

7969-239

3/6/2009

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Craig D. Kleppe, Ph.D.
Product Registration Manager
BASF Corporation
26 Davis Drive, P.O. Box 13528
Research Triangle Park, NC 27709

MAR -6 2009

SUBJECT: Application for Pesticide Notification – Revised Master Label, Basic and Alternate Confidential Statements of Formula (CSFs); Change of Primary Brand Name Dimethenamid-P Ornamentals herbicide (New Primary Brand Name: Tower™ herbicide)
EPA Reg. No. 7969-239
Application Dated October 5, 2007; Basic and Alternate CSFs Dated October 4, 2007

Dear Dr. Kleppe:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label, Basic and Alternate Confidential Statements of Formula (CSFs) dated October 4, 2007 submitted with the application dated October 5, 2007 are considered "acceptable", date stamped "Notification" and will be placed in our records.

- PLEASE NOTE: The Basic and Alternate CSFs dated October 4, 2007 will supersede all previously "accepted" CSFs.

If you have any questions, please call me directly at 703-305-6249 or Terri Stowe of my staff at 703-305-6117.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda", is located below the word "Sincerely,".

Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

20f24



United States
Environmental Protection Agency
Washington, DC 20460

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Registration
Amendment
Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number BASF Corporation / 7969-239	2. EPA Product Manager James Tompkins	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) BASF Corporation / Dimethenamid-P Ornamentals herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) BASF Corporation 26 Davis Drive, PO Box 13528 Research Triangle Park, NC 27709 <input type="checkbox"/> Check if this is a new address	6. Expedited Review Notification with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. <u>MAR 6 2009</u> Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

NOTIFICATION: In response to EPA's Notice of Pesticide Registration for 7969-239, BASF submits revised master labeling, revised Confidential Statement of Formula, and a change of primary tradename to TOWER herbicide.

No PRIA code/fee is applicable for this notification.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Craig D. Kleppe	Title Product Registration Manager	Telephone No. (Include Area Code) 919 547 2000 ext 2615
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Product Registration Manager	
Typed Name Craig D. Kleppe	5. Date October 5, 2007	

Certification with Respect to Label Integrity

version: 9/11/02

I certify that the information (including, but not limited to, text, tables, and graphics) contained in the electronic file identified below by file name and submitted with this certification is the same information as that on the paper copies of these documents included with this submission.

PROPOSED LABEL – Product Name: TOWER herbicide

EPA Registration #	Date Submitted to EPA	Electronic file name
7969-239	October 5, 2007	007969-00239.20070919.NVA 2007-04-275-0149.pdf

I certify that the statements that I have made on this form are true, accurate, and complete. I acknowledge that any knowingly false or misleading statements may be punishable by fine or imprisonment or both under applicable law.


Signature

Craig D. Kleppe

Name (typed)

Product Registration Manager

Title

October 5, 2007
Date

BASF Corporation

7969-239 40624
BASF

October 8, 2007

U.S. Environmental Protection Agency
Office of Pesticide Programs (7505P)
Document Processing Desk 7504P (NOTIF)
Room S-4900
One Potomac Yard (South Building)
2777 South Crystal Drive
Arlington, VA 22202 U.S.A.
Attention: Mr. James A. Tompkins, PM-25

RE: NOTIFICATION

**Dimethenamid-P Ornamentals Herbicide (EPA Reg.No. 7969-239)
Change of Primary Tradename
Submission of Revised Master Labeling and CSF**

**** To Notification & Minor Formulation Team Leader...** please stamp approve both label and CSF as "acceptable as NOTIFICATION" and mail back to me. These are needed for state registrations. Thank you.

Dear Mr. Tompkins:

With this letter as notification, BASF wants to change the primary tradename and is providing revised master labeling and Confidential Statement of Formula for the product **Dimethenamid-P Ornamentals herbicide** with EPA Registration No. **7969-239**.

1. Change of primary tradename:

For **EPA Reg.No. 7969-239**, BASF wishes to change from primary tradename from Dimethenamid-P Ornamentals Herbicide to **TOWER™ herbicide**. Please make this change in EPA files.

Under the tradename **TOWER herbicide**, BASF provides the following under this notification:

2. Revised Master Labeling:

From EPA's Notice of Registration letter and stamp-approved label dated August 27, 2007 for Dimethenamid-P Ornamentals Herbicide, the following changes have been made:

- changed EPA registration number to 7969-239
- made all changes requested in document "Summary of Comments on 7969-239" on pages 1, 2, 7, 10, and 14
- universally throughout label changed tradename to **TOWER herbicide**

3. Revised Basic Confidential Statement of Formula:

The basic CSF was revised with the following changes:

- Box 3: changed Product Name to **TOWER herbicide**, and included BASF formulation code number BAS 656 11 H
- Box 4: changed EPA Reg.No. to 7969-239
- Box 10: removed the alternate emulsifier Witco C-6245 from the basic CSF
- Box 10: removed the alternate solvent Aromatic 200 ND from the basic CSF
- Box 10: updated the solvent supplier address for ExxonMobil Chemical

- Box 10: updated the emulsifier (Atlox AL 2927) supplier address from Uniqema to Croda Inc.

4. Alternate Confidential Statement of Formula:

An alternate CSF is proposed, but the only difference between alternate CSF and the basic CSF is that the solvent is Aromatic 200 ND on the alternate CSF whereas the solvent is Aromatic 200 on the basic CSF. Both Aromatic 200 and Aromatic 200 ND have the same CAS No. 64742-94-5.

The differences on the alternate CSF compared to basic CSF are as follows:

- Box 3: the BASF formulation code number is listed as BAS 656 12 H
- Box 10: lists the primary solvent as Aromatic 200 ND (Naphthalene Depleted)

Please find enclosed the following documentation to support this submission as notification:

1. Application Form 8570-1
2. 2 copies of the revised master labeling for **TOWER herbicide**
3. Certification with Respect to Label Integrity form
4. CD-ROM containing the .pdf file of the revised master labeling for **TOWER herbicide**
5. 2 copies of the revised basic CFS for **TOWER herbicide**
6. 2 copies of the alternate CSF for **TOWER herbicide**

Thank you for your assistance with **TOWER herbicide**.

