



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

August 25, 2015

Craig D. Kleppe, Ph.D.
Product Registration Manager
BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

Subject: Notification per PRN 98-10 – Changes to Ornamental Plant and Weeds
Controlled Lists
Product Name: Tower Herbicide
EPA Registration Number: 7969-239
Application Date: August 7, 2015
Decision Number: 508160

Dear Dr. Kleppe:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please contact Emily Schmid by phone at 703-347-0189, or via email at schmid.emily@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Emily Schmid" followed by a stylized flourish.

Reuben Baris, Product Manager 25
Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs



**For use as a preemergence weed control herbicide in
commercial ornamental production, landscape and grounds maintenance,
tree plantations, and turfgrass areas**

Active Ingredient*:

dimethenamid-P: (S)-2-chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)-acetamide 63.9%

Other Ingredients:** 36.1%

Total: 100.0%

* Contains 6.0 pounds of active ingredient per gallon

** Contains petroleum distillates

EPA Reg. No. 7969-239

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
WARNING/AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use,
Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

**In case of an emergency endangering life or property involving this product,
call day or night 1-800-832-HELP (4357).**

NOTIFICATION

7969-239

The applicant has certified that no
changes, other than those reported to
the Agency have been made to the
labeling. The Agency acknowledges
this notification by letter dated:

08/25/2015

Net Contents:

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eyes. • Call a poison control center for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give any liquid to the person. • DO NOT give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	
NOTE TO PHYSICIAN: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.	

Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING. Causes substantial but temporary eye injury. Harmful if inhaled, swallowed, or absorbed through the skin. **DO NOT** get in eyes or on clothing. Avoid contact with skin. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

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)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for **applicators and other handlers** and have such PPE immediately for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS

Users should:

- 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

DO NOT apply directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

Dimethenamid-P has properties that may result in ground-water contamination. Application in areas where soils are permeable or coarse and groundwater is near the surface could result in groundwater contamination.

Dimethenamid-P 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.

Point-source contamination. To prevent point-source contamination, **DO NOT** mix or load this or any other pesticide product within 50 feet of wells (including abandoned wells and drainage wells), sinkholes, 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 dike mixing/loading areas as described below.

Mixing, loading, rinsing, or washing operations performed within 50 feet of a well are allowed only when conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be on or move across the pad. The pad must be self-contained to prevent surface water flow over or from the pad. The pad capacity must be maintained at 110% that of the largest pesticide container or application equipment used on the pad and have sufficient capacity to contain all product spills, equipment or container leaks, equipment washwater, and rainwater that may fall on the pad. The containment capacity does not apply to vehicles delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment. Care must be taken when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixes, or rinsates.

Check valves or antisiphoning devices must be used on all mixing equipment.

Movement Dissolved in Runoff or Through Soil

DO NOT apply under conditions which favor runoff.

DO NOT apply to impervious substrates such as paved or highly compacted surfaces or frozen soils. Groundwater contamination may occur in areas where soils are permeable or coarse and groundwater is near the surface. To minimize the possibility of groundwater contamination, carefully follow application rates as affected by soil type in the **Use Information** section of this label.

DO NOT apply if all three criteria exist:

1. Coarse soils classified as sand (does not include loamy sand or sandy loam)
2. Less than 3% organic matter (as determined by soil tests, if not known)
3. Where depth to groundwater is 30 feet or less

Endangered Species Protection

This product may have effects on federally listed threatened or endangered plant species or their critical habitat. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

To avoid adverse effects on endangered plant species, applicators in ornamentals production must comply with the following mitigation measures where and when endangered plant species are known to occur in proximity to the application site:

Ground Application

Use low-pressure nozzles according to the manufacturer's specifications that produce only medium-to-coarse or very coarse droplets **AND** leave a 35-foot untreated buffer between treatment area and known endangered plant populations.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at time of herbicide application. Use of **Tower® herbicide** not consistent with this label can result in injury to plants, animals, or persons.

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.

BASF Corporation does not recommend or authorize the use of this product in manufacturing, processing, or preparing custom blends with other products for application to ornamentals and turfgrass.

DO NOT contaminate irrigation ditches or water used for domestic purposes.

Tower is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.

Tower is intended for use only by certified applicators or persons under their direct supervision.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL OR PLANT INJURY.

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
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

DO NOT enter treated areas without protective clothing until sprays have dried. Only protected applicator shall be in the treatment area during application.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage

DO NOT use or store near heat or open flame. Store in original container in a well-ventilated area separately from fertilizer, feed, or foodstuffs and away from other pesticides. Avoid cross-contamination with other pesticides. Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

Pesticide Disposal

Wastes resulting from this product must be disposed of on-site or at a waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Keep containers closed to avoid spills and contamination.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) 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.

Triple rinse containers too large to shake (capacity > 5 gallons) 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.

(continued)

STORAGE AND DISPOSAL *(continued)*

Container Handling *(continued)*

Pressure rinse as follows: Empty the remaining contents into application equipment or 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.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Steps to take if material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Use Information

Mode of Action

Dimethenamid-P, the active ingredient in **Tower® herbicide**, is a shoot growth inhibitor that controls susceptible germinating seedlings before or soon after they emerge from the soil. Dimethenamid-P is a chloroacetamide herbicide belonging to the herbicide mode-of-action **Group 15** (WSSA)/**Group K3** (HRAC).

Use Sites

Tower is a selective preemergence herbicide for the control of certain annual grasses, annual broadleaf weeds, and sedges as they germinate in:

- **Commercial ornamental production**
- **Landscape and grounds maintenance**
- **Tree plantations**
- **Turfgrass areas**
 - golf courses
 - sod farms
 - commercial and/or industrial grounds
 - parks and recreation areas
 - athletic and sports fields
 - lawns and residential settings
 - schoolyards and playgrounds

Tower may be applied as a soft-residual bareground treatment in the use sites described above.

Tower will not control emerged and established weeds.

A **Tower** treatment may be followed by any registered herbicide to control weeds not listed on the **Tower** label.

Application Information

Application Mixing Instructions

Compatibility Test for Mix Components

Before tank mixing, always perform a simple jar test to ensure compatibility of herbicides.

1. For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.
2. Add components in the sequence indicated in the **Mixing Order for Ground-driven and Backpack Sprayers** section using 2 teaspoons for each pound or 1 teaspoon for each pint of label rate per acre.
3. Always cap the jar and invert 10 cycles between component additions.
4. When the components have all been added to the jar, let the solution stand for 15 minutes.
5. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, **DO NOT** mix the ingredients in the same tank.

Mixing Order for Ground-driven and Backpack Sprayers

Maintain continuous and constant agitation throughout mixing and application until spraying is completed.

