Syngenta

Vanquish®

Herbicide

For selective broadleaf weed and brush control on noncrop lands in the following uses: established turf grasses (including golf courses) and lawns, rights-of-way (including roadways, utility, railroad, highway, pipeline, and rights-of-way that run through pasture and rangeland), utility facilities (including substations, pipelines, tankfarms, pumping stations, parking and storage areas, nonirrigated ditches, and fencerows) and forest site preparation.

Active Ingredient:
Diglycolamin® salt of 3,6-dichloro-o-anisic acid .................. 56.8%

Other Ingredients: ............................................. 43.2%

Total: ................................................................ 100.0%

This product contains 38.5% 3,6-dichloro-o-anisic acid or 4 pounds per gallon (480 g/L).

EPA Reg. No. 100-884
EPA Est. 11773-IA-01
SCP 884A-L1E 0601
SCP 130-884A-L1E

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional precautionary statements and directions for use inside booklet.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Avoid contact with skin, eyes, or clothing. Harmful if swallowed. Avoid breathing spray mist.

First Aid

If swallowed:
• Call poison control center or doctor immediately for treatment advice.
• Have person sip a glass of water if able to swallow.
• Do not induce vomiting unless told to by a poison control center or doctor.
• Do not give anything by mouth to an unconscious person.

If in eyes:
• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
• Call a poison control center or doctor for treatment advice.

If on skin or clothing:
• Take off contaminated clothing.
• Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If inhaled:
• Move person to fresh air.
• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
• Call a poison control center or doctor for further treatment advice.

Have the product container label with you when calling a poison control center or doctor.

User Safety Recommendations

Users should:
• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
• Remove clothing 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.

Database and format copyright © by C&P Press. All rights reserved.

Environmental Hazards

Keep out of lakes, streams, or ponds. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water.

Best Stewardship Practices

Vanquish provides effective broadleaf weed and brush control when properly applied. Best stewardship practices in all mixing, loading, and application operations not only maximize weed control, but also protect ground and surface waters and minimize off-target movement.

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Ground and Surface Water Protection

1. Point source contamination—To prevent point source contamination, do not mix, load this pesticide product within 50 ft. of wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. Do not apply pesticide product within 50 ft. of wells. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas as described below.

Mixing, loading, rinsing, or washing operations performed within 50 ft. 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% of 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 wash water, and rain water 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: (a) back-siphoning into wells, (b) spills, or (c) improper disposal of excess pesticide, spray mixtures, or rinsates. Check-valves or antisiphoning devices must be used on all mixing equipment.

2. Movement by surface 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 in areas with high potential for ground water contamination. Ground water is susceptible to contamination even in areas where soils are permeable or coarse and ground water is near the surface. Do not apply to soils classified as sand with less than 3% organic matter and where ground water depth is shallow. To minimize the possibility of ground water contamination, carefully follow application rate recommendations as affected by soil type in the General Information section of this label.

3. Movement by water erosion of treated soil—Do not apply or incorporate this product through any type of irrigation equipment or by flood or furrow irrigation. Ensure treated areas have received at least one-half inch rainfall (irrigation) before using tailwater for subsequent irrigation of other fields.

Apply this product only as directed on label.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE:

Read the entire Directions for Use and the Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc, Buyer and User.

All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller, SYNGENTA, Buyer and User. Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA makes no warranties of merchantability or of fitness for a particular purpose nor any other express or implied warranty except as stated above.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential, or special damages resulting from the use or handling of this product.

The exclusive remedy of the Buyer or User, and the exclusive liability of SYNGENTA and Seller for any and all claims, losses, injuries or damages (including claims based on breach of warranty, contract, negligence, tort, strict liability or otherwise) and for any and all losses, damages, or injury of any kind or character, whether the same be caused by the negligence of SYNGENTA or Seller or otherwise, shall be limited to the replacement of the product or refund of the purchase price, at SYNGENTA's option.
LIABILITY OR OTHERWISE RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitations of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 190. 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 24 hours. 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:

- Coversalls
- Waterproof gloves
- Shoes plus socks

Before applying Vanquish, read all directions and precautions appearing on the container label and in this booklet.

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

STORAGE AND DISPOSAL

Prohibitions

Do not contaminate water, food, or feed by storage or disposal.