If you have any questions or concerns, please feel free to contact me.

Regards,


Craig D. Kleppe, Ph.D.

Product Registration Manager

craig.kleppe@basf.com, Tel 919-547-2615, Fax 919-547-2850

™ Trademark of BASF

6024

Tower™ herbicide

NOTIFICATION

MAR 6 2009

**For Use as a Preemergence Weed Control Herbicide in Ornamental Production,
Landscape or Grounds Maintenance, and Other Specified Noncrop Areas.**

Active Ingredient:*

dimethenamid-P: (S)-2-chloro-N-[(1-methyl-2-methoxy)ethyl]-N-(2,4-dimethyl-thien-3-yl)-acetamide 63.9%

Other Ingredients:** 36.1%

Total: 100.0%

*Contains 6.0 pounds of active ingredient per gallon.

**Contains petroleum distillates, xylene or xylene range aromatic solvent.

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, and Conditions of Sale and Warranty.**

Net Contents: _____

BASF Corporation
Agricultural Products
26 Davis Drive
Research Triangle Park, NC 27709

 **BASF**
The Chemical Company

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.
HOT LINE 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 distillate. 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.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to **Category F** on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils or viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

User Safety Requirements: 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft 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:

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

Environmental Hazards

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 washwaters 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 washwaters, 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: 1) back siphoning into wells; 2) spills; or 3) 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 rate recommendations as affected by soil type in the **General Information** section of this label. **DO NOT** apply if all three criteria exist: coarse soils classified as sand (does not include loamy sand or sandy loam); less than 3% organic matter (as determined by soil tests, if not known); and where depth to ground water is 30 feet or less.

Movement by water erosion of treated soil:

DO NOT apply or incorporate this product by flood or furrow irrigation. Ensure treated areas have received at least 0.5" of rainfall before using tailwater for subsequent irrigation of other fields.

Endangered Species Concerns

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law.

Endangered Plant Species

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 of the application site:

Ground Applications

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.

To determine whether your county has endangered plant species, consult <http://www.epa.gov/espp/usa-map.htm>. Endangered Species Bulletins may also be obtained from county extension offices or state pesticide agencies. If a bulletin is not available for your specific area, check with the appropriate local state agency to determine if known populations of endangered plants occur in the area.

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.

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.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed.

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.

DO NOT apply **Tower™ herbicide** through any type of irrigation system.

DO NOT apply as a herbigation or chemigation treatment.

DO NOT apply **Tower** in greenhouses, shadehouses or other enclosed structures.

Not for use for commercial seed production.

DO NOT apply aerially or as an aerial treatment.

For Professional Application Only.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL OR CROP 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
- Chemical-resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- 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.

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 may be disposed of on-site or at an approved waste dis-

posal 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.

Container Disposal:

Plastic Containers. Triple rinse (or equivalent) and add rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration.

In Case of Emergency

In case of large-scale spillage regarding 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 be taken in case 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.

Observe all cautions and limitations in this label and the labels of products used in combination with **Tower™ herbicide**. The use of **Tower** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

GENERAL INFORMATION

Mode of Action

Tower is a root-and-shoot growth inhibitor that controls susceptible germinating seedlings before or soon after they emerge from the soil.

Use Sites

Tower may be applied for preemergence control of certain annual grasses, annual broadleaf weeds and sedges as they germinate in:

- **Field, or liner, or container nurseries of commercial ornamental production.** Applications can be made, but are not limited to, ornamental plant species listed on this label such as trees, shrubs, ground covers, perennials, ornamental grasses and bedding plants. Examples of other sites include: 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 or cart paths.
- **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.

- **The following 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. It may be used under asphalt or concrete treatments as part of a site-preparation program.

Not for use on any improved or unimproved maintained turfgrass(es) or lawn(s).

Tower™ herbicide may be applied as a soft-residual bare-ground 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.

The efficacy of **Tower** will improve if application is followed by 0.33 to 0.67 inch of rainfall or its equivalent in sprinkler irrigation. If **Tower** is not activated by rainfall or irrigation within 30 days, erratic weed control may result.

If weeds should germinate prior to activation of herbicide, shallow cultivate to destroy existing weeds or, where practical, remove by hand. When cultivating for any reason, it should be shallow.

Applied according to label directions and under normal growing conditions, **Tower** or **Tower** tank mix combinations will not cause ornamental plant injury. Overapplication can result in ornamental plant-stand loss, ornamental plant injury, or soil residues. Uneven application can decrease weed control or cause ornamental plant injury.

Seedling diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought can weaken seedlings and plants and increase the possibility of plant damage from **Tower**.

APPLICATION INFORMATION

Application Mixing Instructions

General Tank Mixing Information: **Tower** 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.

Compatibility Test for Mix Components

Before mixing components, always perform a compatibility jar test.

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 recommended 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

1. **Water.** Begin by agitating a thoroughly clean sprayer tank $\frac{1}{2}$ to $\frac{3}{4}$ full of clean water.
2. **Agitation.** Maintain continuous and constant agitation throughout mixing.
3. **Inductor.** If an inductor is used, rinse it thoroughly after each component has been added.
4. **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.
5. **Water-dispersible products** (dry flowables, wettable powders, suspension concentrates, or suspensions).
6. **Water-soluble products.**
7. **Emulsifiable concentrates** (such as **Tower** or oil concentrate when applicable).
8. **Water-soluble additives** (such as AMS or UAN when applicable).
9. **Remaining quantity of water.**

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

Liquid Fertilizers: Prior to mixing, small quantities should always be tested using a simple jar test. Add the required amount of **Tower** to a half-filled spray tank while agitating; then add the fertilizer product. Complete filling spray tank to desired level.