1. **Water** - Fill a thoroughly clean sprayer tank 1/2 to 3/4 with clean water and start agitation.
2. **Inductor** - If an inductor is used, rinse it thoroughly after each component has been added.
3. **Products in PVA bags** - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. **Water-soluble additives** (such as water-soluble fertilizers when applicable)
5. **Water-dispersible products** (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions)
6. **Water-soluble products** (such as **Pendulum® AquaCap™ herbicide**)
7. **Emulsifiable concentrates** (such as **Tower** or oil concentrate when applicable)
8. **Remaining quantity of water**

If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

Tank Mixing Information

Tower® herbicide may be tank mixed with one or more registered herbicide products according to the specific tank mixing instructions in this label and respective product labels, provided that the product labels do not prohibit such mixing. Follow the most restrictive label use directions and limitations for all products used.

Physical incompatibility, reduced weed control, or plant injury may result from mixing **Tower** with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. Subsequent applications of postemergence herbicides may cause plant injury. Consult your local BASF dealer regarding local tank mix options. Refer to **Plant Safety Restrictions and Limitations** section.

Additives

Spray adjuvants have little or no influence on the performance of **Tower** when applications are made before weed emergence. However, several tank mixes with **Tower** could require adjuvants to improve burndown of emerged and/or established weeds. Therefore, surfactants or crop oil concentrate may be used with **Tower** tank mixes applied to emerged and/or established weeds. Follow the adjuvant specifications on the tank mix partner's label.

MANAGING OFF-TARGET MOVEMENT

Spray Drift

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-related and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. Where states have more stringent regulations, they must be observed.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension Service on the application of this product.

Information on Droplet Size

The best drift management strategy and most effective way to reduce drift potential is to apply large droplets that provide sufficient coverage and control.

Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see **Wind**; **Temperature and Humidity**; and **Temperature Inversions**).

Controlling droplet size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - **DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. **DO NOT** use nozzles producing a mist droplet spray.

Application Height

Making applications at the lowest possible height (ground-driven spray boom) that is safe and practical reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the application area, the applicator must compensate for this displacement by adjusting the path of the application equipment (e.g. ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

Wind

Drift potential is lowest between wind speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 mph because of variable wind direction and high inversion potential.

NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversion

Applications should not occur during temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud that can move in unpredictable directions because of the light, variable winds common during inversions. Temperature inversions

are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light-to-no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or nontarget areas) is minimal. **DO NOT** apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

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. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

Application Equipment, Methods, and Rates

Tower® herbicide provides most effective weed control when applied by ground equipment and subsequently incorporated into soil by rainfall, sprinkler irrigation, or by mechanical methods before weed seedling emergence from soil. **Tower** may be applied using water as the spray carrier. Additionally, **Tower** may be impregnated on and applied with dry bulk fertilizer. Sprayable fluid fertilizer as a carrier is not authorized for use.

Spraying Instructions

Uniformly apply with properly calibrated spray equipment in sufficient water per acre to uniformly treat the area with a spray pressure of 25 to 50 PSI. Suggested spray volumes are 20 to 200 GPA for landscape and ornamental applications and 10 to 200 GPA for turfgrass and other noncrop applications such as soft-residual bareground applications. Avoid overlaps that will increase rates above those specified.

Avoid unintentional contact of spray solution with sidewalks, driveways, stone, wood, or other porous surfaces.

Cleaning Spray Equipment

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the

manufacturer’s directions; then triple rinsing the equipment before and after applying this product.

Application with Backpack or Handheld Spray Equipment

Refer to **Table 1** to determine the amount of **Tower** to apply per 1000 square feet. The amount of water used for the application is not critical but should be sufficient for thorough coverage without runoff. Calibration of backpack sprayer or other handheld spray equipment will vary with each operator. Determine the amount of water needed to treat 1000 square feet before mixing the spray solution. Follow information in **Application Mixing Instructions** section of this label.

Ground Application (dry bulk fertilizer)

Tower may be impregnated or coated onto dry bulk granular fertilizer carriers for preemergence surface application. Impregnation or coating may be conducted by the in-plant bulk system or the on-board system. When impregnated onto some dry fertilizer blends, **Tower** may exhibit a strong odor. Apply **Tower** within 30 days after impregnation on dry bulk fertilizer.

Apply 200 to 750 pounds of the fertilizer and herbicide blend per acre. Application must be made uniformly to the soil to prevent possible plant injury and offer satisfactory weed control. Impregnated fertilizer spread at 1/2 rate and overlapped to obtain a full rate will offer a more uniform distribution.

Formula to determine the herbicide rate when using dry bulk fertilizer application:

fluid ounces or pounds
of herbicide per acre

÷

pounds of fertilizer
per acre

×

2000

=

fluid ounces or
pounds of
herbicide per ton
of fertilizer

Incompatible Fertilizer Mixtures

DO NOT impregnate **Tower** alone or with mixes on ammonium nitrate, potassium nitrate, or sodium nitrate fertilizers or fertilizer blends. Single super phosphate (0-20-0) and triple super phosphate (0-46-0) may be impregnated only with **Tower** alone.

Application Rates

For preemergence control of weeds in **Table 13** apply **Tower** at use rates in **Table 1**.

Table 1. Application Rates

Rate	Tower (fl ozs/acre)	Tower (fl ozs/1000 sq ft)
Low*	21	0.48 (14 mL)
High	32	0.73 (21 mL)

* Where heavy weed infestations are expected, apply up to 32 fluid ounces of **Tower** per acre.

Tower may be applied in a single application or in sequential applications.

In a single application, **DO NOT** apply more than the equivalent of 32 fluid ounces of **Tower® herbicide** per acre.

For extended weed control, sequential applications of **Tower** can be made 5 to 8 weeks between applications in turfgrass, and 6 to 8 weeks between applications in ornamentals. In a single growing year, **DO NOT** apply more than the equivalent of 64 fluid ounces of **Tower** per acre. **Tower** may be applied in a sequential use program with other herbicides that control emerged weeds.

Application Restrictions and Limitations

- **DO NOT** apply more than 1.5 lbs active ingredient dimethenamid-P (32 fluid ounces of **Tower**) per acre per application.
- **Maximum annual use rate - DO NOT** apply more than a total of 3.0 pounds of active ingredient dimethenamid-P (64 fluid ounces per acre or 1.46 fluid ounces per 1000 sq ft of **Tower**) per year.
- **To avoid the possibility of plant damage, DO NOT** apply **Tower** to turfgrass or ornamental plants growing under stress from seedling diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought.
- **DO NOT** apply **Tower** to **actively growing** turfgrass and/or ornamental plants when soil temperature is less than 55° F.
- **DO NOT** apply to plants showing symptoms of stress or injury, such as stunting, wilting, leaf burn or drop, or abnormal growth.
- **DO NOT** apply through any type of irrigation system.
- **DO NOT** apply by air.
- **DO NOT** harvest fruit, nuts, or berries within one year after **Tower** application.
- **DO NOT** apply this product over more than 30 acres per day using handheld equipment.
- **DO NOT** tank mix **Tower** with other pesticides or additives that have not been tested for tolerance under local conditions. If tank mixed with another product, always test a small group of representative plants for tolerance before large-scale use.
- **DO NOT** tank mix **Tower** with other products such as an insecticide, fungicide, herbicide, plant growth regulator, or adjuvant unless you have performed a small test on the target plants and know the plant safety.
- **DO NOT** apply spray containing glyphosate or glufosinate over the top of desirable plants.