Storage

Store in original container in a well-ventilated area separately from fertilizer, feed, and foodstuffs. Avoid cross-contamination with other pesticides. Spillage or leakage should be contained and absorbed with clay granules, sawdust, or equivalent material for disposal.

Pesticide Disposal

Triple rinse pesticide from containers and use rinsates in the pesticide application.

Wastes which cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

Container Disposal (2.5 Gal. Plastic)

Triple rinse container (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke. For minor spills, etc., follow precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

GENERAL INFORMATION

The following directions apply to all uses of Vanquish. Additional precautions and restrictions will be found in each specific use section.

Do not treat irrigation ditches or water used for crop irrigation or domestic uses.

Sensitive Crop Precautions

Vanquish may cause injury to desirable trees and plants, particularly beans, cotton, flowers, fruit trees, grapes, ornamentals, peas, potatoes, soybeans, sunflowers, tobacco, tomatoes, and other broadleaf plants when contacting their roots, stems, or foliage. These plants are most sensitive to Vanquish during their development or growing stages. Injury to desirable broadleaf plants will occur if spray is allowed to contact their foliage, stems, or roots. Do not allow spray to drift away from target area.

FOLLOW THE PRECAUTIONS LISTED BELOW WHEN USING VANQUISH

Do not treat areas where either downward movement into the soil or surface washing may cause contact of Vanquish with the roots of desirable plants such as trees and shrubs.

To avoid injury to desirable plants, equipment used to apply Vanquish should be thoroughly cleaned (see Procedure for Cleaning Spray Equipment section) before removing any chemical residue.

Management of Off-Site Movement

The following spray drift management precautions should be followed to avoid off-target movement of Vanquish during applications. Avoid making applications when spray particles can be carried by wind to sensitive off-site areas. Avoid making applications in gusty wind conditions or if wind is moving in the direction of sensitive crops. The potential for injury increases with higher wind speed.

Aerial application should be avoided in the vicinity of sensitive off-site crops and plants.

Consult your local or state authorities for possible application restrictions and advice concerning these and other special local use situations. Tank mix recommendations are for use only in states where the tank mix product and application site are registered.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

APPLICATION PROCEDURES

Aerial Application

1. The distance of the outermost nozzles on the boom must not exceed Vi the length of the wingspan or rotor.

2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered below.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest 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 sections).

Controlling Droplet Size

- Volume—Use high flow rate nozzles to apply the highest practical spray volume.

- Pressure—Do not exceed the nozzle manufacturer’s recommended pressures. For many nozzle types, lower pressure produces larger droplets.

- 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 airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from 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.

Boom Length

For some use patterns, reducing the effective boom length to less than ⅔ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made at a height greater than 10 ft. above the top of the largest plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

Wind

Drift potential is lowest between wind speeds of 3-10 mph. Do not apply Vanquish at sustained wind speeds greater than 15 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 a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move...
in unpredictable directions due to the light variable winds common during inver-
sions. 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

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Ground Application

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest 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 sections).

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 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.

Examples of nozzles designed to produce coarse sprays for ground applications are the Radian Sprayer; Delavan Raindrops, Raindrop Flood, or Flooding Spray nozzles; Spraying Systems, Guard DG TeeJets, Turbo TeeJets, or Turbo FloodJet nozzles or large volume flat fan nozzles used with low pressure. Nozzles that produce a narrow angle spray pattern will generally have larger droplets.

Boom Height

Making applications with the boom at the lowest height that produces a uniform spray pattern will reduce exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind toward sensitive areas, the application should leave a buffer to avoid off-site movement.

Wind

Drift potential is lowest between wind speeds of 3-10 mph. Do not apply Vanquish at sustained wind speeds greater than 15 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Applications 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 hot and dry.

Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud 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 moves upward and rapidly dissipates indicates a good vertical air mixing.

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Approved drift reducing agents may be used.

**SPRAY EQUIPMENT**

**Procedure for Cleaning Spray Equipment**

The steps listed below are suggested for thorough cleaning of spray equipment following applications of Vanquish.