Additives: Spray adjuvants have little or no influence on the performance of **Tower** when applications are made prior to 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. Must follow the adjuvant recommendations on the tank mix partner's label.

- **Oil Concentrate:** A crop oil concentrate **MUST** contain either a petroleum or vegetable oil base and **MUST** meet all of the following criteria:

- Non-phytotoxic
- Contain only EPA-exempt ingredients
- Provide good mixing quality in the jar test
- Successful in local experience

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see **Compatibility Test for Mix Components**.

- **Nonionic Surfactant:** The standard label recommendation is 1 to 2 quarts of an 80% active nonionic spray surfactant per 100 gallons of water. For certain weeds, a higher spray surfactant rate is recommended.

Managing Off-target Movement

SPRAY DRIFT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they shall 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 that the spray is released parallel to the air stream 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 that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift. **DO NOT** use nozzles producing a mist droplet spray.

APPLICATION HEIGHT

Making applications at the lowest possible height (aircraft, ground-driven spray boom) that is safe and practical reduces exposure of droplets to evaporation and wind. Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the application equipment (e.g. aircraft, 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 due to 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 INVERSIONS

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 due to 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 or an aircraft smoke generator. 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 crops) 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 Methods and Equipment

Tower™ herbicide will provide most effective weed control when applied by ground equipment and subsequently incorporated into soil by rainfall, sprinkler irrigation, or by mechanical methods prior to weed seedling emergence from soil. **Tower** is recommended for preemergence treatment (prior to emergence of weeds). **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 recommended for use as a postemergence treatment.

Ground Application (Banding)

When applying **Tower** by banding, determine the amount of herbicide and water volume needed using the following formula:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Banding herbicide rate per acre}$$

or

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Banding water volume per acre}$$

Ground Application (Broadcast)

Water Volume: Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used and the targeted application use site. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

Ground Application (Dry Bulk Fertilizer)

Tower may be impregnated or coated onto dry bulk granular fertilizer carriers for preemergence surface applications. Impregnation or coating may be conducted by either the in-plant bulk system or the on-board system. When impregnated onto some dry fertilizer blends, **Tower** may exhibit a strong odor. Perform the mixing operation in well-ventilated areas.

Tower may also be applied in herbicide tank mixes where the tank mix companion product is also registered for these application systems. Individuals or agents selling **Tower** in

these application systems are responsible for following all state and local regulations regarding fertilizer and herbicide blending.

Addition of a drying agent may be necessary if the fertilizer and herbicide blend is too wet for uniform application due to high humidity, high urea concentration, or low fertilizer use rate. Slowly add the drying agent to the blend until a flowable mixture is obtained. Drying agents are not recommended for use with on-board impregnation systems.

Under some conditions, fertilizer impregnated with **Tower** may clog air tubes or deflector plates on pneumatic application systems. Mineral oil may be added to **Tower** before blending with fertilizer to reduce plugging. **DO NOT** use drying agents when mineral oil is used. To avoid separation of **Tower** and mineral oil mixes in cold temperatures, either keep mixture heated or agitated prior to blending with fertilizer. Mineral oil may be used at in-plant blending stations or on-board injection systems.

Apply 200 to 750 pounds of the fertilizer and herbicide blend per acre. Application must be made uniformly to the soil to prevent possible ornamental plant injury and offer satisfactory weed control. Impregnated fertilizer spread at half rate and overlapped to obtain a full rate will offer a more uniform distribution. For granular fertilizer application, to protect small birds and mammals, soil incorporation of the granules is required. A shallow (1" to 2") incorporation is desirable for improved weed control. Deeper incorporation may result in unsatisfactory weed control.

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

$$\frac{\text{fluid ounces or pounds of herbicide per acre}}{\text{pounds of fertilizer per acre}} \times 2,000 = \frac{\text{fluid ounces or pounds of herbicide}}{\text{pounds of herbicide per ton of fertilizer}}$$

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.

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 all other noncrop applications such as soft-residual bare ground applications. Maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above those recommended. Avoid application when winds may cause drift.

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

To prevent establishment of weeds along the edges of treated area, it may be necessary to overlap the spray 3 to

6 inches onto sidewalks or driveways, etc. to ensure effective application rates in these especially vulnerable sites.

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 Hand-held Spray

Equipment: Refer to **Table 1** to determine the amount of **Tower™ herbicide** to be applied per 1000 square feet of area. 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 hand-held spray equipment will vary with each operator. Determine the amount of water needed to treat 1000 square feet of area before mixing the spray solution. Follow information in **APPLICATION MIXING INSTRUCTIONS** section of this label.

Application Use Rates

For preemergence control of the weed species (see list in **Table 3**), apply **Tower** at the use rates stated in **Table 1**.

Table 1 – Application Use Rates of Tower for Weed Control

Length of Weed Control	Tower (fl ozs/acre)	Fluid Ounces of Tower Required to Treat 1000 sq ft
Short-term control (2 to 4 months)	21	0.48 fl oz (14 ml)
Long-term control (4 to 6 months)	32	0.73 fl oz (21 ml)

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** per acre.

For extended weed control, sequential applications of **Tower** can be made a minimum of 6 to 8 weeks between applications. In a single growing season, **DO NOT** apply more than the equivalent of 64 fluid ounces of **Tower** per acre.

Application Restrictions and Limitations

- **DO NOT** apply more than 1.5 lbs ai dimethenamid-P (32 fluid ounces of **Tower**) per acre, per application.
- After applying **Tower**, wait at least 42 days before making another application.
- **Maximum seasonal use rate: DO NOT** apply more than a total of 3.0 pounds of active ingredient dimethenamid-P (64 fluid ounces of **Tower**) per acre per season.
- **Restricted-Entry Interval (REI): 12 hours**
- **Stress:** Applications to ornamental plants under stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures may result in crop injury.
- **DO NOT** contaminate irrigation ditches or water used for domestic purposes.
- **DO NOT** treat plants grown for food or feed. **DO NOT** use treated plants for food or feed.