Specific Use Site Information

Commercial Ornamental Production

Tower can be used in and around field, liner, and container nurseries of commercial ornamental production.

Applications can be made to, but are not limited to, ornamental plants listed on this label such as trees, shrubs, ground covers, herbaceous perennials, and bedding plants. Applications can also be made to nurseries such as seedling juvenile fruit and nut trees, conifer and hardwood seedling liner nurseries or tree plantations, and the nonproduction areas in commercial nurseries such as storage areas, vegetation filter strips, windbreaks, shelterbelts, cart paths, and graveled areas.

Tower may be applied to juvenile fruit and nut trees, vines, brambles, and bushberries grown in commercial ornamental production nurseries. Juvenile trees, vines, brambles, and bushberries are grown in ornamental production nurseries where immature and/or inedible fruits or nuts or berries may appear on the tree, vine, bramble, and bush but are not intended for harvest or consumption.

Tower sprays are safe around and over the top of established ornamental plants listed in **Table 4**.

NOTE: **Tower** can only be used on established liner beds with well-rooted plants and/or rootstocks.

Areas to be treated with **Tower** should be free of established weeds at the time of treatment.

Plant Tolerance and Phytotoxicity Notice

Tower has been applied to a wide variety of common ornamental plants without observed plant injury. Refer to **Table 4** for the list of plants shown to be tolerant to **Tower**. Not all species, varieties, and cultivars have been tested for tolerance to **Tower**, possible tank mix combinations with **Tower**, pesticide treatments before or after those with **Tower**, and combinations of **Tower** with surfactants or adjuvants. Local conditions can also influence plant tolerance and may not match those under which BASF has conducted testing. Because many cultivars within a plant species vary in tolerance to chemical applications and growing conditions, the grower must recognize these differences and test the product accordingly. At a minimum, always test a small group of representative plants for tolerance to **Tower** under local growing conditions and before large-scale use. Refer to **Table 2** for the list of sensitive ornamental plants and to **Table 3** for specific ornamental use-site application instructions and restrictions.

Grower assumes responsibility for testing ornamental suitability under local growing conditions by treating a small number of plants at the specified rate. **At a minimum, this should include evaluating treated plants for several weeks** following treatment for possible injury or other effects. To the extent consistent with applicable law, by applying **Tower**, the user assumes responsibility for any plant damage or other liability associated with factors beyond the manufacturer's control, such as weather, presence of other materials, and manner or use of application inconsistent with this labeling.

Table 2. Sensitive Ornamentals Plants

DO NOT apply **Tower® herbicide** to these ornamentals because unacceptable phytotoxicity may occur.

Common Name	Scientific Name
Begonia	<i>Begonia</i> spp.
California fuchsia	<i>Epilobium canum</i>
Candytuft	<i>Iberis sempervirens</i>
Columbine	<i>Aquilegia</i> spp.
Impatiens	<i>Impatiens</i> spp.
Purple coneflower	<i>Echinacea purpurea</i>
Sedum and/or Stonecrop	<i>Sedum</i> spp.
Ornamental grasses	

Refer to **Table 1** for use rates, **Table 4** for list of ornamental plants, and **Table 13** for weeds controlled.

Ornamental Tank Mixes

For preemergence control of additional weeds, tank mix **Tower** with **Pendulum® AquaCap™ herbicide**, or other herbicides labeled for preemergence use on ornamentals. Refer to manufacturer's labels for specific instructions and follow the most restrictive.

Table 3. Specific Ornamental Use Site Instructions

Site	Application Instructions and Restrictions
Newly transplanted field-grown nursery stock	<ul style="list-style-type: none"> • DO NOT apply over the top at time of field transplanting. Use shielded sprayer until plantings have been established for 1 year or more in the field. • DO NOT apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Ensure there are no cracks in the soil where Tower® herbicide could come into contact with the roots. • DO NOT apply during bud swell, bud break, or at time of first flush of new growth. • Direct spray away from grafted or budded tissue on transplants at all times.
Newly transplanted container-grown nursery stock	<ul style="list-style-type: none"> • DO NOT apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Ensure there are no cracks in the soil where Tower could come into contact with the roots. • For container-grown ornamentals, delay first application of the product to bareroot liners or young seedlings (e.g. plugs) for 2 weeks after transplanting. • DO NOT apply to unrooted liners or to plugs. Liners must be well-rooted and soil settled in pot with previous irrigation events before use in container. • DO NOT apply during bud swell, bud break, or at time of first flush of new growth. • Direct spray away from grafted or budded tissue on transplants at all times.
Established container or field-grown nursery stock	<ul style="list-style-type: none"> • DO NOT use on bareroot liner production beds until liners are well-rooted. • DO NOT apply during bud swell, bud break, or at time of first flush of new growth. • Apply as a directed or over-the-top spray. • If newly budded or grafted rootstock, apply using a shielded sprayer. • Ensure there are no cracks in the soil where Tower could come into contact with the roots.
Field-grown or container-grown production bulbs	<ul style="list-style-type: none"> • For use in ornamental bulbous-like plants such as caladium, calla lily, daffodil (narcissus or jonquil), iris, and lily. • In field production, apply Tower to the soil surface only after planting and the soil has been settled by several irrigations but before weed seed germination. • In fall-planted daffodil, iris, or lily, make an initial application of Tower following planting establishment; then make a sequential application of Tower in late winter or early spring before weed seed germination. • In container production, apply Tower to a weed-free surface before bulb emergence or after leaf emergence from an established plant crown. • Not for use on bulbs grown in California
<p>Bareground for container placement</p> <p>Gravel or ground floors of open-sided lathhouses (shadehouses) or other polyhouse structures that allow polycovers to be removed on a seasonal basis</p>	<ol style="list-style-type: none"> 1. Apply to soil. 2. Water in (including mulch, gravel, wood chips, or other permeable base). 3. Place containerized ornamentals on pad.
Greenhouses, polyhouses, or other enclosed structures	DO NOT apply in greenhouses, polyhouses, or other fully enclosed greenhouse-type structures.

