



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

62719-661

Date of Issuance:

7/29/16

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Quelex

Name and Address of Registrant (include ZIP Code):

Dow AgroSciences, LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(C). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

*Continued on page 2 of 2*

Signature of Approving Official:

Dan Kenny, Chief  
Herbicide Branch,  
Registration Division (7505P)

Date:

7/29/16

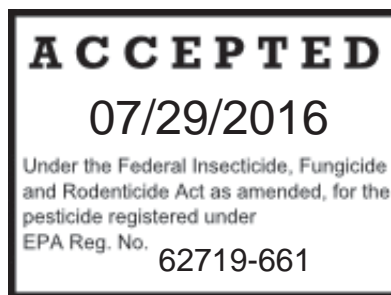
2. You are required to submit to the Agency additional Tier I data listed below on non-target terrestrial invertebrates (*i.e.* pollinators) for halauxifen-methyl, as is being required for all new active ingredients. The deadline for you to submit these required pollinator data to the Agency is **7/30/2017**. Your failure to provide these data in a timely or adequate manner may result in initiation of a cancellation action against your registration.
  - Acute oral toxicity to larvae honey bees (Non-guideline)
  - Chronic oral toxicity to adult honey bees (OECD 237)
  - Chronic oral toxicity to larval honey bees (Non-guideline)
  - Honey bee toxicity of residues on foliage (Guideline 850.3030)
  
3. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 62719-661.”
  
4. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 08/06/2012
- Alternate CSF 1 dated 06/18/2015

If you have any questions, please contact Beth Benbow by phone at 703-347-8072, or via email at [Benbow.bethany@epa.gov](mailto:Benbow.bethany@epa.gov).



(Base label):

**Quelex™**

**HERBICIDE  
 With Arylex Active**

**For postemergence control of annual broadleaf weeds in wheat (including durum), barley, and triticale.**

<b>Group</b>	<b>2</b>	<b>4</b>	<b>HERBICIDES</b>
--------------	----------	----------	-------------------

Active Ingredient:

halauxifen-methyl: 2-pyridinecarboxylic acid, 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)-, methyl ester .....	10.4%
florasulam: N-(2,6-difluorophenyl)-8-fluoro-5-methoxy[1,2,4]triazolo[1,5-c]pyrimidine-2-sulfonamide .....	10.0%
Other Ingredients .....	79.6%
Total .....	100.0%

Acid Equivalent: Contains 0.1 lb of halauxifen (2-pyridinecarboxylic acid, 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)) per pound of product.

Active Ingredient: Contains 0.1 lb of florasulam (N-(2,6-difluorophenyl)-8-fluoro-5methoxy[1,2,4]triazolo [1,5-c]pyrimidine-2-sulfonamide)

**Keep Out of Reach of Children**

**CAUTION**

---

**Precautionary Statements**

---

**Hazards to Humans and Domestic Animals**

Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Harmful if Absorbed Through Skin. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls**

When handlers use closed systems, 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.

### 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 clothing.

### First Aid

**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 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 day or night, for emergency treatment information.

### Environmental Hazards

Do not apply directly to water, or 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 washwater or rinsate.

**Groundwater Advisory:** This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**Surface Water Advisory:** This product has a potential for reaching surface water via runoff after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of halauxifen from runoff water. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

### (Storage and Disposal for rigid containers 5 gal or less)

#### Storage and Disposal

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

**Pesticide Storage:** Store in a cool, dry, well-ventilated place. Store in original container only. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds

after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **(Storage and Disposal for nonrigid containers any size)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Store in a cool, dry, well-ventilated place. Store in original container only. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **(Storage and Disposal for refillable rigid containers larger than 5 gal)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Store in a cool, dry, well-ventilated place. Store in original container only. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Store in a cool, dry, well-ventilated place. Store in original container only. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and

dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refer to label booklet for Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-XXX

EPA Est. \_\_\_\_\_

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

**Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET CONTENTS** \_\_\_\_

(cover, shipping container):

# Quelex™

**HERBICIDE**  
**With Arylex Active**

**For postemergence control of annual broadleaf weeds in wheat (including durum), barley, and triticale.**

<b>Group</b>	<b>2</b>	<b>4</b>	<b>HERBICIDES</b>
--------------	----------	----------	-------------------

Active Ingredient:

halauxifen-methyl: 2-pyridinecarboxylic acid, 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)-, methyl ester .....	10.4%
florasulam: N-(2,6-difluorophenyl)-8-fluoro-5-methoxy[1,2,4]triazolo[1,5-c]pyrimidine-2-sulfonamide .....	10.0%
Other Ingredients .....	79.6%
Total .....	100.0%

Acid Equivalent: Contains 0.1 lb of halauxifen (2-pyridinecarboxylic acid, 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)) per pound of product.