SPECIFIC INFORMATION FOR USE SITES

Areas to be treated with **Tower** should be free of established weeds at the time of treatment, or **Tower** may be used in conjunction with herbicides registered for postemergence use (i.e. glyphosate, **Roundup®** or **Finale®**) for the control of established weeds in commercial ornamental production nurseries, landscaped ornamentals, and in other maintenance areas or grounds. **DO NOT** apply sprays containing glyphosate, **Roundup** or **Finale** over the top of desirable plants. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in these areas.

COMMERCIAL ORNAMENTAL PRODUCTION

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

Tower sprays are safe around and over the top of the established ornamental plants listed in **Table 2** of this label. However, not all varieties or strains of the ornamental plants listed have been tested. Refer to the sections on **Application Instructions and Restrictions** in this label prior to any application of **Tower**. Unintentional consequences such as ornamental injury may result because of certain environmental or growing conditions, manner of use, or application. Therefore, before treating a large number of plants, spray a few plants and observe for plant damage prior to full-scale application.

Refer to **Table 1** for use rates and **Table 3** for weeds controlled.

SPECIFIC INFORMATION for PRODUCTION ORNAMENTALS¹

Site	Application Instructions and Restrictions
Newly transplanted field-grown nursery stock ^{2,3}	<ul style="list-style-type: none"> • DO NOT make over-the-top applications at time of field transplanting. Use shielded sprayer until plantings have been established for one (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. Care must be taken to ensure there are no cracks in the soil where Tower 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 sprays away from graphed or budded tissue on transplants at all times.
Newly transplanted container-grown nursery stock ^{2,3}	<ul style="list-style-type: none"> • DO NOT apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to 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 for two (2) weeks after transplanting. • DO NOT apply during bud swell, bud break or at time of first flush of new growth. • Direct sprays away from graphed or budded tissue on transplants at all times.
Established container or field-grown nursery stock ^{2,3}	<ul style="list-style-type: none"> • 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 graphed rootstock, make an application using a shielded sprayer. • Care must be taken to ensure there are no cracks in the soil where Tower could come into contact with the roots.
Bare ground for container placement	Apply to soil, then water in (including mulch, gravel, wood chips, or other permeable base); replace containerized ornamentals onto pad.
Greenhouses, shadehouses or other enclosed structures	DO NOT apply in greenhouses, shadehouses or other enclosed structures.

¹ Plant only those desirable plant species listed on this label into soil treated the previous season with **Tower** or injury may occur.

² It is recommended that before treating a large number of plants, spray a few plants and observe for 1 to 2 months for plant damage prior to full-scale application.

³ **DO NOT** treat plants grown for food or feed. **DO NOT** use treated plants for food or feed.

ORNAMENTAL TANK MIXES

For preemergence control of additional weed species, tank mix **Tower** with **Pendulum® herbicide** or other similar products such as **Gallery®** or **Princep®**. Refer to manufacturers' labels for specific instructions and follow the most restrictive.

Emerged weeds in ornamentals can be controlled using tank mixes containing glyphosate, **Roundup®**, **Finale®**, **Ornamec®**, and other similar products. **DO NOT** apply sprays containing glyphosate, **Roundup** or **Finale** over the top of ornamental plants.

Before tank mixing, a simple jar test is recommended to ensure compatibility of herbicides.

Refer to manufacturers' labels for specific use directions, precautions, and limitations before tank mixing with **Tower**, and follow those that are most restrictive.

TREE PLANTATIONS

Tower™ herbicide can also 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, and fiber farms. **Tower** may also be used for hardwood and conifer regeneration on conservation reserve program land or similar areas.

SPECIFIC INFORMATION for TREE PLANTINGS¹

Site	Application Instructions and Restrictions
Tree plantings including Christmas tree plantations, conifer and hardwood tree seedling nurseries, established trees ²	<ul style="list-style-type: none"> It is important that slit closure has been achieved so that 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 make applications at bud break under either application method.

¹ Plant only those desirable plant species listed on this label into soil treated the previous season with **Tower** or injury may occur.

² It is recommended that before treating a large number of plants, spray a few plants and observe for 1 to 2 months for plant damage prior to full-scale application.

For postemergence control of weeds, tank mix combinations of **Tower** plus glyphosate, **Roundup®**, **Finale®**, or other labeled herbicides are recommended. Refer to approved labeling for species recommendations. Recommended rates for the tank mix compounds should be determined from the product labels of both **Tower** and partner herbicides prior to use. Precaution must be exercised to prevent combination sprays from direct contact with desirable foliage or injury may result. **Tower** plus **diuron** or **simazine** combinations will broaden the weed control spectrum; however, use of combinations may restrict **Tower** usage in sensitive areas. Refer to manufacturers' labels for specific use directions, precautions, and limitations before use, and follow those that are most restrictive.

Refer to **Table 1** for use rates, **Table 2** for list of tree species, and **Table 3** for weeds controlled.

LANDSCAPE AND GROUNDS MAINTENANCE

Tower can be implemented into landscape and grounds maintenance programs to provide extended preemergence control of certain annual grasses, annual broadleaf weeds and sedges. **Tower** can be used in and around established ornamental plantings in nonagricultural areas as defined in the first section of this label. Refer to **Table 2** for list of ornamental plants.

SPECIFIC INFORMATION for LANDSCAPE¹ AND ORNAMENTAL PLANTINGS¹

Site	Application Instructions and Restrictions
Landscape ornamental plantings ²	<ul style="list-style-type: none"> 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. It is recommended to use the lowest labeled rate when making applications. Repeat applications can be made for extended landscape weed control.