(continued)

Table 3. Specific Ornamental Use Site Instructions (continued)

Site	Application Instructions and Restrictions
SENSITIVE Ornamentals	
Herbaceous perennials or annuals not listed on this label	If the ornamental plant is not listed on this label, the user assumes responsibility for testing under local conditions before any application. See Table 2 for list of sensitive ornamental plants.
Conifers	DO NOT apply Tower® herbicide during spring growth or injury to terminals may occur, in particular to <i>Pinus</i> and <i>Taxus</i> species.
Bedding plants	Apply the Low rate of Tower 4 or more weeks after transplanting. Application less than 4 weeks after transplanting may result in phytotoxicity for the following annuals: <ul style="list-style-type: none"> • Catmint • Gomphrena • Petunia • Salvia • Zinnia
Shrubs or Trees	DO NOT apply Tower sequentially to the plants listed below. During the growing season, however, a second application of Tower can be made if a herbicide with a different mode of action is applied between Tower applications. Tower applications must be separated by at least 16 weeks. <ul style="list-style-type: none"> • Azalea • Boxelder • Butterfly bush • Chinese fringe flower • Heavenly bamboo • Lilac • Maple • Oak • Rhododendron • Spirea • Viburnum

Table 4. Ornamental Plants (* Plants registered for **Tower® herbicide** use in California)

Common Name	Scientific Name
Trees	
*Apple (juvenile)	<i>Malus</i> spp.
*Arborvitae	<i>Thuja</i> spp.
*Ash	<i>Fraxinus</i> spp.
*Birch	<i>Betula</i> spp.
*Boxelder	<i>Acer</i> spp.
Cedar	<i>Thuja</i> spp.
Cedar, Japanese	<i>Cryptomeria</i> spp.
*Crabapple	<i>Malus</i> spp.
Crape myrtle	<i>Lagerstroemia</i> spp.
*Dogwood	<i>Cornus</i> spp.
Elm	<i>Ulmus</i> spp.
Fir	<i>Abies</i> spp.
*Fir, Fraser	<i>Abies fraseri</i>
*Fir, Douglas	<i>Pseudotsuga menziesii</i>
*Hemlock	<i>Tsuga</i> spp.
Holly	<i>Ilex</i> spp.
Honeylocust	<i>Gleditsia</i> spp.
*Lilac	<i>Syringa</i> spp.
*Maple, Japanese	<i>Acer</i> spp.
*Maple, red	
*Maple, sugar	
Oak	<i>Quercus</i> spp.
*Peach (juvenile)	<i>Prunus</i> spp.
*Pine	<i>Pinus</i> spp.
*Red cedar, Western	<i>Thuja plicata</i>
*Spruce	<i>Picea</i> spp.
Walnut, black (juvenile)	<i>Juglans</i> spp.

(continued)

Table 4. Ornamental Plants (* Plants registered for **Tower® herbicide** use in California) (continued)

Common Name	Scientific Name
Shrubs	
Abelia	<i>Abelia</i> spp.
Azalea	<i>Rhododendron</i> spp.
*Bamboo, heavenly	<i>Nandina domestica</i>
Barberry, Japanese	<i>Berberis</i> spp.
*Bottlebrush	<i>Callistemon</i> spp.
*Boxwood, common	<i>Buxus</i> spp.
*Boxwood, Japanese	
*Bridal wreath	<i>Spiraea</i> spp.
Butterfly bush	<i>Buddleia</i> spp.
*Camellia	<i>Camellia</i> spp.
Cardinal shrub	<i>Wiegela</i> spp.
*Cinquefoil	<i>Potentilla</i> spp.
*Cotoneaster	<i>Cotoneaster</i> spp.
Dogwood	<i>Cornus</i> spp.
*Euonymus, winged	<i>Euonymus alatus</i>
*Fetterbush	<i>Leucothoe</i> spp.
*Forsythia	<i>Forsythia</i> spp.
Fringe flower, Chinese	<i>Loropetalum</i> spp.
Hawthorn, Indian	<i>Raphiolepis</i> spp.
*Hibiscus	<i>Hibiscus</i> spp.
Holly	<i>Ilex</i> spp.
Holly, American	
Holly, Chinese	
Holly, Japanese	
*Hydrangea	<i>Hydrangea</i> spp.
*Juniper, Chinese	<i>Juniperus</i> spp.
*Juniper, shore	
*Juniper, trailing	
*Lantana	<i>Lantana</i> spp.
*Lavender	<i>Lavandula</i> spp.
Leucothoe, drooping	<i>Leucothoe</i> spp.
*Nandina	<i>Nandina domestica</i>
Olive, false	<i>Osmanthus</i> spp.
Olive, fragrant	
Olive, sweet	
Olive, tea	
Osmanthus	<i>Osmanthus</i> spp.
Pieris, Japanese	<i>Pieris japonica</i>
*Pine	<i>Pinus</i> spp.
*Pine, mugo	
Privet, California	<i>Ligustrum</i> spp.
Privet, glossy	
Privet, variegated	
Privet, waxleaf	
Quince, flowering	<i>Chaenomeles</i> spp.
Rhododendron	<i>Rhododendron</i> spp.
*Rose	<i>Rosa</i> spp.
*Shrub verbenas	<i>Lantana</i> spp.
*Spirea	<i>Spiraea</i> spp.
*Viburnum	<i>Viburnum</i> spp.
Weigela	<i>Weigela</i> spp.

(continued)

Table 4. Ornamental Plants (* Plants registered for **Tower® herbicide** use in California) (continued)

Common Name	Scientific Name
Shrubs (continued)	
*Wild lilac	<i>Ceanothus</i> spp.
*Wisteria	<i>Wisteria</i> spp.
*Yew	<i>Taxus</i> spp.
Ground Covers	
*Cinquefoil	<i>Potentilla</i> spp.
Iceplant	<i>Delosperma</i> spp.
*Jasmine, Asiatic	<i>Trachelospermum</i> spp.
*Mondograss	<i>Ophiopogon</i> spp.
*Potentilla	<i>Potentilla</i> spp.
Herbaceous Perennials	
*Agapanthus	<i>Agapanthus</i> spp.
Bluebeard, Blue mist shrub	<i>Caryopteris</i> spp., <i>Caryopteris x clandonensis</i>
Caladium (Elephant ear)	<i>Caladium x hortorum</i>
Calla lily	<i>Calla</i> spp., <i>Zantedeschia Spreng.</i> , <i>Z. aethiopica</i>
*Century plant	<i>Agave</i> spp.
*Clematis	<i>Clematis</i> spp.
Daffodil	<i>Narcissus</i> spp.
*Daylily	<i>Hemerocallis</i> spp.
*Fern, August	<i>Dryopteris</i> spp.
*Fern, shaggy	
*Hosta	<i>Hosta</i> spp.
Iris	<i>Iris</i> spp.
Jonquil	<i>Narcissus</i> spp.
*Lantana	<i>Lantana</i> spp.
*Lily of the Nile	<i>Agapanthus</i> spp.
Lily	<i>Lilium</i> spp.
Lily, Asiatic	
Lily, Oriental	
*Lily, plantain	<i>Hosta</i> spp.
Lilyturf	<i>Liriope</i> spp.
Liriope, big blue	
Liriope, creeping	
Liriope, variegated	
Mum, hardy	<i>Dendranthema x morifolium</i>
Narcissus	<i>Narcissus</i> spp.
Sage	<i>Salvia</i> spp., <i>Salvia x sylvestris</i>
*Sedge, grassland	<i>Carex</i> spp.
*Shrub verbena	<i>Lantana</i> spp.
Bedding Plants	
Angelonia	<i>Angelonia</i> spp.
Catmint	<i>Nepeta</i> spp.
Celosia	<i>Celosia</i> spp.
Cockscomb	<i>Celosia</i> spp.
Coleus	<i>Coleus</i> spp., <i>C. x hybridus</i> , <i>Solenostemon</i> spp.
Gomphrena	<i>Gomphrena</i> spp.
Marigold, African	<i>Tagetes</i> spp.
Petunia	<i>Petunia</i> spp.
Salvia	<i>Salvia</i> spp.
Sweet potato vine	<i>Ipomoea</i> spp.
Zinnia	<i>Zinnia</i> spp.