1. Hose down thoroughly the inside as well as outside surfaces of equipment while filling spray tank half full of water. Flush by operating sprayer until the system is purged of the rinse water.
2. Fill tank with water while adding 1 qt. of household ammonia for every 25 gals. of water. Operate the pump to circulate the ammonia solution through the spray system for 15-20 minutes and discharge a small amount of the ammonia solution through the boom and nozzles. Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Remove the nozzles and screens and flush the system with two full tanks of water.
5. Complete step 1.
6. Fill tank with water while adding 2 lbs. of detergent for every 40 gals. of water. Operate the pump to circulate the detergent solution through the spray system for 5-10 minutes and discharge a small amount of the solution through the boom and nozzles. Let the solution stand for several hours, preferably overnight.
7. Flush the detergent solution out of the spray tank through the boom.
8. Repeat step 1, and follow with steps 2, 3, and 4.

**MIXING PROCEDURES**

**Compatibility Test**

Before mixing in the spray tank, it is advisable to test compatibility by mixing all components in a small container in proportionate quantities (see following table).

**Amount of Herbicide to Add to One Pt. of Spray Carrier (Assuming Volume is 25 Gals./A)**

<table>
<thead>
<tr>
<th>Herbicide Formulation</th>
<th>Rate Per Acre</th>
<th>Level Top.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>1 lb.</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Liquid</td>
<td>1 pt.</td>
<td>1/2</td>
</tr>
</tbody>
</table>

If herbicide(s) do not ball-up or form flakes, sludge, gels, oily films, layers, or other precipitates, then the tested spray mix is compatible. Usually, incompatibility in any of the above described forms will occur within 5 minutes after mixing.

If components are incompatible, the use of a compatibility agent is recommended. Rerun the above compatibility test with a suitable compatibility agent (1/4 tsp. is equivalent to 2 pts./100 gals. of fluid fertilizer).

**CROP USE DIRECTIONS**

**General Weed List**

This is a general list of weeds which may be treated with Vanquish in accordance with this label, as recommended under the Rates and Timing sections of the individual use headings. Proper usage of this product will give control or growth suppression of many annual, biennial, and perennial broadleaf weeds, and many woody brush and vine species including:

**Annuals**

| Amaranth, Spiny (triazine resistant) | Common | Radish, Wild |
| Agray, Pigweed | Common | Radagry, Common |
| Aster, Stender | Common | Radagry, Giant |
| Bedstraw | Common | (Buffalo)weed |
| Beggarweed, Florida (triazine resistant) | Common | Ragweed, Lance-Leaf |
| Broomweed, Common | Common | Rubberweed, Bitter |
| Buckwheat, Wild | Common | Bitterweed |
| Buffalobur | Common | Senna, Coffee |
| Burcucumber | Common | Sesbania, Hemp |
| Buttercup, Roughseeds | Mow | Shepersadspurse |
| Carpetweed | Common | Sicklepod |
| Catchfly, Nightflowering | Common | Sida, Prickly (Teaweed) |
| Cockle, Corn | Common | Smartweed, Green |
| Chickweed, Common | Common | Smartweed, Pennsylvania |
| Clovers (Annual) | Common | Sneathseedweed |
| Cockle, Cow | Common | Spikeweed, Common |
| Cocklebur, Common | Common | Sparg | |
| Cor Jonic | Common | Sparg, Corn |
| Croton, Woolly | Common | Starbur, Britly |
| Eveningprimrose, Cutleaf | English | Sumpweed, Rough |
| Fleaban, Annual | Pigweed, Prostrate | Sunflower, Common |
| Fleabane, Annual | Pigweed, Redroot | (Wild) (triazine resistant) |
| Henbit | Pigweed, Rough | Pigweed, Tumble |
| Jimsonweed | Pigweed, Smooth | Poorog |
| Kochia | Pigweed, Triazine | Puncturevine |
| Kochia (triazine resistant) | Pigweed, Triazine | Purslane, Common |
| Lamb's Quarters | Pigweed, Triazine | Pushley, Florida |
| Lambsquarters, | Pigweed, Triazine | Waterhemp |
| Biennials | Pigweed, Triazine | Waterprimrose, Winged |
| knotweed | Pigweed, Triazine | Woomwood, Annual |
| Purslane | Pigweed, Triazine | Woomwood, Annual |
| Sida, Prickly (Teaweed) | Pigweed, Triazine | Woomwood, Annual |
| Smartweed | Pigweed, Triazine | Woomwood, Annual |
| Sumpweed, Rough | Pigweed, Triazine | Woomwood, Annual |
| Sunflower, Common | Pigweed, Triazine | Woomwood, Annual |
| (Wild) (triazine resistant) | Pigweed, Triazine | Woomwood, Annual |
| Sunflower, Volunteer | Pigweed, Triazine | Woomwood, Annual |
| Thistle, Russian | Pigweed, Triazine | Woomwood, Annual |
| Velvetleaf | Pigweed, Triazine | Woomwood, Annual |
| Waterhemp | Pigweed, Triazine | Woomwood, Annual |
| Waterprimrose, Winged | Pigweed, Triazine | Woomwood, Annual |
| Woomwood, Annual | Pigweed, Triazine | Woomwood, Annual |
**Rates and Timings**