¹ Plant only those desirable plant species listed on this label into soil treated the previous season with **Tower** or injury may occur.

² It is recommended that before treating a large number of plants, spray a few plants and observe for 1 to 2 months for plant damage prior to full-scale application.

Refer to **Table 1** for use rates and **Table 3** for weeds controlled. See section above in **TREE PLANTATIONS** on tank mix combinations that can be used when individual product labels allow for similar uses, sites and precautions.

Table 2 – Recommended Ornamental Species

Tower™ herbicide sprays are safe around and over the top of the established plants listed below. Not all ornamental species or cultivars of species have been tested for plant safety. **Tower** may be used on plant species not listed on this label; however, testing a small number of plants at the recommended rate and evaluating for suitability prior to a broad-use application is advised. Treated plants should be evaluated 1 to 2 months following treatment for possible injury.

TREES

Common Name	Scientific Name
Alder, European black	<i>Alnus glutinosa</i>
Apple	<i>Malus</i> spp.
Arborvitae, American	<i>Thuja occidentalis</i>
Arbutus	<i>Arbutus</i> spp.
Ash, red	<i>Fraxinus pennsylvanica</i>
Ash, white	<i>Fraxinus americana</i>
Aspen, bigtooth	<i>Populus grandidentata</i>
Aspen, quaking	<i>Populus tremuloides</i>
Basswood	<i>Tilia</i> spp.
Birch, European weeping	<i>Betula pendula</i>
Birch, river	<i>Betula nigra</i>
Buckeye, red	<i>Aesculus pavia</i>
Cedar, white	<i>Thuja occidentalis</i>
Chamaecyparis, boulevard	<i>Chamaecyparis pisifera</i>
Cherry, black	<i>Prunus serotina</i>
Cherry, choke	<i>Prunus virginiana</i>
Cherry, Kwanzan	<i>Prunus serrulata</i>
Cherry, Nanking	<i>Prunus tomentosa</i>
Cottonwood	<i>Populus deltoides</i>
Crabapple	<i>Malus</i> spp.
Crape myrtle	<i>Lagerstroemia indica</i>
Cryptomeria, Japanese cedar	<i>Cryptomeria japonica</i>
Cypress, bald	<i>Taxodium distichum</i>
Cypress, Leyland	<i>Cupressocyparis leylandii</i>
Dogwood, flowering	<i>Cornus florida</i>
Dogwood, Korean	<i>Cornus kousa</i>
Dogwood, silky	<i>Cornus amomum</i>
Dogwood, shrub	<i>Cornus</i> spp.
Elm	<i>Ulmus japonica</i>
Elm, winged	<i>Ulmus alata</i>
Eucalyptus (Silver-dollar) tree	<i>Eucalyptus cinera</i>
Fir, balsam	<i>Abies balsamae</i>
Fir, Douglas	<i>Pseudotsuga menziesii</i>
Fir, Fraser	<i>Abies fraseri</i>
Fir, white	<i>Abies concolor</i>
Franklinia	<i>Franklinia</i> spp.
Fringe tree	<i>Chlonenthus retusus</i>
Ginkgo	<i>Ginkgo biloba</i>
Gum, black	<i>Nyssa sylvatica</i>
Gum, sour	<i>Nyssa sylvatica</i>
Haw, black	<i>Viburnum prunifolium</i>
Hawthorn	<i>Crataegus</i> spp.
Hemlock, Canada	<i>Tsuga canadensis</i>
Hemlock, Eastern	<i>Tsuga canadensis</i>
Holly, American	<i>Ilex opaca</i>
Honeylocust	<i>Gleditsia triacanthos</i>
Lilac, common	<i>Syringa vulgaris</i>
Lilac, Japanese tree	<i>Syringa reticulata</i>
Linden	<i>Tilia</i> spp.
Magnolia, saucer	<i>Magnolia soulangiana</i>
Magnolia, Southern	<i>Magnolia grandiflora</i>
Magnolia, star	<i>Magnolia stellata</i>

Table 2 – Recommended Ornamental Species (continued)

TREES (continued)	
Common Name	Scientific Name
Maidenhair tree	<i>Ginkgo biloba</i>
Maple, Norway	<i>Acer platanoides</i>
Maple, Japanese	<i>Acer palmatum</i>
Maple, red	<i>Acer rubrum</i>
Maple, sugar	<i>Acer saccharum</i>
Nannyberry, rusty	<i>Viburnum rufidulum</i>
Oak, Chinquapin	<i>Quercus muehlenbergii</i>
Oak, live	<i>Quercus virginiana</i>
Oak, pin	<i>Quercus palustris</i>
Oak, red	<i>Quercus rubra</i>
Oak, swamp chestnut	<i>Quercus michauxii</i>
Oak, water	<i>Quercus nigra</i>
Oak, white	<i>Quercus alba</i>
Oak, willow	<i>Quercus phellos</i>
Olive	<i>Olea europaea</i>
Palm, date	<i>Phoenix</i> spp.
Palm, fan	<i>Washingtonia</i> spp.
Palm, pindo	<i>Butia</i> spp.
Palm, Washington	<i>Washingtonia</i> spp.
Peach	<i>Prunus persica</i>
Pear, Bradford	<i>Pyrus calleryana</i> 'Bradford'
Pecan	<i>Carya illinoensis</i>
Pine, Austrian	<i>Pinus nigra</i>
Pine, Italian stone	<i>Pinus pinea</i>
Pine, loblolly	<i>Pinus taeda</i>
Pine, Monterey	<i>Pinus radiata</i>
Pine, red	<i>Pinus resinosa</i>
Pine, Scotch	<i>Pinus sylvestris</i>
Pine, Virginia	<i>Pinus virginiana</i>
Pine, white	<i>Pinus strobus</i>
Plum, purple leaf	<i>Prunus cerasifera</i>
Poplar, black	<i>Populus nigra</i>
Redcedar, Eastern	<i>Juniperus virginiana</i>
Redcedar, Western	<i>Thuja plicata</i>
Red ironbark	<i>Eucalyptus sideroxylon</i> 'Rosea'
Redwood, dawn	<i>Metasequoia glyptostroboides</i>
Sequoia, giant	<i>Sequoiadendron giganteum</i>
Serviceberry	<i>Amelanchier laevis</i>
Sourwood	<i>Oxydendrum arboreum</i>
Spruce, Colorado blue	<i>Picea pungens</i>
Spruce, dwarf Alberta	<i>Picea glauca</i> 'albertiana'
Spruce, Norway	<i>Picea abies</i>
Spruce, white	<i>Picea glauca</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Sycamore	<i>Platanus occidentalis</i>
Trachycarpus	<i>Trachycarpus</i> spp.
Tulip tree	<i>Liriodendron tulipifera</i>
Walnut, black	<i>Juglans nigra</i>
Willow, weeping	<i>Salix babylonica</i>
Yellowwood	<i>Cladrastis lutea</i>