* Plants registered for **Tower** use in California

Landscape and Grounds Maintenance

Tower® herbicide can be used in landscape and grounds maintenance programs for extended preemergence weed control. **Tower** can be used in and around established ornamental plantings in nonagricultural areas defined as follows:

- **Landscaped ornamental areas** in and around residential and commercial establishments, multifamily dwellings, military and other institutions, university or college campuses, parks, airports, roadsides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses, prairie grass areas, and common areas in residential developments.
- **Specified noncrop areas** - Parking lots, driveways and roadsides, highway rights-of-way, alleyways, bike and jogging paths, vacant lots, buildings, stone gardens and gravel yards, around statuary or monuments, utility substations, markers/borders and fence lines, and mulch beds. **Tower** may be used under asphalt or concrete treatments as part of a site-preparation program.

Table 5. Specific Landscape and Ornamental Planting Use Site Instructions

Site	Application Instructions and Restrictions
Landscape ornamental planting ¹	<ul style="list-style-type: none"> • DO NOT apply to sensitive ornamental plants listed in Table 2. • DO NOT apply to newly transplanted ornamentals until plants have been watered and soil has been thoroughly packed and settled around roots. • Apply as a directed or over-the-top spray. • Use the Low labeled rate. Repeat applications for extended landscape weed control. • DO NOT apply at bud break.
¹ Before treating a large number of plants, spray a few plants and observe for at least 2 months for plant damage before full-scale application.	

Refer to **Table 1** for use rates, **Table 4** for list of ornamental plants, and **Table 13** for weeds controlled. See **Tank Mixes** in **Tree Plantations** section for tank mix combinations that can be used when individual product labels allow for similar uses, sites, and precautions.

Tree Plantations

Tower can be used for preemergence weed control during site preparation, establishment, and/or maintenance of tree plantations, Christmas tree plantations, conifer and hardwood seedling nurseries, pulpwood farms, fiber farms and nurseries for fruit and nut tree seedlings and rootstock. **Tower** may also be used for hardwood and conifer regeneration on Conservation Reserve Program land or similar areas.

Table 6. Specific Tree Planting Use Site Instructions

Site	Application Instructions and Restrictions
Tree planting including Christmas tree plantations, conifer and hardwood tree seedling nurseries, established trees ¹	<ul style="list-style-type: none"> • IMPORTANT: Close slit so herbicide does not directly contact tree roots. • DO NOT apply to newly transplanted seedlings until plants have been watered and soil has been thoroughly packed and settled around roots. • Directed or over-the-top spray applications can be made except at the time of bud break. • DO NOT apply at bud break.
¹ Before treating a large number of plants, spray a few plants and observe for at least 2 months for plant damage before full-scale application.	

Tank Mixes

For postemergence control of weeds, use tank mix combinations of **Tower** plus glyphosate, glufosinate, or other labeled herbicides. Refer to manufacturer's labels for specific instructions and follow the most restrictive. Determine rates for the tank mix partner from product labels of **Tower** and partner herbicides before use. Use caution to prevent combination sprays from direct contact with desirable foliage, or injury may result. Refer to manufacturers' labels for specific use directions, precautions, and limitations before use, and follow the most restrictive.

Refer to **Table 1** for use rates, **Table 4** for list of ornamental trees, and **Table 13** for weeds controlled.

Turfgrass - Golf Course

Tower® herbicide may be used as part of a preemergence weed management program in select turfgrass use sites:

- Golf courses

Apply **Tower** as directed for preemergence control or suppression of weeds listed in **Table 13. Weeds Controlled**.

Apply **Tower** to any improved or unimproved golf course turfgrass areas of cool-season and warm-season turfgrass species as described in **Table 7 (a, b). Tolerant Turfgrass Species** following and according to the instructions, restrictions, and limitations in **Table 8 (a, b)**. Apply **Tower** at use rates only as directed on listed turfgrass species. The user assumes all risk with application of **Tower** to any other turfgrass species not listed as tolerant in the table following. Turfgrass species not listed in the table following may be evaluated for tolerance by testing a small area before large-scale use.

Table 7a. Tolerant Turfgrass Species

Warm-season Turfgrass Species	Tower Use Rate/Range (fl ozs/A)
Bahiagrass	21 to 32
Bermudagrass*, common or seeded	21 to 32
Bermudagrass*, hybrid	21 to 32
Buffalograss*	21 to 32
Centipedegrass	21 to 32
Kikuyugrass*	21 to 32
St. Augustinegrass*	21 to 32
Seashore paspalum*	21 to 32
Zoysiagrass*	21 to 32
* Species registered for Tower use in California	

Table 7b. Tolerant Turfgrass Species

Cool-season Turfgrass Species	Tower Use Rate/Range (fl ozs/A)
Bentgrass*	21
Bluegrass, Kentucky	21
Fine fescue	21
Perennial ryegrass*	21
Tall fescue* (established)	21
Tall fescue* (transition zone, re-seeded)	21
* Species registered for Tower use in California	

Application Instructions

Apply **Tower** with ground equipment in a minimum spray volume of 10 gallons water per acre. **Tower** may also be applied through ground equipment including the use of spray injection systems in a minimum spray volume of 5 gallons water per acre.

All applications of **Tower** must be made before weed seed germination.

NOTE: Spring applications can be made when soil temperature is 55° F or higher. If application is made before soil temperature reaches 55° F, some turfgrass species could sustain injury.

Tower may be applied as a single application or in sequential applications. **DO NOT** apply more than 64 fluid ounces (3 lbs ai) of **Tower** per acre per year.

For extended weed control, sequential applications of **Tower** can be made 5 to 8 weeks between applications. **Tower** may be applied in a sequential use program with other herbicides that control emerged weeds in golf course turfgrass. Refer to **Table 9. Special Instructions for Control of Key Weeds in Turfgrass**.

As a preemergence herbicide, **Tower** must be watered into the weed seed germination zone by rainfall or irrigation (equivalent to 1/4 inch to 1/2 inch of rainfall) within 24 hours after application. If **Tower** is not activated by rainfall or irrigation, erratic weed control may result.

Weed control may be reduced when **Tower** is applied to turfgrass stands under conditions of heavy thatch.