Vanquish plus tank mix combinations. See \(*\) perennial weeds may be controlled with lower rates of either Vanquish or common biennial, and perennial broadleaf weeds, and many woody brush and vine species commonly found in noncropland areas. (Refer to General Weed List) Noted \((\ast)\) perennial weeds may be controlled with lower rates of either Vanquish or Vanquish plus tank mix combinations. See \(\ast\) rates and timings section.**

**Weeds and Brush Controlled**

Vanquish, when applied at recommended rates, will give control of many annual, biennial, and perennial broadleaf weeds, and many woody brush and vine species commonly found in noncropland areas. (Refer to General Weed List.) Noted \(\ast\) perennial weeds may be controlled with lower rates of either Vanquish or Vanquish plus tank mix combinations. See \(\ast\) rates and timings below. **Table 1: Rates and Timings**

Application rates and timings of Vanquish are given below. Use the higher level of rate ranges when treating dense or tall vegetative growth.

---

**Table 1: Rates and Timings**

<table>
<thead>
<tr>
<th>Weed Stage and Type</th>
<th>Amount of Product Per Acre</th>
<th>Gals. of Spray Mixture Per Acre**</th>
<th>Spray Concentration for Use with Low Volume Application***</th>
<th>(% vol/vol)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small, Actively Growing</td>
<td>0.5-1 pt.</td>
<td>25-50</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Established weed growth</td>
<td>1-1.5 pts.</td>
<td>50-75</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Biennial</strong> - Rosette</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>diameter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 3&quot;</td>
<td>0.5-1 pt.</td>
<td>25-50</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>3&quot; or more</td>
<td>1-2 pts.</td>
<td>50-70</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td><strong>Bolting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3 pts.</td>
<td>100-150</td>
<td>3-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perennial</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppression or top growth control</td>
<td>0.5-1 pt.</td>
<td>50-100</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Noted (\ast) Perennials</td>
<td>2-4 pts.</td>
<td>100-200</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Other Perennials</td>
<td>4 pts.</td>
<td>200</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Woody Brush and Vines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top Growth</td>
<td>0.5-4 pts.</td>
<td>50-70</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Stems and Roots</td>
<td>4 pts.</td>
<td>200</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

---

* For best performance, make application when biennial weeds are in the rosette stage.
** Assuming typical application rate of 1 qt. of Vanquish/100 gals.
*** Tank mixes may be required for optimal control. Refer to General Weed List.
**** Low volume rates must not exceed 4 pts. of Vanquish maximum per acre per year (5% volume/volume = 10 gals. maximum solution per acre per year).

Retreatments may be made as needed; however, do not exceed a total of 4 pts. of Vanquish (1 gal.) of Vanquish per acre during a growing season. **TANK MIX OPTIONS**

Vanquish may be tank mixed with other herbicides for additional weed control. The following table lists example options, but does not limit tank mix options. **READ AND FOLLOW THE LABEL OF EACH TANK MIX PRODUCT USED FOR PRECAUTIONARY STATEMENTS, DIRECTIONS FOR USE, APPLICATION RATES, AND OTHER RESTRICTIONS.** Consult product labels for rate recommendations for tank mix partners. **Powered by C&P Press.**
Table 2: Tank Mixes