Table 2 – Recommended Ornamental Species (continued)

SHRUBS

Common Name	Scientific Name
Abelia, glossy	<i>Abelia grandiflora</i>
Alder, witch	<i>Fothergilla gardenii</i>
Aucuba, gold	<i>Aucuba japonica</i>
Azalea	<i>Rhododendron</i> sp.
Bamboo, heavenly	<i>Nandina domestica</i>
Barberry	<i>Berberis gladwynensis</i>
Barberry, Japanese	<i>Berberis thunbergii</i>
Blue indigo bush	<i>Dalea gregii</i>
Bottlebrush, lemon	<i>Callistemon citrinus</i>
Boxwood, common	<i>Buxus sempervirens</i>
Boxwood, Japanese	<i>Buxus microphylla</i>
Brittlebush	<i>Encelia farinosa</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Camellia	<i>Camellia japonica</i>
Cape jasmine	<i>Gardenia jasminoides</i>
Cassia, feathery	<i>Cassia artemisioides</i>
Cordyline	<i>Cordyline</i> spp.
Correa	<i>Correa</i> spp.
Cotoneaster	<i>Cotoneaster apiculatus</i>
Cotoneaster, bayberry	<i>Cotoneaster dammeri</i>
Cotoneaster, rock	<i>Cotoneaster horizontalis</i>
Cypress, Italian	<i>Cupressus sempervirens</i>
Cypress, Leyland	<i>Cupressocyparis leylandii</i>
Deutzia, slender	<i>Deutzia gracilis</i>
Dogwood, red twig	<i>Cornus sericea</i>
Elaeagnus	<i>Elaeagnus ebbingei</i>
Escallonia	<i>Escallonia fradesii</i>
Euonymus	<i>Euonymus fortunei</i>
Euonymus, golden	<i>Euonymus japonica</i>
Euonymus, winged	<i>Euonymus alata</i>
Firethorn	<i>Pyracantha coccinea</i>
Forsythia, border	<i>Forsythia intermedia</i>
Fragrant olive	<i>Osmanthus fragrans</i>
Fuschia, California	<i>Zauschneria californica</i>
Gardenia	<i>Gardenia jasminoides</i>
Hawthorne, Indian	<i>Raphiolepis indica</i>
Hibiscus	<i>Hibiscus syriacus</i>
Holly, Chinese	<i>Ilex cornuta</i>
Holly, Japanese	<i>Ilex crenata</i>
Holly, Fosters	<i>Ilex attenuata</i> 'Fosteri'
Holly, Savannah	<i>Ilex attenuata</i>
Holly, yaupon	<i>Ilex vomitoria</i>
Honeysuckle, bush	<i>Diervilla lonicera</i>
Hopseed bush	<i>Dodonaea viscosa</i>
Hopbush	<i>Dodonaea viscosa</i>
Hydrangea	<i>Hydrangea macrophylla</i>
Juniper	<i>Juniperus</i> sp.
Juniper, Chinese	<i>Juniperus chinensis</i> v. pfitzer
Juniper, shore	<i>Juniperus conferta</i>
Juniper, trailing	<i>Juniperus horizontalis</i>
Laurel, cherry	<i>Prunus laurocerasus</i>
Laurel, mountain	<i>Kalmia latifolia</i>
Laurel, Otto Luyken	<i>Prunus laurocerasus</i>
Laurel, Schipka	<i>Prunus schipkanensis</i>
Laurustinus	<i>Viburnum tinus</i>
Lavender, English	<i>Lavandula angustifolia</i>

Table 2 – Recommended Ornamental Species (continued)