Table 8a. Specific Instructions and Restrictions for Specific Turfgrass Species

Turfgrass Use Site	Application Instructions and Restrictions
Cool-season turfgrass	<ul style="list-style-type: none"> • Apply Tower® herbicide to actively growing cool-season turfgrass when soil temperature is 55° F or higher. • Tower application to cool-season turfgrass species may result in yellowing and stand reduction. • Apply only on well-established stands of cool-season turfgrass species with a dense and uniform stand with a height of 1/2-inch or taller. • Application to turfgrass stands under stress may cause turfgrass injury. • Before applying Tower, allow turfgrass to recover if thinned or damaged because of winter injury, excessive moisture, etc. • Avoid spring application of Tower on newly fall-seeded cool-season turfgrass. • DO NOT use Tower on winter overseeded turfgrass species such as ryegrass, bentgrass, or <i>Poa trivialis</i> at any time when these species are desirable. Tower may cause discoloration or thinning in these species. • Use caution with Tower applications made in the spring following fall re-seeded cool-season turfgrass. Stands may exhibit thinning (stand reduction) and discoloration with this application. • When applying Tower to turfgrass areas with a high percentage of annual bluegrass, discoloration or thinning of the stand can occur. Test on a small area before large-scale use. Apply the Low labeled rate of Tower under these conditions. • DO NOT apply Tower to turfgrass where annual bluegrass (<i>Poa annua</i>) is part of the stand. Tower will injure, thin, and discolor both seedling and established annual bluegrass. • DO NOT apply Tower to turfgrass if any roughstalk bluegrass (<i>Poa trivialis</i>) is present at any time in the stand, or if roughstalk bluegrass is overseeded, or unacceptable injury will occur. • Application of Tower to cool-season turfgrass species (such as bentgrass, Kentucky bluegrass, fine fescue, perennial ryegrass, tall fescue) may cause unacceptable injury and/or thinning of stand.
Warm-season turfgrass	<ul style="list-style-type: none"> • Apply Tower to actively growing warm-season turfgrass following spring transition when soil temperature is 55° F or higher. • Apply only on well-established turfgrass with a dense and uniform stand. • Application to turfgrass stands under stress may cause turfgrass injury. • Before applying Tower, allow turfgrass to recover if thinned or damaged because of winter injury, excessive moisture, etc. • DO NOT apply to turfgrass within 2 weeks after mechanical disturbance such as aerification or verticutting.
Overseeded warm-season turfgrass	<ul style="list-style-type: none"> • DO NOT use on winter overseeded turfgrass species such as ryegrass, bentgrass, or <i>Poa trivialis</i> when these species are desirable. Tower may cause discoloration or thinning in these species. • Apply Tower to aid in removal of annual grass in overseeded warm-season turfgrass. Apply only when soil temperature is above 55° F and warm-season turfgrass is actively growing. • Delay (winter) overseeding of treated turfgrass for at least six (6) weeks following the last Tower application. • Apply Tower to overseeded warm-season turfgrass before overseed removal. • If Tower is applied before overseed removal, thinning or injury of the overseeded species may occur. • Application of a nitrogen-containing fertilizer at or soon after a Tower application will minimize any delay in spring greenup.
Sprigging warm-season turfgrass	<ul style="list-style-type: none"> • Delay Tower applications for at least two (2) months after sprigging. • Following a Tower application, delay sprigging turfgrass into treated area for two (2) months.
Dormant warm-season turfgrass	<ul style="list-style-type: none"> • Tower can be tank mixed with glyphosate or other postemergence herbicides for application to dormant, non-overseeded turfgrass stands.

Table 8b. Instructions and Limitations for Specific Turfgrass Use Sites

Turfgrass Use Site	Application Instructions and Restrictions
Golf course	<ul style="list-style-type: none"> • Tower® herbicide may be applied to established turfgrass on tees, fairways, roughs, and any other maintained or naturalized turfgrass areas on the golf course. • DO NOT apply to (putting) greens and surrounding collars which include bent-grass, Bermudagrass, or bluegrass species because injury may occur. • DO NOT apply to turfgrass within 2 weeks after mechanical disturbance such as aerification or verticutting.
Naturalized grass areas	<ul style="list-style-type: none"> • Grass species - Tower may be used to control weeds in naturalized grass areas on species listed in Table 7 (a, b). Tolerant Turfgrass Species. Some species may have a reduction or elimination of seedheads. • Wildflower and other ornamental plants - Tower may be used to control weeds in naturalized wildflower and/or ornamental areas on plants listed in Table 4. Ornamental Plants. Some plants may have a reduction or elimination of seedheads.

Turfgrass Tank Mixes

Tower may be tank mixed with the following herbicides or others labeled for use in golf course turfgrass:

- **Basagran® T&O herbicide**
- **Drive® XLR8 herbicide**
- **Image® 70 DG herbicide**
- **Pendulum® AquaCap™ herbicide**
- glyphosate
- MSMA

When tank mixing with **Pendulum AquaCap**, while agitating:

1. Add **Pendulum AquaCap** to the partially filled spray tank.
2. Add **Tower**.
3. Fill the remainder of the spray tank with water.

BASF recommends testing **Tower** tank mixes on a small portion of the target turfgrass to determine if damage is likely to occur. Consult your local BASF dealer regarding local tank mix options.

Table 9. Special Instructions for Control of Key Weeds in Turfgrass

BASF recommends a sequential herbicide application program including **Tower® herbicide** for control of the following key weeds in golf course turfgrass. Begin weed management programs before geographical and/or seasonal germination of weed seeds.

Target Weeds	Initial Application		Sequential* Application(s)	
Goosegrass	Late Winter to Early Spring	Spring (soil temperature at 55° F or higher)	First Sequential Application	Second Sequential Application
	Pendulum® AquaCap™ herbicide 4.2 pts/A (or other preemergence herbicide)	Tower 32 fl ozs/A	Tower 32 fl ozs/A	—
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A plus Tower 21 fl ozs/A	Tower 21 fl ozs/A	Tower 21 fl ozs/A
Target Weeds	Initial Application		Sequential* Application(s)	
Annual sedges Kyllinga Nutsedge	Spring (soil temperature at 55° F or higher)		First Sequential Application	Second Sequential Application
	Tower 32 fl ozs/A		Tower 32 fl ozs/A	—
	Tower 21 fl ozs/A		Tower 21 fl ozs/A	Tower 21 fl ozs/A
Target Weeds	Initial Application		Sequential* Application(s)	
Doveweed	Late Winter to Early Spring	Spring (soil temperature at 55° F or higher)	First Sequential Application	Second Sequential Application
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Tower 32 fl ozs/A	Tower 32 fl ozs/A	—
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A plus Tower 21 fl ozs/A	Tower 21 fl ozs/A plus POST herbicide**	Tower 21 fl ozs/A plus POST herbicide**
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A	Tower 21 fl ozs/A plus POST herbicide**	Tower 21 fl ozs/A plus POST herbicide** Repeat treatment again in 5 to 8 weeks to provide control until frost.

(continued)

Table 9. Special Instructions for Control of Key Weeds in Turfgrass *(continued)*

Target Weeds	Initial Application		Sequential* Application(s)	
Spurge and other warm-season broadleaf species	Late Winter to Early Spring	Spring (soil temperature at 55° F or higher)	First Sequential Application	Second Sequential Application
	Pendulum® AquaCap™ herbicide 4.2 pts/A (or other preemergence herbicide)	Tower® herbicide 32 fl ozs/A	Tower 32 fl ozs/A	—
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A plus Tower 21 fl ozs/A	Tower 21 fl ozs/A	Tower 21 fl ozs/A
Target Weeds	Initial Application		Sequential* Application(s)	
Annual bluegrass (<i>Poa annua</i>)	Late Summer to Non-overseeded Warm-season Turfgrass		Winter Application to Dormant Bermudagrass	
	Pendulum AquaCap 4.2 pts/A plus Tower 21 to 32 fl ozs/A		Tower 21 to 32 fl ozs/A plus glyphosate 3/4 pt/A	

* Sequential applications should be applied at a 5-week to 8-week interval following the previous application.

