximately 45 days. Make applications 1 to 2 weeks after green-up or after mowing to a height of 3-4 inches. Applications must be made before seedhead emergence. Suppression can be extended to 120 days with an application of Touchdown HiTech at 2.4 fl oz, followed in 45 days with an application at 1.2 to 2.3 fl oz. Do not make more than 2 applications per year.

Annual Grass Suppression in Rough Turf - Touchdown HiTech at 2.4 to 3 fl oz in 10 to 40 gallons of spray solution per acre, may be used to suppress growth of some annual grasses (such as annual ryegrass, wild barley, and wild oats) growing in coarse turf on roadsides or other industrial areas. Make applications when annual grasses are actively growing and before seedheads are in the boot stage. Treatments after seedhead emergence may cause injury to desired grasses.

Renovation; Seed or Sod Production

Touchdown HiTech may be used to renovate turf in any areas described in **GENERAL NONAGRICULTURAL USE AREAS**.

Touchdown HiTech controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm season grasses such as bermudagrass, summer or fall applications provide the best control where existing vegetation is growing under mowed turfgrass management. Apply Touchdown HiTech after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

General Use Precautions and Restrictions for Turfgrass Uses

A nonionic surfactant (NIS) or wetting agent (approved for intended use) must be added at 0.25% v/v (1 qt NIS or wetting agent/100 gallons) of finished spray volume.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring, or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures. Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Application of rates greater than 10 fl oz/A of Touchdown HiTech may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns.

- Oust XP tank mixes must not be used in highly maintained turfgrass.
- Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.
- Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.