



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

January 30, 2018

Tami Jones-Jefferson  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Label Amendment – Minor label edits including surfactant information  
Product Name: Quelex  
EPA Registration Number: 62719-661  
Application Date: July 7, 2017  
Decision Number: 532718

Dear Ms. Jones-Jefferson:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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.

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Decision No. 532718

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Emily Schmid at 703-347-0189 or by email at [schmid.emily@epa.gov](mailto:schmid.emily@epa.gov).

Sincerely,



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

Enclosure

(Base label):

<b>HALAUXIFEN-METHYL</b>	<b>Group</b>	<b>2</b>	<b>HERBICIDE</b>
<b>FLORASULAM</b>	<b>Group</b>	<b>4</b>	<b>HERBICIDE</b>

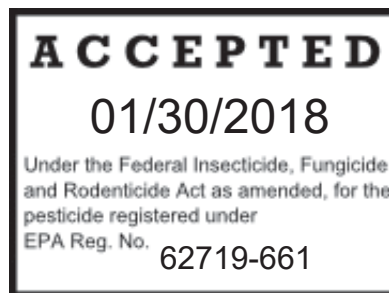
# Quelex®

**HERBICIDE  
with Arylex® Active**

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

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

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### Precautionary Statements

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#### 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 hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

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

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 thoroughly after handling and 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

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 rigid containers 50 pounds or less:

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

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. **Or Pressure Rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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.

**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 containers larger than 50 pounds:**

**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. If not refilled, 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.

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**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. 62719-661

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 WEIGHT \_\_\_**

(cover, shipping container):

<b>HALAUXIFEN-METHYL</b>	<b>Group</b>	<b>2</b>	<b>HERBICIDE</b>
<b>FLORASULAM</b>	<b>Group</b>	<b>4</b>	<b>HERBICIDE</b>

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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.

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**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.**

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(Page 1 through end):

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## Precautionary Statements

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### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- 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.

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### Directions for Use

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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 (PPE), 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
- Waterproof gloves
- Shoes plus socks

### Storage and Disposal

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

#### Nonrefillable rigid containers 50 pounds or less:

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

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. **Or Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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.

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## Product Information

Use Quelex® herbicide as a preplant burndown and 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. Weed populations may develop biotypes that are resistant to different herbicides with the same mode of action. If herbicides with the same mode of action are used repeatedly in the same field, resistant biotypes may eventually develop, produce viable seed, dominate the weed population and may not be controlled by these products. Other resistance mechanisms, such as biotypes with enhanced herbicide metabolism, may also develop, exist in a field and may cause reduced weed control. Appropriate resistance management strategies should be followed.

This product should be used as part of an Integrated Pest Management (IPM) program that may include biological, cultural, and chemical practices aimed at preventing economic pest damage. Application of this product should be based on appropriate IPM and resistance management strategies and practices that delay or reduce the development of herbicide-resistant weed biotypes. Such practices include, but are not limited to, field scouting, use of weed free crop seed, cultural practices including burndown herbicides, crop rotation and cultivation, proper water management, correct weed pest identification, following rotational practices outlined on pesticide labels, and treating with the correct product rates when target weed populations are at the correct stage and economic thresholds for control.

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) (2)</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, sugar beet, faba bean	9
other crops not listed	15

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

<sup>(2)</sup> In the event of cereal crop failure, no-till soybean, no-till cotton, field corn and sorghum may be planted 45 days after Quelex application in the states of AL, AR, DE, GA, IL, IN, KS, KY, LA, MD, MO, MS, NC, OH, OK, SC, TN, TX and VA.

**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 coarse, 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.

#### Precautions

- For optimum spray distribution and thorough coverage, use flat fan or low volume flood nozzles. For flat fan nozzles, use a spray volume of at least 8 gallons per acre (GPA).
- For flood nozzles on 30" spacings use at least 10 GPA, flood nozzles no larger than an orifice size of 10. For 40" spacings, use at least 20 GPA. It is essential to overlap the nozzles 100% for all spacings.
- "Raindrop RA" (or similar) nozzles that produce extra-coarse sprays are not recommended for Quelex herbicide applications, as weed control performance may be reduced.

#### 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 very coarse 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 very coarse 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 – General Recommendations:**

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. -When higher flow rates are needed, use higher –capacity nozzle instead of increasing pressure.
- **Number of Nozzles** – 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. 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.
- 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. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. 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, gels, 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  
 buttercup, smallflower  
 canola, volunteer<sup>1</sup>  
 chamomile, corn  
 chamomile, false (scentless)  
 chamomile, mayweed (dogfennel)  
 chamomile, wild  
 chickweed, common  
 catchweed bedstraw (cleavers)  
 deadnettle, purple  
 flixweed  
 flax, volunteer  
 fumitory  
 geranium, Carolina  
 hawksbeard, narrowleaf  
 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  
 soybean, volunteer  
 shepherdspurse  
 smartweed (green, ladysthumb, Pennsylvania)  
 vetch, hairy

*Polygonum convolvulus*  
*Ranunculus abortivus*  
*Rapistrum rugosum*  
*Anthemis arvensis*  
*Matricaria perforata*  
*Anthemis cotula*  
*Matricaria discoidea*  
*Stellaria media*  
*Galium aparine*  
*Lamium purpureum*  
*Descurainia sophia*  
*Linum usitatissimum*  
*Fumaria officinalis*  
*Geranium carolinianum*  
*Crepis tectorum*  
*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*  
*Glycine max*  
*Capsella bursa-pastoris*  
*Polygonum spp.*  
*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 scariola*  
*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 alone, 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, additional adjuvant is not required. When an adjuvant is to be used with this product, Dow AgroSciences recommends the use of a Council of Producers & Distributors of Agrotechnology 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. If using a non-ionic surfactant when Quelex is applied in spray solutions containing liquid nitrogen fertilizer, use non-ionic surfactant at a maximum rate of 0.25% v/v. Do not use 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.

## **Preplant Application**

### **Application Information**

#### **Use Rate**

Apply 0.55 to 0.75 oz Quelex per acre. Use the 0.55 oz rate for lighter infestations and/or small stages of weeds.

#### **Application Timing**

Quelex may be used as a preplant burndown in the spring, summer or fall when the majority of weeds have emerged and are actively growing.

### **Crop Specific Information**

#### **Wheat (including spring, winter and durum), Barley, and Triticale**

Apply 0.55 to 0.75 oz Quelex per acre as a preplant burndown treatment to wheat (including durum), barley and triticale to control emerged weeds prior to, or shortly after planting (prior to emergence). If applied after seeding, do not apply if soil has begun cracking over the drill row due to emerging crop seedlings. Make applications when the majority of weeds have emerged and are actively growing.

Observe all plant back restrictions listed in the Crop Rotation Intervals table of this label.

## Postemergence Application

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

Apply 0.75 oz 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:

1. Do not apply more than 0.75 oz of Quelex per acre per growing season.
2. Do not apply more than 2.25 oz of Quelex per acre per year between all preplant and postemergence applications.
3. **Preharvest Interval (PHI):** Do not apply within 60 days of crop harvest.
4. Do not apply closer than 21 days before cutting of hay.
5. Do not allow livestock to graze on treated crops for 7 days following application.
6. Do not compost any plant material from treated area.

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## Terms and Conditions of Use

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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.

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## Warranty Disclaimer

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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.

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## Inherent Risks of Use

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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.

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## Limitation of Remedies

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- (1) Refund of purchase price paid by buyer or user for product bought, or

(2) Replacement of amount of product used.

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