Active Ingredient: Contains 0.1 lb of florasulam (N-(2,6-difluorophenyl)-8-fluoro-5methoxy[1,2,4]triazolo [1,5-c]pyrimidine-2-sulfonamide)

**Keep Out of Reach of Children**

## CAUTION

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to inside of label booklet for additional precautionary information including Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-XXX

EPA Est. \_\_\_\_\_

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

**Produced for**

**Dow AgroSciences LLC**  
**9330 Zionsville Road**  
**Indianapolis, IN 46268**

**NET CONTENTS** \_\_\_



(Page 1 through end):

---

## Precautionary Statements

---

### Hazards to Humans and Domestic Animals

## CAUTION

Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Harmful if Absorbed Through Skin. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering Controls

When handlers use closed systems, 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.

### 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 clothing.

### First Aid

**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 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 day or night, for emergency treatment information.

### Environmental Hazards

Do not apply directly to water, or 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 washwater or rinsate.

**Groundwater Advisory:** This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**Surface Water Advisory:** This product has a potential for reaching surface water via runoff after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of halauxifen from runoff water. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

---

### Directions for Use

---

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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 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 the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable). The requirements in this box 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.

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:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

### Storage and Disposal

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

**Pesticide Storage:** Store in a cool, dry, well-ventilated place. Store in original container only. In case of leak or spill, contain material and dispose as waste

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

#### Nonrefillable containers 5 gallons or less:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### Nonrefillable nonrigid containers:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refillable rigid containers larger than 5 gal:**

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Nonrefillable rigid containers larger than 5 gal:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

## Product Information

Use Quelex™ herbicide as a postemergence herbicide for the control of annual broadleaf weeds such as common lambsquarters, redroot pigweed, cleavers, henbit, wild buckwheat and mustards in wheat (including spring, winter and durum), barley, and triticale not underseeded with legumes.

Quelex rapidly stops growth of susceptible weeds. However, typical symptoms (discoloration) of dying weeds may not be noticeable for 1 to 2 weeks after application, depending upon growing conditions and weed susceptibility. Degree of control and duration of effect are dependent upon weed sensitivity, weed size, crop competition, growing conditions at and following treatment, and spray coverage.

## Use Restrictions

- **Chemigation:** Do not apply this product through any type of irrigation system.
- Do not apply Quelex directly to, or otherwise permit it to come into direct contact with, susceptible crops or desirable plants including alfalfa, edible beans, canola, flowers and ornamentals, lentils, lettuce, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tomatoes, or tobacco. Do not permit spray mists containing Quelex to drift onto such plants.
- Do not apply to crops underseeded with legumes.
- Do not apply more than 0.75 ounces of Quelex per acre per growing season.
- Do not apply products containing halauxifen methyl to the crop field more than two growing seasons per year.

## Herbicide Resistance Management

Quelex contains both an ALS mode of action Group 2 herbicide and auxin mode of action Group 4 herbicide. Appropriate resistance management strategies should be followed.

To delay herbicide resistance:

- For best resistance management stewardship, it is recommended not to use Quelex in successive seasons.
- Where possible, rotate the use of Quelex with different herbicide groups that control the same weeds in a field.
- Use tank mixes with herbicides from a different group when such use is permitted.
- Base herbicide use on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist or certified crop advisers for any additional pesticide resistance management and/or integrated weed management recommendations for specific crops and weed biotypes.

### Crop Rotation Intervals

The following rotational crops may be planted at the indicated interval following application of Quelex. For best results, conduct a field bioassay prior to planting any broadleaf crops not listed. Do not plant unlisted crops prior to 15 months after the last application.