** For efficacy on emerged doveweed, sequential applications must be tank mixed with a postemergence (POST) herbicide product labeled for doveweed control.

Turfgrass - All Sites Other Than Golf Courses

Tower® herbicide may be used as part of a preemergence weed management program in select turfgrass use sites including, but not limited to:

- Sod farms
- Grounds or lawns around industrial or commercial establishments (such as military, institutions, campuses, parks, airports, roadsides, houses of worship, cemeteries)
- Recreation and park areas (including picnic grounds)
- Maintained athletic and sports fields
- Residential settings (maintained turfgrass in home lawns, common areas of multifamily dwellings or developments)
- Schoolyards and playgrounds
- Prairiegrass or naturalized grass areas

Apply **Tower** as directed for preemergence control or suppression of weeds listed in **Table 13. Weeds Controlled**.

Apply **Tower** to any improved or unimproved maintained turfgrass areas of warm-season turfgrass species as described in **Table 10. Tolerant Turfgrass Species** following and according to the instructions, restrictions, and limitations in **Table 11 (a, b)**. Apply **Tower** at use rates only as directed on listed turfgrass species. The user assumes all risk with application of **Tower** to any other turfgrass species not listed as tolerant in the table following.

Table 10. Tolerant Turfgrass Species

Warm-season Turfgrass Species	Tower Use Rate/Range (fl ozs/A)
Bermudagrass*, common or seeded	21 to 32
Bermudagrass*, hybrid	21 to 32
Centipedegrass	21 to 32
Kikuyugrass*	21 to 32
St. Augustinegrass*	21 to 32
Seashore paspalum*	21 to 32
Zoysiagrass*	21 to 32
* Species registered for Tower use in California	

Application Instructions

Apply **Tower** with ground equipment in a minimum spray volume of 10 gallons water per acre. **Tower** may also be applied through ground equipment including the use of spray injection systems in a minimum spray volume of 5 gallons water per acre.

All applications of **Tower** must be made before weed seed germination.

NOTE: Spring applications can be made when soil temperature is 55° F or higher. If application is made before soil temperature reaches 55° F, some turfgrass species could sustain injury.

Tower may be applied as a single application or in sequential applications. **DO NOT** apply more than 64 fluid ounces (3 lbs ai) of **Tower** per acre per year.

For extended weed control, sequential applications of **Tower** can be made 5 to 8 weeks between applications. **Tower** may be applied in a sequential use program with other herbicides that control emerged weeds in turfgrass. Refer to **Table 12. Special Instructions for Control of Key Weeds in Turfgrass**.

As a preemergence herbicide, **Tower** must be watered into the weed seed germination zone by rainfall or irrigation (equivalent to 1/4 inch to 1/2 inch of rainfall) within 24 hours after application. If **Tower** is not activated by rainfall or irrigation, erratic weed control may result.

Weed control may be reduced when **Tower** is applied to turfgrass stands under conditions of heavy thatch.

Table 11a. Specific Instructions and Restrictions for Specific Turfgrass Species

Turfgrass Use Site	Application Instructions and Restrictions
Warm-season turfgrass	<ul style="list-style-type: none"> • DO NOT apply Tower® herbicide to turfgrass where annual bluegrass (<i>Poa annua</i>) is part of the stand. Tower will injure, thin, and discolor both seedling and established annual bluegrass. • DO NOT apply Tower to turfgrass if any roughstalk bluegrass (<i>Poa trivialis</i>) is present at any time in the stand, or if roughstalk bluegrass is overseeded, or unacceptable injury will occur. • Apply Tower to actively growing warm-season turfgrass following spring transition when soil temperature is 55° F or higher. • Apply only on well-established turfgrass with a dense and uniform stand. • Application to turfgrass stands under stress may cause turfgrass injury. • Before applying Tower, allow turfgrass to recover if thinned or damaged because of winter injury, excessive moisture, etc. • DO NOT apply to turfgrass within 2 weeks after mechanical disturbance such as aerification or verticutting.
Overseeded warm-season turfgrass	<ul style="list-style-type: none"> • DO NOT use on winter overseeded turfgrass species such as ryegrass, bentgrass, or <i>Poa trivialis</i> when these species are desirable. Tower may cause discoloration or thinning in these species. • Apply Tower to aid in removal of annual grass in overseeded warm-season turfgrass. Apply only when soil temperature is above 55° F and warm-season turfgrass is actively growing. • Delay (winter) overseeding of treated turfgrass for at least six (6) weeks following the last Tower application. • Apply Tower to overseeded warm-season turfgrass before overseed removal. • If Tower is applied before overseed removal, thinning or injury of the overseeded species may occur. • Application of a nitrogen-containing fertilizer at or soon after a Tower application will minimize any delay in spring greenup.
Sprigging warm-season turfgrass	<ul style="list-style-type: none"> • Delay Tower applications for at least two (2) months after sprigging. • Following a Tower application, delay sprigging turfgrass into treated area for two (2) months.
Dormant warm-season turfgrass	<ul style="list-style-type: none"> • Tower can be tank mixed with glyphosate or other postemergence herbicides for application to dormant, non-overseeded turfgrass stands.

Table 11b. Instructions and Limitations for Specific Turfgrass Use Sites

Turfgrass Use Site	Application Instructions and Restrictions
Sod establishment	<ul style="list-style-type: none"> • Application of Tower® herbicide to newly sodded areas must be delayed until the turfgrass root system is well established and the turfgrass has been mowed at least two (2) times.
Re-seeding in turfgrass establishment	<ul style="list-style-type: none"> • Delay re-seeding of treated turfgrass for at least six (6) weeks following the last Tower application.
Newly planted areas (new seedings)	<ul style="list-style-type: none"> • DO NOT apply Tower to newly planted areas until the turfgrass has filled in and has been mowed at least four (4) times.
Naturalized grass areas	<ul style="list-style-type: none"> • Grass species - Tower may be used to control weeds in naturalized grass areas on species listed in Table 10. Tolerant Turfgrass Species. Some species may have a reduction or elimination of seedheads. • Wildflower and other ornamental plants - Tower may be used to control weeds in naturalized wildflower and/or ornamental areas on plants listed in Table 4. Ornamental Plants. Some plants may have a reduction or elimination of seedheads.
Industrial (unimproved) turfgrass	<ul style="list-style-type: none"> • Industrial or unimproved turfgrass areas have different spectrum of weeds to control than those found in fine turfgrass as described elsewhere in this label. Tower will control weeds that might germinate in established grass in rights-of-way, roadsides, construction sites, parks, substations, lots, or similar areas.
Residential turfgrass	<ul style="list-style-type: none"> • DO NOT apply Tower to turfgrass within 2 weeks after mechanical disturbance such as aerification and verticutting.