SHRUBS (continued)	
Common Name	Scientific Name
Leucothoe	<i>Leucothoe fontanesiana</i>
Leucothoe, coast	<i>Leucothoe axillaris</i>
Lilac, cut-leaf	<i>Syringa laciniata</i>
Lily-of-the-Nile	<i>Agapanthus africanus</i>
Mahonia	<i>Mahonia aquifolium</i>
Mock orange	<i>Pittosporum tobira</i>
Myrtle, compact	<i>Myrtus communis</i>
Myrtle, wax	<i>Myrica cerifera</i>
Nandina	<i>Nandina domestica</i>
Oleander	<i>Nerium oleander</i>
Oregon grape	<i>Mahonia aquifolium</i>
Osmanthus	<i>Osmanthus fragrans</i>
Palm, European fan	<i>Chamaerops humilis</i>
Palm, Mediterranean fan	<i>Chamaerops</i> spp.
Phlox, prickly	<i>Leptodactylon californicum</i>
Photinia, Fraser	<i>Photinia X Fraseri</i>
Pieris, Japanese	<i>Pieris japonica</i>
Pine, mugo	<i>Pinus mugo</i>
Plum, Natal	<i>Carissa grandiflora</i>
Privet, California	<i>Ligustrum ovalifolium</i>
Privet, glossy	<i>Ligustrum lucidum</i>
Privet, variegated	<i>Ligustrum sinensis</i>
Privet, waxleaf	<i>Ligustrum japonicum</i>
Pyracantha	<i>Pyracantha coccinea</i>
Quince, flowering	<i>Chaenomeles japonica</i>
Ranger, Texas	<i>Leucophyllum frutescens</i>
Redroot	<i>Ceanothus</i> spp.
Rhododendron	<i>Rhododendron</i> spp.
Robira	<i>Pittosporum tobira</i>
Rose	<i>Rosa</i> spp.
Spice plant	<i>Illicium parviflorum</i>
Spiraea	<i>Spiraea vanhouttei</i>
Spiraea, Anthony Waterer	<i>Spiraea X bumalda</i>
Spiraea, Japanese	<i>Spiraea japonica</i>
Sweet bay	<i>Laurus nobilis</i>
Trumpet bush	<i>Tecoma stans</i>
Verbena, lemon	<i>Aloysia triphylla</i>
Viburnum	<i>Viburnum suspensum</i>
Vitex	<i>Vitex</i> spp.
Weigela	<i>Weigela florida</i>
Wild lilac	<i>Ceanothus</i> spp.
Wisteria	<i>Wisteria</i> spp.
Xylosma	<i>Xylosma congestum</i>
Yellowbells	<i>Tecoma stans</i>
Yew*	<i>Taxus media</i>
Yew, Japanese*	<i>Taxus cuspidata</i>
Yew, Southern*	<i>Podocarpus macrophyllus</i>
Yucca, Adam's needle	<i>Yucca filamentosa</i>
Yucca, weeping	<i>Yucca pendula</i>

*Applications of **Tower™ herbicide** should not be made during spring growth or injury to terminals may occur.

Table 2 – Recommended Ornamental Species (continued)

GROUND COVERS

Common Name	Scientific Name
Ajuga	<i>Ajuga reptans</i>
Baby sun rose	<i>Aptenia cordifolia</i>
Beach strawberry	<i>Fragaria chiloensis</i>
Capeweed	<i>Arctotheca calendula</i>
Cinquefoil, spring	<i>Potentilla verna</i>
Coyotebrush, dwarf	<i>Baccharis pitularis</i>
Daisy, trailing African	<i>Osteospermum fruticosum</i>
Dymondia	<i>Dymondia margaretae</i>
Gazania	<i>Gazania splendens</i>
Iceplant, large leaf	<i>Carpobrotus edulis</i>
Ivy, English	<i>Hedera helix</i>
Ivy, geranium	<i>Pelargonium peltatum</i>
Jasmine, Asiatic	<i>Trachelospermum asiaticum</i>
Jasmine, primrose	<i>Jasminum mesnyi</i>
Jessamine, Carolina	<i>Gelsemium sempervirens</i>
Manzanita, bearberry	<i>Arctostaphylos uva-ursi</i>
Miscanthus	<i>Miscanthus</i> spp.
Mondograss	<i>Ophiopogon japonica</i>
Morningglory	<i>Convolvulus</i> spp.
Myoporum	<i>Myoporum parvifolium</i>
Pachysandra	<i>Pachysandra terminalis</i>
Potentilla	<i>Potentilla fruticosa</i>
Red apple	<i>Aptenia cordifolia</i>
Rosemary	<i>Rosemarinus officinalis</i>
Rose-of-Sharon	<i>Hypericum calycinum</i>
Sand strawberry	<i>Fragaria chiloensis</i>
Sedum	<i>Sedum spurium</i>
St. John's wort, creeping	<i>Hypericum calycinum</i>
Stonecrop	<i>Sedum spurium</i>
Verbena, Peruvian	<i>Verbena peruviana</i>
Vervain	<i>Verbena peruviana</i>
Vetch, crown	<i>Vicia sativa</i>
Vinca	<i>Vinca minor</i>
Wintercreeper	<i>Euonymus fortunei</i>

PERENNIALS

Common Name	Scientific Name
Acacia	<i>Acacia redolens</i>
Asparagus	<i>Asparagus</i> spp.
Aster, New York	<i>Aster novi-belgii</i>
Aster, Stokes	<i>Stokesia laevis</i>
Astilbe (false spirea)	<i>Astilbe</i> spp.
Avens	<i>Geum triflorum</i>
Baby's breath	<i>Gypsophila elegans</i>
Baby's breath	<i>Gypsophila paniculata</i>
Beard-tongue	<i>Penstemon</i> spp.
Bellflower	<i>Campanula</i> spp.
Bellflower, willow	<i>Campanula persicifolia</i>
Bird of paradise	<i>Caesalpinia pulcherrima</i>
Bleeding heart	<i>Dicentra spectabilis</i>
Butterfly weed	<i>Asclepias tuberosa</i>
California poppy	<i>Eschscholzia californica</i>
Chinchierinchee	<i>Ornithogalum thyrsoides</i>
Columbine	<i>Aquilegia</i> 'McKana Giant'
Columbine	<i>Aquilegia</i> x <i>hybrida</i>
Daffodil	<i>Narcissus</i> spp.