Crop	Rotation Interval <sup>(1)</sup> (Months)
barley, wheat, triticale	0
field corn, popcorn, seed corn, sweet corn, millet, oats, rice, rye, sorghum, sugarcane, grasses, cotton, soybean, sunflower	3
Canola (fall seeded)	5
alfalfa, camalina, canola (spring seeded), chickpea, dry bean, peas (dry and succulent), flax, mustard, peanut, safflower	9
other crops not listed	15

<sup>(1)</sup> Minimum number of months that must pass before planting other crops after application of Quelex.

**Ground Applications:** To minimize spray drift, apply Quelex in a total spray volume of 8 gallons or more per acre using spray equipment designed to produce large-droplet, low pressure sprays. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. To prevent over-application when making spot treatments, apply with a calibrated boom. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles.

### Restrictions

- Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.
- Apply Quelex with a nozzle class that ensures a coarse or coarser spray (according to ASABE S572.1).

**Aerial Application:** To minimize spray drift, apply Quelex in a total spray volume of 5 gallons or more per acre. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including

droplet size and equipment type, determine drift potential at any given speed. Spray pattern and droplet size distribution can be evaluated by applying sprays containing a water-soluble dye marker or appropriate drift control agents over a paper tape (adding machine tape). Mechanical flagging devices may also be used. Spray drift from aerial application can be minimized by applying a coarse spray at spray boom pressure no greater than 30 psi; by using straight-stream nozzles directed straight back; and by using a spray boom that does not exceed 75% of wingspan or 90% of rotor diameter.

### Restrictions

- Apply Quelex with a nozzle class that ensures coarse or coarser spray (according to ASABE S572.1).
- Do not apply in wind speeds greater than 15 mph.
- Do not apply below 2 mph due to variable wind direction and high potential for temperature inversion.

### Avoid Injurious Spray Drift

This product can affect broadleaf plants directly through foliage and indirectly by root uptake from treated soil. Do not apply Quelex directly to, or allow spray drift to come into contact with, broadleaf crops, including alfalfa, canola, beans, cotton, flowers, grapes, lettuce, lentils, mustard, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes, vegetables, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same season. (See Crop Rotation Intervals section.)

Make applications only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure crops, whether dormant or actively growing. When applying Quelex, use low pressure equipment capable of producing sprays of uniform droplet size with a minimum of fine spray droplets. Under adverse weather conditions, fine spray droplets that do not settle rapidly onto target vegetation may be carried a considerable distance from the treatment area. A drift control or spray thickening agent may be used with this product to improve spray deposition and minimize the potential for spray drift. If used, follow all use directions and precautions on the product label.

### Spray Drift Management

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 and the grower are responsible for considering all these factors when making decisions.

**Wind:** Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 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.

Drift potential is lowest when wind speeds are 10 mph or less. However, many factors, including droplet size, pressure, and equipment type determine drift potential at any given wind speed. Note: Local terrain can influence wind patterns.

**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 local, low level 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 the 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:** Only apply the pesticide when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

#### **Other State and Local Requirements**

Applicators must follow all state and local pesticide drift requirements regarding application of herbicides. Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory. (This information is advisory in nature and does not supersede mandatory label requirements.)

#### **Aerial Drift Reduction Advisory**

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

- The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 90% of rotor diameter.
- Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

**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).

#### **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 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 75% of the wingspan or 90% of rotor length may further reduce drift without reducing swath width.

**Application Height:** 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. 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 downwind. 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.).

## Mixing Directions

### Quelex - Alone

1. Fill the tank with 1/2 – 3/4 of the total amount of water.
2. Start agitation.
3. Add the required amount of Quelex.
4. Add the required amount of adjuvant (refer to Adjuvants section).
5. Continue agitation while filling the spray tank to the required volume.
6. To ensure a uniform spray mixture, continuous agitation is required during application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply mixture immediately after it is prepared.