Turfgrass Tank Mixes

Tower® herbicide may be tank mixed with the following herbicides or others labeled for use in turfgrass:

- **Basagran® T&O herbicide**
- **Drive® XLR8 herbicide**
- **Image® 70 DG herbicide**
- **Pendulum® AquaCap™ herbicide**
- glyphosate
- MSMA

When tank mixing with **Pendulum AquaCap**, while agitating:

1. Add **Pendulum AquaCap** to the partially filled spray tank.
2. Add **Tower**.
3. Fill the remainder of the spray tank with water.

BASF recommends testing **Tower** tank mixes on a small portion of the target turfgrass to determine if damage is likely to occur. Consult your local BASF dealer regarding local tank mix options.

Table 12. Special Instructions for Control of Key Weeds in Turfgrass

BASF recommends a sequential herbicide application program including **Tower** for control of the following key weeds in turfgrass. Begin weed management programs before geographical and/or seasonal germination of weed seeds.

Target Weeds	Initial Application		Sequential* Application(s)	
Goosegrass	Late Winter to Early Spring	Spring (soil temperature at 55° F or higher)	First Sequential Application	Second Sequential Application
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Tower 32 fl ozs/A	Tower 32 fl ozs/A	—
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A plus Tower 21 fl ozs/A	Tower 21 fl ozs/A	Tower 21 fl ozs/A
Target Weeds	Initial Application		Sequential* Application(s)	
Annual sedges Kyllinga Nutsedge	Spring (soil temperature at 55° F or higher)		First Sequential Application	Second Sequential Application
	Tower 32 fl ozs/A		Tower 32 fl ozs/A	—
	Tower 21 fl ozs/A		Tower 21 fl ozs/A	Tower 21 fl ozs/A

(continued)

Table 12. Special Instructions for Control of Key Weeds in Turfgrass *(continued)*

Target Weeds	Initial Application		Sequential* Application(s)	
Doveweed	Late Winter to Early Spring	Spring (soil temperature at 55° F or higher)	First Sequential Application	Second Sequential Application
	Pendulum® AquaCap™ herbicide 4.2 pts/A (or other preemergence herbicide)	Tower® herbicide 32 fl ozs/A	Tower 32 fl ozs/A	—
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A plus Tower 21 fl ozs/A	Tower 21 fl ozs/A plus POST herbicide**	Tower 21 fl ozs/A plus POST herbicide**
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A	Tower 21 fl ozs/A plus POST herbicide**	Tower 21 fl ozs/A plus POST herbicide** Repeat treatment again in 5 to 8 weeks to provide control until frost.
Target Weeds	Initial Application		Sequential* Application(s)	
Spurge and other warm-season broadleaf species	Late Winter to Early Spring	Spring (soil temperature at 55° F or higher)	First Sequential Application	Second Sequential Application
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Tower 32 fl ozs/A	Tower 32 fl ozs/A	—
	Pendulum AquaCap 4.2 pts/A (or other preemergence herbicide)	Pendulum AquaCap 4.2 pts/A plus Tower 21 fl ozs/A	Tower 21 fl ozs/A	Tower 21 fl ozs/A
Target Weeds	Initial Application		Sequential* Application(s)	
Annual bluegrass (<i>Poa annua</i>)	Late Summer to Non-overseeded Warm-season Turfgrass		Winter Application to Dormant Bermudagrass	
	Pendulum AquaCap 4.2 pts/A plus Tower 21 to 32 fl ozs/A		Tower 21 to 32 fl ozs/A plus glyphosate 3/4 pt/A	

* Sequential applications should be applied at a 5-week to 8-week interval following the previous application.

** For efficacy on emerged doveweed, sequential applications must be tank mixed with a postemergence (POST) herbicide product labeled for doveweed control.

Table 13. Weeds Controlled

Common Name	Scientific Name
Grass Weeds	
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bluegrass, annual	<i>Poa annua</i>
Bluegrass, roughstalk	<i>Poa trivialis</i>
Brome, California	<i>Bromus carinatus</i>
Brome, downy	<i>Bromus tectorum</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Crabgrass, smooth	<i>Digitaria ischaemum</i>
Cupgrass, Southwestern	<i>Eriochloa gracilis</i>
Cupgrass, woolly*	<i>Eriochloa villosa</i>
Fescue, rattail	<i>Vulpia myuros</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, yellow	<i>Setaria glauca</i>
Goosegrass	<i>Eleusine indica</i>
Johnsongrass, seedling*	<i>Sorghum halepense</i>
Millet, wild proso*	<i>Panicum miliaceum</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Panicum, Texas*	<i>Panicum texanum</i>
Red rice	<i>Oryza sativa</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Sandbur, field	<i>Cenchrus incertus</i>
Shattercane*	<i>Sorghum bicolor</i>
Signalgrass, broadleaf*	<i>Brachiaria platyphylla</i>
Witchgrass	<i>Panicum capillare</i>
Broadleaf Weeds	
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, Powell	<i>Amaranthus powellii</i>
Beggarweed, Florida*	<i>Desmodium tortuosum</i>
Bittercress	<i>Cardamine</i> spp.
Carpetweed	<i>Mollugo verticillata</i>
Chamomile, mayweed	<i>Anthemis cotula</i>
Doveweed†	<i>Murdannia nudiflora</i>
Eclipta*	<i>Eclipta alba</i> <i>E. prostrata</i>
Galinsoga, hairy*†	<i>Galinsoga ciliata</i>
Galinsoga, smallflower*†	<i>Galinsoga parviflora</i>
Groundsel, common†	<i>Senecio vulgaris</i>
Lambsquarters, common*	<i>Chenopodium album</i>
Liverwort†	<i>Marchantia polymorpha</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, cutleaf	<i>Solanum triflorum</i>
Nightshade, Eastern black	<i>Solanum ptycanthum</i>
Nightshade, hairy	<i>Solanum sarrachoides</i>
Pearlwort†	<i>Sagina procumbens</i> <i>S. decumbens</i>

(continued)

Table 13. Weeds Controlled (continued)

Common Name	Scientific Name
Broadleaf Weeds (continued)	
Pigweed, prostrate	<i>Amaranthus blitoides</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Pigweed, tumble	<i>Amaranthus albus</i>
Purslane, common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Ragweed, common*	<i>Ambrosia artemisiifolia</i>
Shepherd's purse	<i>Capsella bursa-pastoris</i>
Spurge, nodding	<i>Euphorbia nutans</i>
Spurge, spotted	<i>Euphorbia maculata</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatus</i>
Willowherb, Northern†	<i>Epilobium ciliatum</i>
Sedges	
Flatsedge, rice	<i>Cyperus iria</i>
Kyllinga†	<i>Kyllinga</i> spp.
Nutsedge, yellow	<i>Cyperus esculentus</i>
Sedge, annual†	<i>Cyperus compressus</i>

* Partial control or suppression only of the weed

† Not controlled in California

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