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rates Per Treated Acre (lbs. a.i.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>norflurazon (Predict®)</td>
<td></td>
</tr>
<tr>
<td>prodiamine (Endurance®)</td>
<td></td>
</tr>
<tr>
<td>glufosinate (Finale®)</td>
<td></td>
</tr>
<tr>
<td>glyphosate (Roundup®)</td>
<td></td>
</tr>
<tr>
<td>metsulfuron methyl (Escort®)</td>
<td></td>
</tr>
<tr>
<td>pendimethalin (Pendulum®)</td>
<td></td>
</tr>
<tr>
<td>triclopyr (Redeem®, Garlon®)</td>
<td></td>
</tr>
<tr>
<td>clopyralid (Transline®)</td>
<td></td>
</tr>
<tr>
<td>bromacil (Hyvar®)</td>
<td></td>
</tr>
<tr>
<td>chloridazon (Tela®)</td>
<td></td>
</tr>
<tr>
<td>diquat (Reward®)</td>
<td></td>
</tr>
<tr>
<td>simazine (Princepro®)</td>
<td></td>
</tr>
<tr>
<td>diuron (Karmex®)</td>
<td></td>
</tr>
<tr>
<td>DSM®</td>
<td></td>
</tr>
<tr>
<td>fosamine ammonium (Krenolin®)</td>
<td></td>
</tr>
<tr>
<td>hexazinone (Velgar®)</td>
<td></td>
</tr>
<tr>
<td>imazapyr (Arsenal®)</td>
<td></td>
</tr>
<tr>
<td>imazameth (Plateau®)</td>
<td></td>
</tr>
<tr>
<td>MSMA®</td>
<td></td>
</tr>
<tr>
<td>sulfometuron methyl (Oust®)</td>
<td></td>
</tr>
<tr>
<td>sulfosate (Touchdown®)</td>
<td></td>
</tr>
<tr>
<td>tebuthiuron (Spike®)</td>
<td></td>
</tr>
</tbody>
</table>

Due to the differences that may occur between specific formulated products and specific use ingredients (e.g., water supplies), a compatibility test (see Compatibility Test section) is recommended prior to actual tank mixing.

**CUT SURFACE TREE TREATMENTS**

Vanquish may be applied as a cut surface treatment for control of unwanted plants and prevention of sprouts of cut trees. A mix of 1 part Vanquish with 1-3 parts water should be used in application; surfactants or oil may be added to potentially enhance control. Use the lower dilution when treating difficult-to-control species. Mixing and Application work best if made within 30 minutes of cutting.

**Fring or Girdle Treatments**

Make a continuous cut or a series of overlapping cuts using an axe to girdle tree trunk. Spray or paint cut surface with the Vanquish/water mix.

**Stump Treatments**

Spray or paint freshly cut surface with the water mix. The area adjacent to the bark should be thoroughly wet.

**DORMANT APPLICATIONS FOR CONTROL OF MULTIFLORA ROSE**

Vanquish can be applied when plants are dormant as an undiluted Spot-Concentrate directly to the soil or as a Lo-Oil Basal Bark treatment using an oil-water emulsion solution.

**Spot-Concentrate applications of Vanquish should be applied directly to the soil as close as possible to the root crown, but within 6-8 inches of the crown.**

**Lo-Oil Basal Bark applications of Vanquish should be applied to the basal stem region from the ground line up to a height of 12-18 inches.**

**FOREST SITE PREPARATION**

Vanquish may be used for control of undesirable conifers as well as many broadleaf weeds, vines, brush, hardwood brush, and trees in forest site preparation. Vanquish may be applied as broadcast foliar sprays from ground or aerial equipment. Vanquish is absorbed through the leaf surfaces quickly after spraying and will also be absorbed from the soil by the roots. Translocation through the leaves, stems, and roots provides control of undesirable young conifer and broadleaf species.
Apply 1/4-1/2 pt. (1/10-1/4 lb. a.i.) of Vanquish per treated acre with 1/2-1 1/2 lbs. acid equivalent of 2,4-D, MCPA, or MCPP, or with 1-2 pts. of Confront, or with 1/8-1/2 lb. a.i. of bromoxynil. Use the higher level of the listed rate ranges when treating established weeds. Repeat treatments may be made as needed; however, do not exceed 2 pts. (1 lb. a.i.) of Vanquish per treated acre during the growing season.

Endurance®, Predict®, Princep®, Vanquish® and the Syngenta logo are the trademarks of a Syngenta Group Company

Accord® and Roundup® trademarks of Monsanto Agricultural Products Company

Arsenal®, Pendulum®, and Plateau® trademarks of American Cyanamid Company

Confront®, Garlon®, Redeem®, Spike®, and Transline® trademarks of Dow AgroSciences

Diglycolamine®, trademark of Texaco Chemical Company


Finale® trademark of AgrEvo USA Company

Reward® and Touchdown® trademarks of ICI Americas Inc.

© 2001 Syngenta

For non-emergency (e.g. current product information) call Syngenta Crop Protection at 1-800-334-9481.