### Quelex - Tank Mix

If a broader spectrum of weed control is needed, Quelex may be tank mixed with labeled rates of other herbicides provided the following restrictions are observed:

#### Tank Mixing Restrictions:

- DO NOT TANK MIX ANY PESTICIDE PRODUCT CONTAINING GLUFOSINATE WITH QUELEX.
- Only use products in tank mixture with this product that: 1) are registered for the intended use site, application method and timing; 2) are not prohibited for tank mixing by the label of the tank mix product.
- Do not exceed specified application rates for respective products or maximum allowable Application rates for any active ingredient in the tank mix.
- Do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been adequately cleaned. (See Equipment Clean-Out Procedures.)
- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels. It is the pesticide user's responsibility to ensure that all products in the mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** When tank mixing Quelex with other materials, a jar test using relative proportions of the tank mix ingredients should be conducted prior to mixing ingredients in the spray tank. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

#### Mixing Order for Tank Mixes:

1. Fill the spray tank to 3/4 of the total spray volume required with water.
2. Start agitation.
3. Add the correct amount of Quelex and agitate for 2 to 3 minutes
4. After adding Quelex, add different formulation types in the following order: (1) dry flowables; (2) wettable powders; (3) aqueous suspensions, flowables and liquids. Maintain agitation and add: (4) emulsifiable concentrates; (5) solutions; and (6) adjuvants. Allow each product type to completely mix and disperse before adding another.

5. Finish filling the spray tank. Maintain continuous agitation during mixing and throughout application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply mixture immediately after it is prepared.

If application or agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed. Do not allow tank mixes to set overnight.

### Clean-Out Procedures for Spray Equipment

1. Drain any remaining spray mixture from the application equipment, then wash out tank, boom, and hoses with clear water. Drain again.
2. Hose down the interior surfaces of the tank while filling the tank 1/2 full of water.
3. Add commercial tank cleaner, such as household ammonia, at a rate of 1 gallon per 100 gallons of water. Recirculate for 10 – 20 minutes and spray out the mixture through the boom.
4. Remove all spray nozzles and screens and clean separately.
5. If spray equipment will be used for pesticide application to crops sensitive to Quelex, repeat steps 1 through 3. Additional steps may also be required to remove all traces of Quelex including replacing hoses or other fittings that may contain adsorbed actives.
6. Thoroughly clean exterior surfaces of spray equipment.

**Note:** Rinsate may be disposed of on site according to label use directions or at an approved waste disposal facility. Reduced results may occur if water containing soil is used, such as visibly muddy water or water from ponds and ditches that is not clear.

### Weeds Controlled or Suppressed

#### Common Name

#### Scientific Name

#### Weeds Controlled

buckwheat, wild  
 canola, volunteer<sup>1</sup>  
 chamomile, corn  
 chamomile, false (scentless)  
 chamomile, mayweed (dogfennel)  
 chamomile, wild  
 chickweed, common  
 catchweed bedstraw (cleavers)  
 flixweed  
 flax, volunteer  
 fumitory  
 geranium, Carolina  
 hempnettle, common  
 henbit  
 horseweed (marestail)  
 lambsquarters, common  
 London rocket  
 mustard, black  
 mustard, blue (purple)  
 mustard, tansy  
 mustard, treacle (bushy wallflower)  
 mustard, tumble (Jim Hill)  
 mustard, wild  
 pennycress, field  
 pigweed, redroot  
 sheperdspurse  
 smartweed (green, ladysthumb, Pennsylvania)

*Polygonum convolvulus*  
*Rapistrum rugosum*  
*Anthemis arvensis*  
*Matricaria perforata*  
*Anthemis cotula*  
*Matricaria discoidea*  
*Stellaria media*  
*Galium aparine*  
*Descurainia sophia*  
*Linum usitatissimum*  
*Fumaria officinalis*  
*Geranium carolinianum*  
*Galeopsis tetrahit*  
*Lamium amplexicaule*  
*Conyza canadensis*  
*Chenopodium album*  
*Sisymbrium irio*  
*Brassica nigra*  
*Chorispora tenella*  
*Descurainia pinnata*  
*Erysimum repandum*  
*Sisymbrium altissimum*  
*Sinapis arvensis*  
*Thlaspi arvense*  
*Amaranthus retroflexus*  
*Capsella bursa-pastoris*  
*Polygonum spp.*



vetch, hairy

*Vicia villosa***Weeds Suppressed<sup>2</sup>**

bindweed, field  
 dandelion  
 kochia  
 lettuce, prickly  
 sunflower, common  
 sowthistle, annual  
 sowthistle, perennial  
 thistle, Canada

*Convolvulus arvensis*  
*Taraxacum officinale*  
*Kochia scoparia*  
*Lactuca serriola*  
*Helianthus annuus*  
*Sonchus oleraceus*  
*Sonchus arvensis*  
*Cirsium arvense*

<sup>1</sup>Including herbicide-tolerant canola varieties except Clearfield (imidazolinone-tolerant) canola.