Table 2 – Recommended Ornamental Species (continued)**PERENNIALS (continued)**

Common Name	Scientific Name
Daylily	<i>Hemerocallis</i> spp.
Fairy duster	<i>Calliandra eriophylla</i>
Fortnight lily	<i>Moraea</i> spp.
Foxglove	<i>Digitalis purpurea</i>
Freesia	<i>Freesia</i> x <i>hybrida</i>
Gaillardia	<i>Gaillardia pulchella</i>
Geum	<i>Geum</i> spp.
Heather, dwarf	<i>Calluna vulgaris</i>
Lantana, weeping	<i>Lantana montevidensis</i>
Leopard's bane	<i>Doronicum cordatum</i>
Liriope, big blue	<i>Liriope muscari</i>
Liriope, creeping	<i>Liriope spicata</i>
Liriope, variegated	<i>Liriope muscari</i>
Moonbeam	<i>Coreopsis verticillata</i>
Montbretia	<i>Crocasmia crocosmiiflora</i>
Mugwort, Western	<i>Artemesia ludoviciana</i>
Nightshade	<i>Solanum</i> spp.
Orchid, peacock	<i>Acidanthera bicolor</i>
Palm, Areca	<i>Chysalidocarpus lutescens</i>
Palm, pygmy date	<i>Phoenix roebelenae</i>
Palm, Washington	<i>Washington robusta</i>
Peony, Chinese	<i>Paeonia lactiflora</i>
Purple gay-feather	<i>Liatris pycnostachys</i>
Purple loosestrife	<i>Lythrum virgatum</i>
Rodgersia	<i>Rodgersia henricie</i>
Rosemary	<i>Rosmarinus officinalis</i>
Sedge	<i>Carex</i> spp.
Statice	<i>Limonium latifolia</i>
Statice, German	<i>Goniolimon tartaricum</i>
Texas bluebonnet	<i>Lupinus texensis</i>
Wonder flower	<i>Ornithogalum thyrsoides</i>
Zephyr lily	<i>Zephyranthes</i> spp.

ORNAMENTAL GRASSES

Common Name	Scientific Name
Beach grass	<i>Ammophila breviligulata</i>
Fescue, blue	<i>Festuca ovina</i>
Fescue, sheep	<i>Festuca ovina</i>
Fountain grass	<i>Pennisetum setaceum</i>
Pampas grass	<i>Cortaderia selloana</i>
Reed canary grass	<i>Phalaris arundinacea</i>
Reed, giant	<i>Arundo</i> spp.
Ribbon grass	<i>Phalaris arundinacea</i>
Tufted hair grass	<i>Deschampsia caespitosa</i>

BEDDING PLANTS

Common Name	Scientific Name
Ageratum	<i>Ageratum houstonianum</i>
Alyssum*	<i>Alyssum saxatile</i>
Artemesia	<i>Artemesia</i> spp.
Balloonflower	<i>Platycodon grandiflorum</i>
Begonia*	<i>Begonia</i> spp.
Cabbage, ornamental	<i>Brassica oleracea</i>
Cast iron plant	<i>Aspidistra elatior</i>
China aster*	<i>Callistephus chinensis</i>

Table 2 – Recommended Ornamental Species (continued)

BEDDING PLANTS (continued)	
Common Name	Scientific Name
Crocasmia, monteбетia	<i>Crocasmia x crocosmiiflora</i>
Dahlia*	<i>Dahlia</i> spp.
Dianthus	<i>Dianthus barbatus</i>
Dusty miller	<i>Senecio cineraria</i>
Gayfeather	<i>Liatris</i> spp.
Gazania, treasure flower	<i>Gazania rigens</i>
Gazania, trailing	<i>Gazania rigens leucolaena</i>
Kale, ornamental	<i>Brassica napus</i>
Marigold, African	<i>Tagetes erecta</i>
Moss rose*	<i>Portulaca grandiflora</i>
Mum, garden	<i>Chrysanthemum</i> spp.
Periwinkle*	<i>Vinca major</i>
Periwinkle, rose	<i>Catharanthus roseus</i>
Petunia*	<i>Petunia</i> spp.
Plumosa cockscomb	<i>Celosia cristata</i>
Portulaca*	<i>Portulaca grandiflora</i>
Salvia*	<i>Salvia splendens</i>
Snapdragon	<i>Antirrhinum majus</i>
Statice*	<i>Limonium</i> spp.
Sweet William	<i>Dianthus barbatus</i>
Vinca*	<i>Vinca major</i>

*Application of **Tower™ herbicide** should not be made sooner than 4 weeks after transplanting for these annuals. Use the lower labeled rate.

Table 3 – Weeds Controlled

Tower is a selective preemergence herbicide for controlling annual grasses, annual broadleaf weeds, and sedges listed in **Table 3**.

GRASS WEEDS	
Common Name	Scientific Name
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, rattle	<i>Vulpia myuros</i>
Foxtail, giant	<i>Setaria fabbri</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>Loium multiflorum</i>
Sandbur, field	<i>Cenchrus incertus</i>
Shattercane*	<i>Sorghum bicolor</i>
Signalgrass, broadleaf*	<i>Brachiaria platyphylla</i>
Witchgrass	<i>Panicum capillare</i>

Table 3 – Weeds Controlled (continued)

BROADLEAF WEEDS

Common Name	Scientific Name
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, Powell	<i>Amaranthus powellii</i>
Beggarweed, Florida*	<i>Desmodium tortuosum</i>
Bittercress	<i>Caramine</i> spp.
Chamomile, mayweed	<i>Anthemis cotula</i>
Carpetweed	<i>Mollugo verticillata</i>
Doveweed	<i>Murdannia nudiflora</i>
Eclipta*	<i>Eclipta alba</i> and <i>E. prostrata</i>
Galinsoga, hairy*	<i>Galinsoga cilata</i>
Galinsoga, smallflower*	<i>Galinsoga parviflora</i>
Groundsel, common	<i>Senecio vulgaris</i>
Lambsquarters, common*	<i>Chenopodium album</i>
Liverwort	<i>Marchatla polymorpha</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum ptycanthum</i>
Nightshade, hairy	<i>Solanum sarrachoides</i>
Nightshade, cutleaf	<i>Solanum triflorum</i>
Pearlwort	<i>Sagina procumbens</i> and <i>S. decumbens</i>
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>
Shepherdspurse	<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>
Willherb, Northern	<i>Epilobium ciliatum</i>

SEDGES

Common Name	Scientific Name
Flatsedge, rice	<i>Cyperus iria</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Sedge, annual	<i>Cyperus compressus</i>

*Denotes partial control or suppression only of the weed.

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