<sup>2</sup>Suppression is expressed as a reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.

**Product Application Instructions****Application Timing**

Apply Quelex in the spring or fall early postemergence to the main flush of actively growing weeds in the 2 to 4 leaf stage or less than 4 inches tall. See the crop-specific use directions of this label for complete application instructions and restrictions. Extreme growing conditions such as drought or near freezing temperatures prior to, at, or following time of application may reduce weed control and increase the risk of crop injury at all stages of growth. Only weeds that have emerged at the time of application will be controlled. If foliage is wet at the time of application, control may be decreased. Applications of Quelex are rainfast within 4 hours after application.

**Spray Coverage**

Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 5 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 gallons or more per acre. As vegetative canopy and weed density increase, increase spray volume to obtain acceptable weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Avoid Injurious Spray Drift.

**Adjuvants**

When Quelex is applied without an adjuvant, use a non-ionic surfactant at 1.6 to 4 pints per 100 gallons of spray solution (0.2 – 0.5% v/v), or a Crop Oil Concentrate (COC) or Methylated Seed Oil (MSO) at 4 to 8 pints per 100 gallons (0.5 – 1.0% v/v). When Quelex is applied in combination with emulsifiable concentrate (EC) formulations, such as 2,4-D ester or MCPA ester, or other herbicides which require use of an adjuvant, additional adjuvant is not required. When an adjuvant is to be used with this product, Dow AgroSciences recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

**Application in Fluid Fertilizer**

Quelex may be applied in spray solutions containing liquid nitrogen fertilizer. Run a tank mix compatibility test before mixing Quelex in fertilizer solution. Mix and disperse Quelex granules in clean water as a pre-slurry before adding to liquid fertilizer solution. When Quelex is applied in spray solutions containing liquid nitrogen fertilizer, use a non-ionic surfactant at a maximum of 0.25% v/v instead of crop oil concentrate or methylated seed oil. Additional adjuvants are not needed when using Quelex in tank mix with 2,4-D ester or MCPA ester and liquid nitrogen fertilizer solutions. Temporary crop injury may result when liquid nitrogen fertilizer is used as the spray carrier. Foliar-applied liquid nitrogen fertilizer may cause foliar leaf burn, yellowing or reduced growth due to the activity of the liquid fertilizer on the crop.

## Postemergence Application

### Wheat (Including spring, winter and durum), Barley and Triticale

Apply 0.75 ounces of Quelex per acre to actively growing wheat (including spring, winter and durum), barley and triticale, from the 2-leaf to flag leaf emergence stage (Zadoks scale 39). The treatment may be applied in the autumn or spring in winter wheat. For best results, apply when weeds are actively growing in the 2 to 4 leaf stage or less than 4 inches tall. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from applications made to seedling weeds.

Warm, moist growing conditions promote active weed growth and enhance the activity of Quelex by allowing maximum foliar uptake and contact activity. Weeds hardened off by cold weather or drought stress may not be adequately controlled or suppressed and re-growth may occur. For best results, ensure thorough spray coverage of target weeds.

#### Quelex Use Restrictions:

- Do not apply more than 0.75 ounces of Quelex per acre per growing season.
- Do not apply products containing halauxifen methyl to the crop field more than two growing seasons per year.
- **Preharvest Interval:** Do not apply within 60 days of crop harvest.
- Do not apply closer than 21 days before cutting of hay.
- Do not allow livestock to graze on treated crops for 7 days following application.
- Do not compost any plant material from treated area.

---

### Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

---

### Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

---

### Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

---

### Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or Limitation of Remedies in any manner.

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

EPA accepted \_\_\_/\_\_\_/\_\_\_